Cameco Australia Pty Ltd
EL23462 - Kukalak Exploration Summary 2004

Category	Activity	Contractor	Coverage	Objectives	Results
Geophysics	TEMPEST: Airborne EM	Fugro	1785 line km over about two-thirds of the tenement	To obtain information beneath the sandstone, and identify if possible the unconformity profile and conductive targets.	Conductive unconformity has been imaged and several new faults have been identified including unusual conductive ridges (i.e. Ranger Fault). 13 targets identified along with two priority regions in the north, which are bounded by northerly and northwesterly oriented faults. Along with graphitic lithologies, there is some indication that TEMPEST may also be used to identify granite.
Lithogeochemistry	Outcrop Samples	NTEL	96 samples	Obtain geochemical, lithological, petrological and physical characteristics of the exposed rock units. Anomalous samples also collected to characterise mineralisation and alteration systems and to provide a vector to ore.	Anomalous zones in mafic units along the Kukalak Valley contain elevated U, Au, As, Bi, Cu, K, Li, Mo, P205, W and Zn. Middle rare earth elements (MREE) show a distinctive enrichment pattern. The best results within the tenement are 3300 ppm U and 755 ppb Au.
Geology	Outcrop mapping and investigations	In house	96 sites	To elucidate the geology of the tenement area and specifically identify areas that may be structurally conducive to the formation of uranium deposits.	China Block is a structurally complex strike-slip transfer along Quarry Fault that may host uranium at depth. Kukalak Valley is interpreted as upward-propagating edge of Oenpelli Dolerite sill, giving rise to a westerly-thinning wedge of Mamadawerre Sandstone underneath.
Multispectral Studies	PIMA - outcrop samples	In house	readings on 96 samples	To determine the background and anomalous clay components of the various stratigraphic units, and their hyperspectral and PIMA signatures.	Background sericite characterises the basal Mamadawrre Sandstone, which is thought to represent and important regional palaeoaquifer. Kaolinite is observed mostly as a near surface clay in sandstone and may have a weathering origin.
Exploration Drilling	Diamond Core Drilling (helicopter supported)	United Drilling Services	354.1 m in one hole at Devil's Elbow	Identify uranium mineralisation along the Kukalak Valley at the unconformity between basement and Mamadawerre Sandstone where the sandstone tappers westward under the Oenpelli Dolerite, adjacent to the Ranger Fault.	Drill summary: 108 m of Mamadawerre Sandstone; 208 m of Oenpelli Dolerite; 4 m of more sandstone; 36 m of Nimbuwah Complex granite. Only locally elevated downhole gamma response identified within dolerite, associated with widely spaced veins and chlorite, sericite, K-feldspar and leucoexe alteration. Silicification occurs at the Mamadawerre unconformity, which lacks evidence of a uranium-related alteration and mineralisation system. Insufficient permeability for significant mineralisation.
Lithogeochemistry	Drill core samples (includes historic drill core studies)	NTEL	76 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.	U and Au are five times background over two separate ~30 m intervals in lower and middle part of Oenpelli Dolerite. Best composite analysis is 112 ppm U over 3 m. Best spot analysis is 638 ppm and 46 ppb Au. Anomalous element association includes: As, Be, Bi, Co, K, Li, Mg, Mo, P, Pd, Ni and Pb. Negatively correlated are Ca, Na, V and Cu. MREE enrichment common. Oenpelli Dolerite may comprise two discrete intrusive units.
Multispectral Studies	PIMA - drill core samples (includes historic drill core studies)	In house	readings on 494 samples	To determine the background and anomalous clay components of the various stratigraphic units, and their hyperspectral and PIMA signatures.	Background sericite characterises the basal Mamadawrre Sandstone, which is thought to represent and important regional palaeoaquifer. Chlorite and sericite are common immediately below the unconformity in basement rocks. Chlorite forms a halo around many Oenpelli Dolerite intrusions.
Research	Petrography - outcrop and drill core	In house (2 described by Pontifex and Associates)	77 samples	To identify primary lithologies and subsequent alteration and mineralisation assemblages in various rocks throughout the tenement.	Only a small proportion of the thin-sections have been described. Importantly, graphite was identified in Myra Falls Metamorphics in KLD017 at Dog Leg.