

ENVIRONMENTAL APPROACH AT PUHIPUHI

March 2016



At Evolution we believe we have an obligation to not only achieve compliance with legislation such as the Resource Management Act (RMA), but to strive for leading practice and to meet the expectations of the communities we operate within. We have Environmental Protocols that hold us to a high standard of environmental performance and create a clear and open accountability framework. Our regulatory and social licences to operate depend on this.

Before starting any exploration activities such as drilling, we will first complete an environmental risk assessment of potential environmental effects that may result from exploration activities. We have also initiated a comprehensive environmental baseline study which commenced in February 2016 and will take some months to complete. Consultation with the community will occur throughout all phases of our exploration programme.

Community concerns

Evolution understands that some members of the local community, including Tangata Whenua, have a high level of concern about the environmental impact of our exploration activities and any potential future mining should the project ever proceed to that phase. In particular, concerns have been expressed around potential release of mercury into the waterways, given the high levels of naturally occurring mercury in the Puhipuhi area and legacy issues relating to past mining and quarrying practices in the region.

See more in our fact sheet on *Mercury at Puhipuhi*.

The environmental baseline study will help us better understand the local environment and identify any potential environmental effects that may result from exploration activities. The study results will be used to assist in developing an environmental management plan that will include any environmental controls we need to put in place.

If Evolution is unable to identify a way to conduct our activities safely and without harm to the environment, we will not proceed.

Key points

- A comprehensive environmental baseline study has been designed, incorporating feedback from local community stakeholders. The study will help us better understand the local environment and identify any potential environmental effects that may result from exploration activities. This information will be used to assist in developing an environmental management plan that will include any environmental controls we need to put in place.
- Before starting any exploration activities that have potential for ground disturbance (such as drilling), we will first complete an assessment of potential environmental effects and ensure appropriate controls are in place.
- If Evolution is unable to identify a way to conduct our activities safely and without harm to the environment, we will not proceed.
- With the input of Ngati Hau and community stakeholders, we are developing a set of ongoing monitoring procedures designed specifically for the Puhipuhi area based on a thorough understanding of the unique set of local environmental issues and concerns.
- We will ensure that any procedures we implement meet all obligations under relevant New Zealand regulations and are aligned to Evolution's internal standards, procedures and protocols.



Environmental studies

Evolution is conducting a number of voluntary environmental studies of the Puhipuhi area. Some of the initial work has been completed, including:

- a review of ecological information available for Puhipuhi and adjoining areas;
- a review of how mercury is distributed in soil, rocks and waterways at Puhipuhi based on existing studies, monitoring data and exploration data;
- a review of potential pathways or avenues for the release of mercury into the environment, including from historic mercury mining, exploration-related activities, gold mining, non-mining related activities and naturally-occurring processes such as erosion; and
- a presentation of this information in map view, providing a picture of what is happening with regard to mercury at Puhipuhi.

Environmental Baseline Study

A comprehensive environmental baseline study has been designed, incorporating feedback from local community stakeholders including Ngati Hau and other hapu such as Ngatiwai and Te Uriroi. The study commenced in February 2016 and information gathered will address specific concerns around the potential for our activities to affect:

- water quality in aquifers
- surface water quality
- downstream dispersion of contaminants
- food webs and food sources such as *kōura* / *kēwai* (freshwater crayfish) and *tuna* (freshwater eels)
- release of mercury and other metals from soil/rock/sediment to waterways

The initial baseline study will include:

- Surface and ground water analysis
- Soil surveys and analysis
- Stream sediment surveys
- Flora and fauna surveys

The results will be used to build a model that will help us understand the relationship of groundwater and surface water with underlying geological (rock) units and the extent of interaction between different water bodies. This will inform what activities we do and do not undertake, where we undertake them, and what environmental controls need to be put in place.

This data will be made available to the community whether or not we decide to continue exploration or to mine at Puhipuhi.

With the input of Ngati Hau and community stakeholders, we are also developing a set of monitoring procedures designed specifically for the Puhipuhi area based on a thorough understanding of the unique set of local environmental issues and concerns. We will ensure that these procedures meet all obligations under relevant New Zealand regulations and are aligned to Evolution's internal standards, procedures and protocols.

If we decide to proceed to the drilling stage of exploration, water and drilling fluids will be contained to ensure no contaminants will be released into the surrounding environment. Drill cuttings and recirculated drill water will be collected in tanks and monitored, while tracks and drill sites will be regularly inspected for sediment control. Noise will be monitored to meet District Plan standards.

The community will be consulted to ensure that all relevant concerns have been identified and appropriately addressed before drilling commences.

Mining-related environmental management

At this stage it's uncertain whether we'll eventually proceed with building a mine at Puhipuhi. However, some members of the local community have expressed concerns about the potential environmental effects of a future mining operation and how mining-related environmental issues might be managed by Evolution at Puhipuhi. We understand that some community concerns are focussed on the potential for downstream contamination, particularly during high rainfall and flooding events. This is an understandable concern, due to the elevated topography of the project area and the history of flooding in the low-lying areas surrounding Puhipuhi.

If we did apply for consent to mine, the consent process would be managed both by Central Government, through the Crown Minerals Act, and by local Councils through the Resource Management Act (RMA). There is a rigorous process to ensure that the design and operation of New Zealand mines take account of potential climatic and seismic events and that the operator has sufficient expertise to meet all conditions of any consent. In addition, any mining operations at Puhipuhi would be regularly monitored and subject to external audits annually, to ensure that we comply with all regulatory obligations and meet our targets relating to:

- Air quality
- Biodiversity management
- Chemical management
- Cyanide management
- Water management
- Hydrocarbon management
- Waste rock management
- Rehabilitation and closure management
- Tailing management
- Waste management
- Energy efficiency

Contact us

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