Applicant Name: North Queensland Mining Pty Ltd
Tenure: Mining Lease Applications ML100003 – Little Dog Leg Creek No.1
EHP reference: EPSX01567313

Information to support Question 3 of the application to amend an environmental authority:

Mandatory Information

GENERAL DESCRIPTION OF LAND:

• ENVIRONMENTAL VALUES.

North Queensland Mining will operate the alluvial project according to the Code of Environmental Compliance and specifically plan to progressively rehabilitate the mined alluvial areas complying with Sections 39 – 46 of the code. Any topsoil and silt zones occurring on the terraces will be removed and stockpiled for later use in rehabilitation. Oversize generated from the processing of the basal gravels will be returned to the mined areas to allow reforming of the alluvial drainage. The stockpiled topsoil and silts will then be re-laid over the gravels as a vegetation growth medium. As only small areas will be mined at any one time, seed stored in these stockpile will remain viable and provide the seed bank for re-vegetation and land stabilisation. Mining in this way will result in limited short term impacts on Dogleg and Little Dogleg Creeks and the medium and long term environmental values will be minimally affected. As current land usage is cattle grazing, cattle will not be excluded from accessing watering points.

• BIOREGIONS AND REGIONAL ECOSYSTEMS.

Human elements: The Palmer River goldfield was discovered in 1872. More than 90% of the reported 390t of gold was derived from alluvial workings north of Maytown. Small syndicates have continuously mined alluvial gold along the Palmer River, and its tributaries since gold was discovered in the region. The area being renowned for its historic alluvial gold deposits currently supports a large number of granted Mining Leases (147) and current Mining Lease applications (37) with-in the immediate regional area (50km circumference of application ML100003). Other human activities, which influence the area, are Cattle grazing (Palmerville Station) and extensive recreational tourism.

Landscapes: Relief in the general area varies from about 400 to 600 meters above sea level. The Limestone Range separating the Mitchell River watershed to the south from the Palmer River watershed in the north. The steam pattern is quite intricate and in all areas is deeply incised into the Hodgkinson Formation sediment basin. The present stream systems are actively down cutting and progressively re-working the older and current alluvium. The major portion of the annual rainfall of 170mm to 1,000mm occurs between December and March. The area is classified as sub-tropical and two distinct styles of vegetation occur within the area. On the ridges and hills sparse Ironbark, Box-gum, Bloodwood and Quinine scrub predominate, whilst in the creeks and river valley floors Paperbark, Bloodwood, Leichhardt pine and rubber vine are more common.
Natural processes: The mining process only occurs during dry seasonal conditions, therefore not affecting the nominal flow channel systems by otherwise diverting the watercourse. An acceptable environmental risk outcome is achieved through strategic mining practices as per the Code of Environmental Compliance Conditions 39 to 46, “Alluvial Mining Conditions”. As previously mentioned the watercourses are constantly evolving and regenerating sediment, and with careful consideration to rehabilitation techniques acceptable results can be achieved. Wildlife will not to be adversely affected in the immediate area from mining activities.

- **SHALLOW GROUND WATER SYSTEMS**

  Small shallow ground water systems occur within the proposed tenement in the form of very small isolated water holes contained in the creek bed. During inspection of these small “water holes” most of these were deemed of poor water quality (black water) from a combination of decomposing plant debris, recent fires, sediment and feces previous livestock, feral animal (pigs) activities.

- **FLOODPLAINS, SPRINGS AND SOIL DESCRIPTIONS.**

  **Alluvial mineralisation**: Shallow sandy, pebbly and cobbled alluvial are developed along most of the larger stream systems in the area. Gold is randomly distributed throughout these gravels and is generally concentrated towards the basal layers behind the rock bars and in basement hollows. Two types of gravel and wash units have been recognized – an older high level cobble horizon and the younger active stream alluvials. Gold is present in both these units, the latter being generally the more rich. As previous observations in the general area have concluded, there is very little natural spring activity and with only the free digging Recent alluvial material being removed for treatment, no disturbance of any springs would occur.