



XState Resources Limited

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**ASX LIMITED**

Dear Sir / Madam

**ACQUISITION OF ZEUS RESOURCES PTY LTD**

XState Resources Limited advises that it has entered into a heads of agreement to acquire 100% of Zeus Resources Pty Ltd ("Zeus Resources"). Zeus Resources has assembled a portfolio of tenements within Western Australia (1 granted and 6 applications) covering 3654km<sup>2</sup> that have the potential to host substantial uranium deposits and other metals (primarily gold) in a variety of geological settings.

The tenements held by Zeus are as follows:

	<b>Name</b>	<b>Status</b>	<b>Licences #</b>	<b>Area</b>
1	Mac's Jump Up		EL04/1614	455 km <sup>2</sup>
2	Nullabor		EL69/2304	606 km <sup>2</sup>
3	Tanami		EL80/3709	606 km <sup>2</sup>
4	Coolbro		EL2928/29	97 km <sup>2</sup>
5	Mundong West		EL08/1696/97	748 km <sup>2</sup>
6	Telegraph Dam		EL08/1698	536 km <sup>2</sup>
7	Desert Well		EL45/2948	606 km <sup>2</sup>

The tenements fall into distinct geological settings.

These are:

1. High-grade unconformity style uranium deposits – Tanami, Coolbro, Mundong West and Mac's Jump Up Projects.
2. Redox related Phanerozoic palaeodrainage sandstone uranium deposits – Desert Well, Telegraph Dam and Nullabor, Projects.
3. Proterozoic sandstone uranium deposits – Mac's Jump Up Project.
4. Lignite hosted, redox controlled Eocene basin uranium deposits – Nullabor Project.

5. Iron oxide breccia hosted copper – gold – uranium deposits hosted within Proterozoic hydrothermally altered breccia diatremes, genetically related to granitoid emplacement – Nullabor Project.
6. Volcanic hosted massive or disseminated epithermal vein type gold, +-molybdenum fluorine and silver deposits – Mac’s Jump Up Project.

The projects with potential to contain unconformity related uranium deposits are discussed first, followed by the projects with potential sandstone hosted deposits and others.

### **UNCONFORMITY RELATED DEPOSITS**

Unconformity related deposits currently constitute approximately 33% of the world uranium resources and mostly occur in Australia and Canada. They constitute approximately 20% of Australia’s total uranium resource. These style projects to be explored by Zeus are the Tanami, Coolbro, Mundong West and to a lesser extent the Mac’s Jump Up Projects.

The three main criteria for forming these deposits are:

1. Proximity to Archean – Palaeoproterozoic crystalline basement highs.
2. Favourable Palaeoproterozoic host rock stratigraphy and lithofacies.
3. Proximity of the current land surface profile to the base of existing or previous overlying Mesoproterozoic sedimentary cover rocks.

These criteria will be referred to for each of the unconformity related projects below.

### **TANAMI PROJECT**

The Tanami Project is located 130km east-southeast of Halls Creek and some 5km east of the Gordon Downs homestead. The project area is covered by EL80/3709 covering approximately 606 square kilometres.

In the basement geology, the Archean gneiss and schist of the Billabong complex and Browns Range Metamorphics represent the oldest rocks of the basement in the region. The oldest Palaeoproterozoic sequence is the MacFarlane Peak Group, which comprises mafic volcanic and volcanoclastic rocks, minor clastic sediments and calc-silicate rocks. These are overlain by clastic sediments of the Tanami Group. In the project area this is represented by the Killi Killi Formation which outcrops to the southeast at the Brown’s Range Dome.

Another similar dome structure is conspicuous on the aeromagnetics flanking the southwest boundaries of the Tanami Project area. Surrounding this intrusive is a magnetic contact aureole reminiscent of the mesoproterozoic granites of the Cloncurry region in Queensland.

The Mesoproterozoic Gardiner Sandstone unconformably overlies the Tanami Complex in the project area. It comprises arenite, shale, conglomerate glauconitic sandstone and dolomitic sandstone. The basal conglomerate is derived from the Tanami Complex and consists of rounded pebbles, cobbles and boulders.

The primary target in this project is unconformity related uranium (+-gold) deposits.

The three main criteria as described above for forming these deposits appear to be satisfied here:

The Browns Range Dome uranium prospect lies near the unconformity between the Gardiner Sandstone and underlying metamorphosed arkoses of the basement Tanami Complex. The Killi Killi No. 1 and No. 2 uranium prospects are in coarse lithic arenite and conglomerate within the basal 6m of the Gardiner Sandstone.

The project geology also provides potential for Tanami type gold deposits.

The absence of outcropping potential uranium and gold host lithologies means that passive remote exploration followed by subsurface testing is required. This will consist of:

A detailed airborne magnetic and radiometric survey. The magnetic interpretation will be focused on confirming and detailing the domal structure and the intrusive granite core, locating and narrowing the magnetic aureole target that may host IOCG mineralisation, identifying lithological layering in the potential host uranium and gold lithologies and identifying linear structures in the potential host lithologies especially where they are close to the mesoproterozoic unconformity.

Digital aerial photography will be acquired and interpreted to assist in mapping the distribution of outcropping geology, litho-types and structure and regolith types.

Target areas determined from the above will then be tested by RAB drilling traverses for geochemistry and bedrock mapping followed by reverse circulation drilling holes both for mineralisation and stratigraphy.

Further exploration investigations will depend on the results of the above.

## **COOLBRO PROJECT**

The Coolbro Project is located within the Paterson Province of Western Australia. The Rudall Complex is in the north-western part of the Paterson Orogen. The region is located 70km south-southwest of the Telfer Gold Mine and some 25km west of the Kintyre Uranium deposit. The project area is covered by EL45/2928 Coolbro and 45/2929 Coolbro South covering a total of approximately 97 square kilometres.

The Rudall Complex was deformed and metamorphosed during the Palaeoproterozoic Yapungku Orogeny, and subsequently deformed in the Neoproterozoic during the Miles and Paterson Orogenies.

The Coolbro Sandstone, the basal member of the Throssell Group (ca. 1700 Ma), unconformably overlies the Rudall Complex. It contains lensoidal conglomeratic beds and minor interbeds of thin carbonaceous mudstone and shale and covers most of the project area.

In the southeast corner a northwest plunging anticline exposes the basal conglomerate sequence unconformably over psammitic meta-sediments and orthogneisses of the Rudall Complex. The meta-sediments are most likely equivalent to the Yandagooge Formation that hosts the nearby Kintyre uranium deposit.

The primary target in this project is unconformity related uranium (+-gold) deposits similar to the nearby Kintyre Deposit.

Much of the three main criteria described above for forming these deposits appear to be satisfied. However the age of the Coolbro cover rocks (<1070 Ma) makes it a lot younger than those of the East Alligator River Uranium Field and the Athabasca Sandstone of the Canadian deposits.

However, it is important to note that the mineralisation at Kintyre occurs within a shear zone which postdates the cover rocks.

The nearby Kintyre deposit is estimated to have a probable resource of 24,500 tonnes U308, with an additional inferred resource of 11,500 tonnes U308. The average grade for the mineralisation ranges between 0.15% and 0.4% U308.

The project is also prospective for Proterozoic Au-Cu Telfer style deposits. An anticlinal axis trends in a northwest direction through the project area. A major fault runs parallel to the anticlinal hinge zone. A gold occurrence at Table Top has been mapped just 1.5km north of the tenement boundary.

The restricted area of outcropping potential uranium host lithologies in the basement and the dominance of outcropping Neoproterozoic cover rocks that provide gold targets dictates the exploration play here. The following investigations are required:

For the uranium exploration, detailed grid based mapping and ground radiometrics in the area of the basement and basal cover rock explore in the anticlinal window in the southeast corner will be followed by either RAB or deeper RC drilling depending on the nature of the targets defined.

For the gold exploration, detailed mapping of the Coolbro Sandstone will be completed from digital aerial photographs with an emphasis in defining antiforms and linear paralleling fault structures. This will be followed by detailed stream sediment sampling. Gridding, mapping and sampling of the located source areas would be followed by RAB drilling.

Further exploration investigations will depend on the results of the above.

## **MUNDONG WEST PROJECT**

The Mundong West Project is located over rocks of the Morrissey Metamorphic Suite and granites and gneisses of the Gascoyne Complex of Western Australia. The region is located 140km south of Onslow and some 180km southeast of Exmouth. The project area is covered by EL08/1696 covering approximately 606 square kilometres and EL08/1697 covering approximately 142 square kilometres for a total of approximately 748 square kilometres.

The stratigraphy and tectonic history of the Gascoyne province is changing as mapping by the GSWA progresses. The basement geology has been regarded as the Palaeoproterozoic Morrissey Metamorphics which becomes the Wyloo Group (Ashburton Formation) to the north. The mapping the GSWA to the south has distinguished a later suite of metamorphics, post dating the Morrissey Metamorphics and the Capricorn Orogeny (Ca 1830 – 1780Ma). These are the Pooranoo Metamorphics formed in an intracratonic regime intruded by the Durlacher granite super suite and metamorphosed by the Mangaroon Orogeny at ca 1680 – 1620 Ma.

Regionally, the basement rocks are unconformably overlain by the Mesoproterozoic Bangemall Group. This is a suite of folded marginal marine sequences and dolerites. The eastern unconformity between the basement and the Bangemall Group is clear cut.

To the west of the project the Mesoproterozoic cover rocks of the Uaroo Group are mapped. Much of it is recognised and mapped as the Mesoproterozoic but towards the base of the sequence they are interpreted as Morrissey Metamorphics. However the whole sequence appears to be conformable throughout and is unconformable on the basement.

The Palaeoproterozoic basement comprises the Morrissey Metamorphics – Wyloo Group meta-sediments intruded by various ages of granites.

The existence of known primary uranium mineralisation at Mundong Well and the Hooley Camp – Wongida areas within structures in the basement close to the unconformity confirms the basement Prospectivity in the project area for unconformity related mineralisation.

CRA explored its Uaroo Project from 1986 to 1989. This project area overlaps the western part of the Mundong West project area. A detailed aeromagnetic and radiometric survey located many anomalies some of which plot on the Mundong West project area.

The primary target in this project is unconformity related to uranium deposits. The three main criteria described above for forming these deposits appear to be satisfied here. Although the cover rocks are folded, much of the basement in the project area is probably not too far below the unconformity surface.

The basement granites provide a uranium source and structures within the fertile meta-sediments provide the potential hosts. Dilatant litho-structural traps as seen at Mundong Well, Hooley Camp would host the mineralisation. The exploration targets will be basement structures close to the unconformity and or close to obvious source rocks.

The following investigations are required:

A detailed airborne magnetic and radiometric survey preferably at 100 metre line spacing will be flown followed by detailed processing and interpretation. The magnetic interpretation will be focused on identifying linear structures in the potential host lithologies especially where they are close to the mesoproterozoic unconformity. The radiometrics will identify local uranium anomalies that may indicate outcropping surface mineralisation and areas of suitable uranium source rocks.

Digital aerial photography will be acquired and interpreted. This will assist in mapping the distribution of outcropping geology, litho-types and structure and regolith types.

Target areas determined from the above will then be tested by RAB drilling traverses for geochemistry and bedrock mapping. The results of the RAB drilling will then determine the location of the reverse circulation drill holes both for mineralisation and stratigraphy.

Further exploration investigations would depend on the results of the above.

### **PROJECTS WITH POTENTIAL FOR PHANEROZOIC SANDSTONE HOSTED DEPOSITS**

They are all related to redox changes in Paleozoic, Mesozoic and Cainozoic host sediments. They are mostly transgressive – roll fronts but can also be tabular – peneconcordant.

Based on shape of the orebody and relationship to the depositional or structural environment, sandstone uranium deposits can be subdivided into three types (these may be gradational into each other):

- *Tabular deposits* consist of tabular or elongate lenticular zones of uranium.
- *Roll-front deposits* are crescent-shaped in cross-section, and mineralisation cuts across the bedding and extends from the overlying to the underlying impervious mudstone/siltstone layers.
- *Tectonic-stack deposits* occur along permeable fault zones, which cut the sandstone mudstone sequence.

Sandstone deposits contain a large proportion of the world's known uranium resources, although they are commonly of low to medium grade (0.05 to 0.4% U308). These younger sandstone deposits comprise approximately 5% of Australia's total uranium resources.

The largest known deposits of this type in Australia is the Beverley mine containing at least 21,000 tonnes U308 at 0.18% U308, much of which is recoverable by insitu leaching. Manyingee is next containing 12,000 tonnes U308 at 0.09% U308 also recoverable by insitu leaching.

## **TELEGRAPH DAM PROJECT**

The Telegraph Dam Project is located where a younger Cretaceous sequence unconformably overlies the Gascoyne Complex and rocks the Canarvon Basin. The region is located 50km south of Onslow and some 90km each of Exmouth. The project area is covered by EL08/1698 covering approximately 536 square kilometres. It's southern boundary is 12km west northwest of the Manyingee uranium deposit. Scimitar Resources holds the ground abutting to the east as a uranium play.

The basement rocks are Palaeoproterozoic to Mesoproterozoic metasediments and granite.

There is a major unconformity between the basement rocks and the Carnarvon Basin shelf strata. Basal terrestrial conglomerate in palaeochannels is succeeded by other formations that transgress basement to the east. The Cretaceous, shallow water marine Birdrong Sandstone overlies the conglomerate and in turn is overlain by marine shale and radiolarite. The uranium at the nearby Manyingee deposit is in sandstone units in the palaeochannels.

Limited drilling in the project area by Pichiney confirmed the existence of the Birdrong Sandstone and the basal Yarraloola Conglomerate, which varied in thickness from 20 to 80 metres.

In 1979 Western Mining Corporation Limited sampled existing wells and bores in the area. These were locally anomalous, the best results being:

Centipede Well 130ppb U  
16 Mile Well 115ppb U  
Qeebulla Well 93ppb U

Exploration at the Telegraph Dam Project will target Cretaceous palaeochannels draining in a northwesterly direction off the Proterozoic uranium rich basement. Roll front redox facies changes within these drainages are the primary target. The historic discoveries of Manyingee, Bennett's Well and Spinifex Channel mineralisations are confirmation of the model.

It is planned to use remote airborne electromagnetics such as Hoist or Tempest EM or similar to define the channels in the base of the Cretaceous Birdrong Sandstone and Yarraloola Conglomerate below the Munderong Shale.

This will be followed by drilling to map the redox facies down and across the drainage channels. Holes will be geophysically logged for gamma, SP and resistivity to locate mineralisation and give detailed sandstone shale profiling. The groundwater will be sampled in each hole to track increasing uranium contents.

If redox fronts and/or uranium deposition zones are located then detailed drilling will follow.

Further exploration investigations will depend on the results of the above.

## **DESERT WELL PROJECT**

The Desert Well Project is located where the younger Mesozoic sequence of the Canning Basin unconformably overlies the Pilbara craton. The region is located 180km east-northeast of Port Hedland. The project area is covered by EL45/2948 covering approximately 606 square kilometres.

The Mesozoic West Canning Basin sediments unconformably overlie the Archean Pilbara Craton. The craton contains abundant domal granites suitable as uranium source rocks.

The Wallal Sandstone is the basal sandstone unit of the Jurassic in the West Canning Basin. The sand is mainly fine to very coarse grained, poorly to well sorted, unconsolidated sandstone. When oxidized the sands are orange to yellow limonite stained and where reduced are light grey, carbonaceous and pyritic. Favorable conditions exist within the near basal facies of the Wallal Sandstone for deposition of uranium mineralisation at the redox interfaces. An interpreted regional redox facies change transects the middle of the Desert Well tenement.

Exploration will target sedimentary redox front type uranium mineralisation within basal sediments of the West Canning Basin. The best potential host lithologies are the sands of the basal Jurassic Wallal Sandstone.

The uranium source rocks are the basement Archean granites. Water Bores in the area, where logged, invariably penetrate the Jurassic host sequence and bottom in the basement granite source rocks.

It is planned to use remote airborne electromagnetics such as Hoist or Tempest EM or similar to define the channels in the base of the Jurassic Wallal Sandstone.

This will be followed by drilling to map the redox facies down and across the drainage channels. Holes will be geophysically logged for gamma, SP and resistivity to locate mineralisation and give detailed sandstone shale profiling. The groundwater will be sampled in each hole to track increasing uranium contents. If redox fronts and/or uranium deposition zones are located then detailed drilling will follow.

Further exploration investigations will depend on the results of the above.

## **NULLABOR PROJECT**

The Nullabor Project is located where a younger sequence of Eucla Basin sediments unconformably overlies the buried (Proterozoic) basement. The region is located 100km north-northwest of Rawlinna and approximately 340km east-northeast of Kalgoorlie. The project area is covered by EL69/2304 covering approximately 606 square kilometres.

The surface geology is mostly Pleistocene colluvium and kankar. This overlies the Eucla Basin sediments. The sequence within the basin ranges in age from Early Cretaceous to Holocene. Eocene palaeo drainage systems flow into the basin from the Western Australian Shield on the north western margin of the basin.

The basin here overlaps the Proterozoic Fraser Range metamorphics in the Albany Fraser – Fraser Province and may contain old strand lines with heavy mineral concentrations.

The basement to the project area contains a significant circular magnetic feature. This probably represents a granitic intrusive with a magnetic aureole reminiscent of the Olympic Dam and Cloncurry type of features that may host Iron Oxide Copper Gold (IOCG) deposits.

The primary exploration targets for the Nullabor Project comprise:

- Sandstone hosted uranium mineralisation contained within palaeochannels formed near the Eocene carbonaceous sediments either as roll fronts redox deposits above lignitic material similar to the nearby Mulga Rocks deposits.
- Conceptual targets exist within the basement rocks for iron oxide breccia hosted copper-gold (+-) uranium (IOCG) deposits hosted within Proterozoic hydrothermally altered breccia diatremes. (Olympic Dam, Cloncurry style).
- Mineral sands deposits may be found in Eocene to Early Miocene paralic shoreline sediments along the northern margin of the Eucla Basin.

A number of Eocene palaeo drainage systems migrate from the Yilgarn craton, over the Albany-Fraser belt and terminate in the Eucla Basin. Uranium mineralisation has been intersected in the Mulga Rocks and Ponton Creek palaeochannel.

The total resources at Mulga Rocks were estimated to be 10.8 Mt averaging 0.12% U, which corresponds to 15,330 tonnes U308.

For the uranium exploration, it is planned to use remote airborne electromagnetics such as Hoist or Tempest EM or similar to define lignitic channels in the base of the Eocene sequence.

This will be followed by drilling to map the redox facies down and across the drainage channels. Holes will be geophysically logged for gamma, SP and resistivity to locate mineralisation and give detailed sandstone shale profiling. The groundwater will be sampled in each hole to track increasing uranium contents.

If redox fronts and/or uranium deposition zones are located then detailed drilling will follow. All drill cuttings will be checked for the presence of heavy minerals.

Potential heavy mineral strand lines outlined will be drilled on traverses by auger or aircore drilling.

A detailed gravity survey over the basement IOCG target will be carried out to locate and define drill targets. Some deep reverse circulation and/or diamond core drill holes would later test these targets.

Further exploration investigations will depend on the results above.

## **OTHER STYLE DEPOSITS**

### **MAC'S JUMP UP PROJECT**

The Mac's Jump Up Project within the King Leopold Proterozoic Mobile Belt of Western Australia has the potential to contain an epithermal gold deposit. It may also host Proterozoic sandstone and unconformity type uranium mineralisation. The project is located 170km east-northeast of Derby and some 140km north-northwest of Fitzroy Crossing. The project area is covered by EL04/1614 covering approximately 455 square kilometres.

The project overlies the King Leopold Orogenic Belt and rocks of the Kimberley Basin. In the project area rocks of the King Leopold orogenic belt comprise predominantly felsic volcanics of the Whitewater Formation and variety of intrusions including syenogranite, tonalite, monzogranite and granodiorite. On top of the King Leopold Orogenic Belt are feldspathic and quartz sandstones of the Speewah Group.

The following exploration targets exist for the project area:

- Epithermal gold mineralisation.

The main exploration target existing in the proposed project area is an un-tested epithermal vein system. An epithermal vein has been identified in the project area. The vein outcrops over a strike length of approximately 3 kilometres. The vein comprises quartz, barite, fluorite and disseminated sulphides and exhibits classical epithermal textures with well developed, colloform, crustiform and chalcedonic quartz. The Whitewater Volcanics appear to be the preferential host for this style of mineralisation. A number of shear zones with the same orientation as the epithermal vein occur throughout the project area. Late north trending brittle structures may be important in focusing hydrothermal fluids.

A number of epithermal styles of mineralisation have been discovered in the Proterozoic mobile belts of the Kimberley region. These include the Speewah Fluorite deposit and the recent discovery of the Range and Hunter epithermal gold prospects by Northern Star Resources Limited.

- Proterozoic Sandstone hosted and unconformity style uranium mineralisation.

The King Leopold Orogenic Belt contains high levels of background uranium and several uranium occurrences. Sediments of the Speewah Group and the King Leopold Sandstone (ca 1800 and 1840 ma) unconformably overly the King Leopold Orogenic Belt. The basal member of the Speewah Group, the O'Donnell Sandstone has known uranium mineralisation to the east at Mad Gap. Approximately eighteen kilometres of strike length of this contact occurs in the northern part of the proposed project area.

Structures within and adjoining the basement Whitewater Volcanics may also be potential targets for unconformity-related uranium mineralisation.

The following integrated program is aimed at locating both gold and uranium targets which would then be drilled and trenched.

This will consist of:

Detailed geological interpretation of satellite and aerial photography.

Helicopter assisted geological mapping, stream sediment sampling and scintillometer prospecting of interpreted uranium host target areas with helicopter assisted follow up location of stream sediment anomalies and further scintillometer prospecting.

After access is established, target areas would then be gridded, mapped, soil sampled and scintillometer surveyed.

Anomalies will be drilled and trenched to outline mineralisation.

Further exploration investigations will depend on the results of the above.

A detailed report prepared by consultant geologist Peter Robinson in relation to the Zeus tenements will be made available on the XState web site ([www.xstate.com.au](http://www.xstate.com.au)).

## **CORPORATE**

The consideration for the acquisition of Zeus Resources is the issue of 25 million fully paid ordinary shares at a deemed issue price of \$0.20 each together with cash reimbursement of existing liabilities of Zeus Resources in the amount of \$200,000 cash. The shares will be escrowed for a 12 month period from the date of issue.

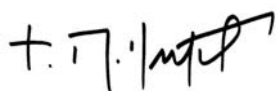
The conditions precedent to completion of the acquisition are:

- (a) completion of due diligence by XState on Zeus Resources, to the satisfaction of XState;
- (b) Xstate procuring an independent valuation of the tenements held by Zeus Resources and that valuation confirming a preferred value for the tenements of equal to or greater than \$5 million; and
- (c) shareholders of XState approving the acquisition in general meeting.

David McArthur and Rhod Grivas are directors of XState, and each hold a 12.5% interest in Zeus Resources. Accordingly, the acquisition falls within the ambit of ASX Listing Rule 10.1 (acquisition of assets from a related party) and will require shareholder approval. As all the shareholders of Zeus may be considered associates for the purpose of the acquisition by XState shareholder approval by XState will also be sought pursuant to Item 7 of Section 611 of the Corporation Act.

A notice of meeting, including an expert's report in relation to the proposed acquisition, will be sent to shareholders shortly.

Yours faithfully  
**XSTATE RESOURCES LIMITED**



**ROSS KESTEL**  
Chairman