Detailed Statement for Mining Lease South 220

Term to be applied for:

The term requested is 25 years.

Detailed reasons for term applied for:

The reasons for the term applied for is that due to the size of the area this will take time to extract and process the ore. Also taking into consideration working concurrently within the operations works for the existing extractive industry (sand & gravel) on the site. The extractive industry has a project sales target of a minimum of 50,000 tonne per annum of river gravel. The -4mm sand by-product obtained from this level of production will be around 200,000 tonne per annum. Assuming an average depth of material of 10 metres over the extraction site and allowing for inaccessible and unsuitable extraction contingencies, the expected available total processable ore within the future lease would equate to around 10 million tonne minimum. It is calculated that the viable life of the river gravel resource is a minimum of 25 years, hence the term applied for. The existing extractive industry permit has a maximum extraction limit of 20 million tonne total allowable to be removed from site.

Detailed reasons for the area and shape of land applied for:

The Shape is determined by the existing extractive industry requirements.

Name of mining lease:

South 220.

Specify minerals and purpose:

Eluvial Gold.

Restricted Land – are there any permanent buildings or relevant fixtures:

No

Provide a statement outlining the mining program proposed, outlining its method of operation, and providing an indication of when operations are expected to start, or, outline the use proposed for the land and provide an indication of when proposed use is to start;

Mining Methods
The proposed area for South 220 is a continuation of the resource from ML 80188 and ML 100119 (held by Riverstone Resources Pty Ltd a subsidiary of ARX Pacific which includes Coonambula Resources Group).

The area covered by MLA 80188, MLA 100119 and South 220 is currently covered by a permit held by Riverstone Resources Pty Ltd to extract sand & gravel. The referral agencies associated with this extraction permit include the DTMR, DEHP & DNRM. It is the full intention of Riverstone Resources to follow along the operational works plan associated with the current extractive industry in relation to this mining lease, as the mineral bearing ore (~4mm sand) is actually the by-product of the gravel screening process. The majority of the mineral exists in microscopic form within the alluvial sand on the site.

The original operational works plan as adopted by the existing ERA Permit #IPCE01538909 has been suitably modified and accompanies this application entitled **Mining Development Plan**.

The method of Operation will be as that allowed for by the existing extraction permit. That being shallow strip mining (maximum of 30m in depth) commencing at low elevation working upwards exposing no greater than 10ha at any one time. The majority of the processed sand will not be on-sold, therefore it will be returned whence it came, the area will then be re-topsoiled and rehabilitated as required.

Initial Production Treatment will be undertaken by a rated 3 tonne per hour plant processing alluvial ore. It will be done so by construction of an initial plant to a standard proprietary design. Construction will be off-site with on site assembly. Initial plant equipment utilises small size pumps, leach tanks, holding tanks, water tanks and carbon filters. All tanks are plastic, are installed in frames and are lightweight. All components of the initial plant & equipment are demountable. It is a processing plant. The initial plant operation methodology is to allow further analysis of the alluvial ore material characteristics and to plan a higher scale production process. The initial plant operation will operate for a minimum of 120 days before scaling up with additional equipment to 10 tonne per hour.

Larger production will be by using proprietary commercial plants. Basically the commercial plants are a larger version of the initial plant and it will include protection for proprietary elements of the equipment. The commercial plant will be constructed off-site with assembly on site. All components of the production plant are transportable and no component is over size or so large that it requires a special road permit for transportation. The production processing plan is modular in design and will have initial rated treatment of capacity of 10 tonner per hour operation. It will have the capability of operation continuously.

Once commissioned, it is likely the plant will demonstrate additional capacity within the design. A single shift of 8 hours per day operating will treat nominally 400 tonnes per week of ore. Twenty hours per day operations is included in the design and the treatment rate on more operations in included in the design and the treatment rate on more operations could nominally increase to 1200 tonnes per week.

The methodology of the production plant is a chemical leach operation using chemicals with low-level toxicity and easily handled according to the chemical safety handling and storage procedures issued by the manufacturers. Industrial input components required 3 phase power will also be used.

Methodology is briefly outlined. The treatment processing is a leaching style operation. This outline is based on a simple recycle counter current decantation (CCD) system with the design.
The processing plan will cover all treatment processes. The total processes are Mining, Leaching, Thickening, Spent-ore Disposal and Metal Recovery.

**Mining**

A front end loader and an operator may be needed at the alluvial ore delivery point. The alluvial ore is a -4mm sand which is the by-product of the river-pebble screening process conducted under the existing extraction permit covered by the ERA Permit #IPCE01538909. A front-end loader will push ore into a 2m³ steel hopper that has a small conveyor fitted. The conveyor will discharge into a sand pump, which will discharge onto a low-profile circular vibrating screen. The pump delivers the pulp to a rougher leaching silo.

An empty silo weighs about one tonne and carries pulp weighing (to a maximum) 32 tonne. Most of the silo stands will also have pump and associated bracing for support, and will stand up to 2 metres above the ground.

There will be a means of measuring and controlling pulp density. Barren solution pumped to a 9,300 litre flat-bottomed polyethylene tank will be initial water to make the pulp. The treatment rate out of the ore-bin will be adjusted by varying a gate on the discharge side of the bin. Undersize is pumped to the leaching plant. A common rubber-lined Warman centrifugal pump is sufficient.

**Leaching**

Water is used. All water is recycled and there is no consumption or loss of water, except what is lost by evaporation. Chemical reagents are used continuously but there is absolutely no cyanide nor mercury involved in any stage of the process. All reagents are commonly available and are capable of handling according to usual procedures issued by manufacturers at the level of usage. Due to the confidential and proprietary nature of this process we are restricted to providing the details of the process contained herein only and MSDS extracts for the reagents used are provided to DEHP.

There will be installed polyethylene silos for Leaching and CCD. The leaching process requires two parts:

- The roughing and scavenging section; and
- The recycle and counter-current decantation section.

Initially, the mineral is leached into a soluble form then recovered by passing the pregnant solution through a bed of activated carbon, which is later eluted for the recovery of the absorbed metal.

**Spent-ore disposal**

After treatment the spent-ore is an inert fine sand type material which is easily moved beyond the production processing area. Spent-ore will be pumped by a rudder-lined sand pump to the alluvial ore drying area or moved by conveyor. Once air dried the ore will be tested to ensure it is suitable to return to the extraction point as a back fill operation using loaders and trucks. Water pumps and sand pumps are required. Conveyors may be required.

**Metal Recovery**
The solubilised metal is likely to be fairly low grade on first pass. When the solution is recycled through the circuit it is expected to keep ensuring very little dissolved metal is lost other than on a chance basis. Losses from spillage and losses into spent ore will be monitored systematically. At start up a simple and effective process is to have the clear solution pass through a bed of activated carbon. A full-scale carbon-in-leach plant may be incorporated as soon as possible and depending on limitations of technical staff available. Electrowinning circuits will be used.

Water requirements are modest. Existing bore water can be used. Water contained in existing future drainage dams over the site is a logical source but it is not essential. Water is recycled throughout the production process and water loss through evaporation is the only water required to be augmented during operations.

**Of proposed infrastructure requirements necessary to enable mining program to proceed, or additional activities to be carried on to work out the infrastructure requirements:**

Infrastructure requirements have mostly been addressed by the existing extraction operation and associated permits. It is estimated that an eventual workforce of up to 30 staff may be required to operate the total project (including the existing extractive industry); some of this staffing would have temporary onsite accommodation requirements of which some units are already in place. Phone, water, septic, on-site power generators etc are already onsite supporting existing industry.

The construction of plant and the operation will not require an infrastructure program. The collection and delivery of alluvial ore involves the use of loaders, excavators, trucks, sand pumps and screens on a modest scale and are essentially off the shelf items. Three-phase power is required. Flexible pipes are used for the collection and disposal/return of ore. A hard stand surface area for operations is required but not concrete as packed gravel beds will work however, if any concrete slab that is installed needs to be no higher grade than standard warehouse floor specifications and will be easily removed at completion of operations.

**Proposed surface area:**

An area of 217 hectares.

**Location of datum post and start/reference point:**

S 25°34'15.32" E150°53'51.61"

**The proposed access:**

The Mining Lease will be accessed from ML 100119 utilising the existing track from Cheltenham Road running via the property fence line inside and along the south-western boundary of Lots 5 on WK96 and into Lot 6 on WK96 before going to the southern boundary of the application area on another existing track.

**Financial and Technical Resources:**

Coonambula Resources Group Pty Ltd is a wholly owned subsidiary company of ARX Pacific Resources Pty Ltd. ARX Pacific Resources Pty Ltd, Riverstone Resources Pty Ltd
and Coonambula Resources Group Pty Ltd are related companies which will utilise the financial and technical capability to services the application area for "South 220".