

## Facts Sheet 4: Moanataiari subdivision

# Further Information

### General Questions

#### **Why was Moanataiari being assessed?**

Moanataiari has a known history as reclaimed land using rock and tailings from nearby mining activities in and around Thames, so it was registered as a site that required future investigation for contamination by the Regional Council.

#### **Why has it taken so long to test Moanataiari?**

The region's priorities have been with known contaminated sites such as the Tui mine. The following data available at the time also suggested that the site was not an initial priority.

- Records indicated that the subdivision had a clean cap of clay over it
- Public medical records did not indicate any known or related health issues
- The good health of the plant life and trees
- A soil test at the Primary School sports field came back negative for contamination

#### **Why was Moanataiari School's test negative for contamination?**

The school's field was tested in 2007 and the results were negative for contamination. We now believe that the sports field has been developed with introduced top soil given its higher elevation than surrounding land.

#### **Why is there a problem if the subdivision was capped?**

Our records indicate that a cap was placed over the subdivision as it was progressively formed over the years of development. The next round of testing will determine the extent of its effectiveness.

#### **What is the Contaminated Sites Remediation Fund?**

The Government can support councils to investigate and remediate contaminated sites through the Ministry for the Environment's Contaminated Sites Remediation Fund. If the application is approved, the Ministry will provide up to 50 per cent of the costs for:

- the investigation of sites
- remediation planning
- site remediation.

#### **What is the purpose of the Ministry for the Environment's Funding Priority List?**

The Ministry for the Environment has developed a funding priority list to assist with prioritising funding for the remediation of contaminated and potentially contaminated sites. The Funding Priority List is based on information provided to the Ministry for the Environment from regional councils.

The Funding Priority List includes both known and potentially contaminated sites. As a site goes through different stages of investigation or remediation – from 'potential' to 'known' – for example, it may change its priority on the list or be removed.

- A known contaminated site is where some physical investigation has been undertaken and elevated concentrations of contaminants are known to exist on site.
- A site is considered potentially contaminated based on readily available information which confirms that a hazardous activity or industry has taken place on the site.

### **What is on the Thames-Coromandel District Council's Land Information Memoranda (LIMs) for Moanataiari?**

*The subdivision appears on the regional council's register (called the Selected Land Use Register or SLUR) which contains information on properties known to be contaminated on the basis of chemical measurements, or potentially contaminated on the basis of past land use \*\*.*

#### **\*\* Moanataiari**

*Its classification is currently "Verified HAIL - not sampled" because the area has been identified as being reclaimed land built up with various materials including mine tailings.*

Information about Moanataiari's inclusion on the register was placed on LIMs by the Thames-Coromandel District Council earlier this year.

LIMs also now include the information pack sent to residents and ratepayers in October and are being updated with the information contained in this pack as well.

### **What are the HAIL and SLUR lists?**

The regional council's Hazardous Activities and Industries List (HAIL) defines industries and activities that typically use or store hazardous substances. Properties within our region that either historically or currently have any of these activities operating are in the process of being registered on the Selected Land Use List (SLUR) and tested for contamination.

Please contact the regional council on 0800 800 401 for more information about the HAIL and SLUR lists.

## Science Questions

### What is arsenic?

Arsenic is a naturally occurring mineral found in soil, bedrock, and water (often in higher concentrations around seams of gold). In its pure form, arsenic is a silver-gray or white brittle metal. Arsenic has no odour.



### Why are there high levels of arsenic in the soil?

All of the trace elements detected are from the minerals and rocks themselves, i.e. the minerals that were mined and then used as fill in the reclamation process. None of the elements are present as a result of any chemicals that were added as part of the mining process. Historically, mercury itself was used for gold extraction, but the results suggest that the mercury we have detected is also just part of the natural make-up of the minerals that were mined.

Testing has confirmed mercury is not a contamination issue for Moanataiari.

### In general, how toxic are the surface level results for arsenic?

The National Soil Contaminant Standard (SCS) for arsenic in residential soils is 20 mg/kg or 20 parts per million and it is generally accepted that an extremely dangerous and life threatening exposure of arsenic would be around 2000 - 3000 parts per million.

Natural arsenic can be found in most soils at around 4 - 20 parts per million.

The two highest surface results at Moanataiari are 320 and 350 mg/kg.

So on the surface results alone, there is no acute health risk to human beings in the short term, but the results are higher than the national standards and therefore present a chronic or long term health risk that needs to be addressed.

### **What about the other contaminants found?**

While there are isolated areas on the subdivision where other elements are above guidelines, when the arsenic levels are managed or remediated this will also remove or reduce the risk of exposure to any other contaminants in the soil too. The Ministry of Health advice will also protect your family from these contaminants as well.

### **Why are the plants and trees thriving on the subdivision with such high levels of arsenic?**

Trees and plants can cope with high levels of arsenic. When assessing contaminated sites, it is often the plant life that is a good indicator of contamination because of heavy metal contamination in the soil. This site does not generally have a heavy metal contamination problem and arsenic is not a heavy metal.

### **What does surface level mean?**

In this instance, surface level means tests that were conducted at 10cm below the grass or ground surface.

## **Health Questions**

### **Is it safe to drink water from my tap?**

If your house is supplied by the Council's reticulated water supply, then it is safe to drink. This water is supplied from clean sources and it is also treated. If you are using water from a personal well/bore (we are not aware of any bores), then it is advised that you do not use this water until it has been tested.

### **How do I protect my family while we wait for more information and solutions?**

The Ministry of Health advises residents to:

- take care with personal hygiene (i.e. hand washing after handling soil)
- make sure children don't eat or play in soil
- remove footwear before going indoors to avoid carrying soil dust indoors -particularly for households with very young children
- cover soil (e.g. grassing, paving, gravel) to reduce dust and direct access by young children;
- not to eat home grown fruit and vegetables, especially for young children, until further quantification of the contamination is available and the risk can be assessed, unless it is known that the garden soil is clean fill. If you choose to eat home grown fruit and vegetables then thoroughly wash produce that may be contaminated with soil, and peel the skin off root vegetables
- don't be concerned about the drinking water supply, it is separate (and safe)
- as always, if unwell for any reason, see their doctor.

### **Can I eat fruit and vegetables from my garden?**

As fruit and vegetables absorb arsenic or if they are not washed properly they can have contaminated soil on them, the Ministry of Health's advice to residents is to not eat home grown fruit and vegetables, especially young children, until further testing is completed and we have more specific property information.

If you choose to eat home grown fruit and vegetables, then thoroughly wash produce that may be contaminated with soil and peel the skin off root vegetables;

### **Can I let my kids play on our grassed areas?**

Yes you can, established gardens and grassed areas pose very little health risk. The exposure is greatly increased where people come into contact with exposed dirt (i.e. vegetable gardens and exposed dirt under playground equipment). Exposed dirt should be covered where practicable, especially in areas where there are high-volumes of people movement (i.e. paths and dirt under playground equipment).

### **How are people exposed to arsenic?**

**Drinking/Eating:** Eating contaminated soil is the most common form of exposure usually from unwashed fruit and vegetables or when children are playing in the dirt and accidentally or purposefully eat soil. Fruit and vegetables also absorb arsenic and hold it internally.

Marine fish and seafood contain naturally high amounts of arsenic. However, the arsenic in these foods is a non-toxic form called "fish arsenic."

**Breathing:** Arsenic in food or water does not evaporate into the air. However, burning arsenic-containing materials such as treated lumber will put arsenic fumes into the air. Burning treated wood in a wood stove or fireplace may expose people to dangerous levels of arsenic. Tobacco smoke contains traces of arsenic.

**Touching:** Levels of arsenic typically found in the environment are not easily absorbed by touching.

### **What are the health conditions generally associated with long-term exposure to arsenic?**

Chronic ingestion of arsenic (consuming arsenic by eating or drinking it over a long period of time) is known to cause some types of cancers and cause some types of cardio-vascular problems.

### **Who can I see if I am worried about my own health?**

Please visit your GP or Medical Centre for advice; they have been briefed about this issue and are able to help. In the meantime, please put into practice the health advice we are recommending until we have more information.

## **Questions about the future**

### **What happens next?**

1. We will apply to the Ministry for the Environment's Contaminated Sites Remediation Fund to assist with the costs of testing private properties.
2. We plan to begin testing on private property as soon as possible, so we can develop tailored management and/or remediation plans.
3. After the testing, we will make contact again with the results and the various options available to address any contamination issues.

In the meantime, please follow the health recommendations to minimise any potential health risks until we have more information.

Please feel free to contact us or, for regular updates, visit [www.tcdc.govt.nz/moanataiari](http://www.tcdc.govt.nz/moanataiari) .

**What will happen if the next round of testing confirms the soil is contaminated at my house?**

It is too early to give any details of what will be required, but a management and/or remediation plan may be developed for your property.

**How long will this all take?**

It's hard to tell, but we will work as fast as we can but it will take some months to work through.

If any remediation is required, Waikato Regional Council will apply for support from the Ministry for the Environment's Contaminated Sites Remediation Fund (CSRF). If this application is approved this fund can provide up to 50 percent of the costs of any clean up required.

Waikato Regional Council's planning is well underway for the next round of testing on private property. We expect the next round of testing and the results to be with us in the New Year.

Any remediation of land will take some time, but we won't know the full extent of the project and the timeframes until we have completed the next round of tests.

In the meantime, please put into place the health recommendations to minimise any potential health risks until we have more information and please feel free to contact us or visit [www.tcdc.govt.nz/moanataiari](http://www.tcdc.govt.nz/moanataiari) for regular updates.

**What will happen to the value of my house?**

It is too early to speculate. We know from previous residential sites requiring this sort of attention, house prices are not generally affected long term.