



Breakthrough in uranium extraction from salt water

A world breakthrough in extracting uranium from hyper saline water - previously not possible with conventional technology - has been announced by uranium developer, UraniumSA.

UraniumSA's managing director, Russel Bluck, said the breakthrough had been achieved after collaborative metallurgical research with international and Australian suppliers of the special chemicals used to help extract uranium.

"The problem of saline water has been a challenge for some Australian uranium projects because of the intolerance of conventional resins to the chlorine in the water," Mr Bluck said.

"The results which UraniumSA has achieved are a world first. We have identified resins from several manufacturers which laboratory tests show perform as well in salt water as conventional resins in use everywhere in Australia and around the world do in fresh or formation water," he said.

"The outcome for UraniumSA is that we will be able to use existing technologies to extract the uranium from the

in-situ leach liquors at our Mullaquana project.

"The breakthrough has a wider benefit in that it can now make a major difference to the viability of a raft of uranium projects in Australia that confront saline groundwater conditions."

Mr Bluck said UraniumSA - which discovered and is now developing the Mullaquana uranium deposit southwest of Whyalla in South Australia towards first heap leach trials at the end of this year - had "gone back to chemical fundamentals" to achieve its results and this approach had also identified other technologies with the ability to solve the extraction issue as well.

In existing in-situ recovery mining operations, conventional resins extract uranium from formation water with salinities in the range 2,000 to 10,000 parts per million (ppm) total dissolved salts (TDS).

"The higher the salinity, the less effective the conventional resins become," Mr Bluck said.

"The formation waters at our Blackbush prospect in the Mullaquana project area typically contain >30,000ppm

TDS and this had been recognised since discovery as a potentially limiting factor.

"However, our testwork with commercially available chelating resins has established that they are able to extract uranium from saline solutions with loadings of up to 30 grams uranium per litre.

"This testwork on candidate resins is continuing. We have commissioned the Australian Nuclear Science and Technology Organisation to conduct column tests on our typical mineralisation using our saline formation waters and will be trialling selected candidate resins against the resulting pregnant solutions.

"The best candidate resins from this process will be used in UraniumSA's in-situ recovery field trials scheduled for late 2011."

The companies whom UraniumSA is presently engaged with in the successful trials include Clariant (Australia), Clean TeQ Holdings, Dow Water & Process Solutions, IBC Advanced Technologies, LISL Environmental and Purolite International.