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ASX ANNOUNCEMENT

Company Announcements Office
Australian Securities Exchange Limited

Continued Success from Metallurgical *U-pgrade* Testwork on Marenica Uranium Deposit, Namibia

Key Points:

- **Beneficiation testwork on Marenica ore has produced a high grade concentrate for leaching.**
- **The most recent testwork has produced similar beneficiation results from sea water and desalination plant water.**
- **The replacement of desalination plant water with sea water is expected to materially reduce the OPEX costs of the low grade Marenica Uranium project.**
- **Initial testwork on high sulphate ore has produced outstanding results, indicating that *U-pgrade* could be applied to high sulphate ore.**

Outstanding bench scale testwork results have been achieved on the Marenica ore using the ***U-pgrade*** process with an upgrade of >60 times producing a leach feed grade of >5,500ppm U₃O₈ from an ore grade of 94ppm U₃O₈. The ***U-pgrade*** process very effectively reduces the mass of material that needs to be leached. Up to 99% of the mass is rejected, concentrating the uranium to about 1% of the mass, which can then be leached. The reject material is made up largely of the major gangue mineral calcite. This means the uranium in the 1% mass can be recovered by acid leach rather than the alkali leach process necessary in high calcite materials. The acid leach process is simpler and cheaper to run than the alkali leach process.

The bench scale testwork has predominantly occurred using Perth tap water (similar to desalination plant water available in Namibia), but recent tests in sea water have produced very similar results to Perth tap water. This is a significant outcome considering that desalination water makes up approximately 30% of the process operating costs.

Application of the ***U-pgrade*** technology in sea water to the Marenica Uranium Project has the potential to materially reduce the operating costs, from the previously announced internal Company estimate of US\$49 to less than US\$42/lb U₃O₈.

In developing ***U-pgrade*** a way to treat high sulphate containing uranium ore was also discovered. This is significant because until now high sulphate bearing calcrete hosted uranium ores have not been able to be processed due to:

- The sulphate in an alkali leach (adopted for calcrete ores) consuming large quantities of alkali reagent, resulting in very high operating costs.
- The calcite in the calcrete ore consumes large quantities of acid in an acid leach, resulting in very high operating costs.

Initial testing of ***U-pgrade*** on the high sulphur Marenica ore indicates that both sulphate and calcite are rejected in the ***U-pgrade*** process. After ore has been subjected to the ***U-pgrade*** process, a concentrate is produced which is suitable for either acid or alkali leaching, with reduced levels of reagent consumption than would have been the case had the ore not been subjected to the ***U-pgrade*** process. More detailed testwork is in progress on high sulphur ore to better understand the ability of the ***U-pgrade*** process to upgrade high sulphur ore.

The Marenica Uranium Project, along with many other surficial uranium deposits in Africa as well as in Australia, contains a high distribution of sulphate minerals nearest the surface. For some resources such as the Marenica Uranium Project, this high sulphate component represent a low distribution of the ore resource (10%), but for other resources the distribution of high sulphate ore can be as high as 100%.

This is seen as a further commercial opportunity for ***U-pgrade***.

From the test results on Marenica ore it is reasonable to expect ***U-pgrade*** to have application to similar uranium ores elsewhere, presenting a commercial opportunity. Testwork is scheduled on Areva's Trekkopje Uranium Project ore and Deep Yellow Limited's surficial uranium ores from Australia and Namibia.

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