

# Striking a Balance:

*Incorporating an Integrated Approach to Mining and Contaminated Sites*

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# OUTLINE

- What are contaminated sites?
- Legislation/regulations
- Historic mining activities
- Contaminated sites and mining
- Integrative approach



# CONTAMINATED SITES

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- To help with identifying potentially contaminated land, the Ministry of the Environment (MfE) has compiled a list of activities and industries commonly associated with contaminated land. This list is called the Hazardous Activities and Industries List (HAIL).
- HAIL = is a compilation of activities and industries that are considered likely to cause land contamination resulting from hazardous substance use, storage, or disposal. For instance:
  - D4 - Metalliferous ore processing, including the chemical or physical extraction of metals, including smelting, refining, fusing, or refining metals
  - E7 - Mining industries (excluding gravel extraction), including exposure of faces or release of groundwater containing hazardous contaminants, or the storage of hazardous wastes, including waste dumps or dam tailings



# CONTAMINATED SITES LEGISLATION / REGULATIONS

- Legislation / Regulations
  - Natural and Built Environment Act (NBEA) – replacing RMA - core legislation governing land use and environmental regulations
  - NESCS (Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011)
  - Regional plans with specific contaminated site requirements (e.g., ORC)

To be aware of: Heritage New Zealand Pouhere Taonga Act

2011/361



**Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011**

**Natural and Built Environment Bill**

Government Bill  
186—1



# NBEA

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## Natural and Built Environment Bill, part 1:

### 5 System outcomes

...The national planning framework and all plans must provide for...

(b) (iii) the reduction of risks arising from and better resilience of the environment to, natural hazards...

### 7 Interpretation

natural hazard—

(b) includes soil that contains concentrations of naturally occurring contaminants that pose an ongoing risk to human health

- Still a lot of refinement and development of how this will be put into practice



# CONTAMINATED SITES & HISTORIC MINES

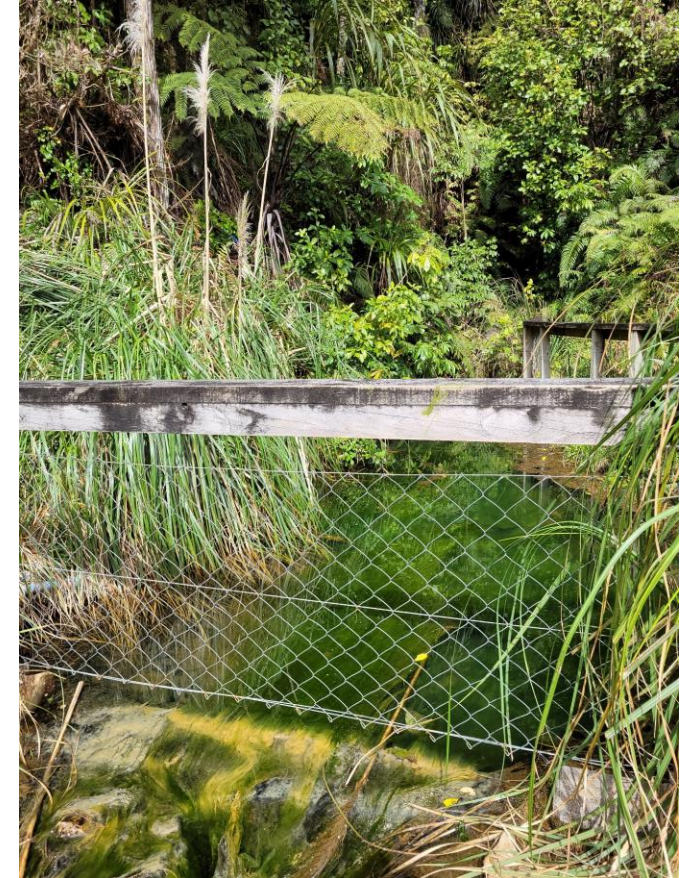
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- Numerous historic mine sites and associated activities throughout NZ.
- A lot have been left “as is”.
- Multiple HAIL activities on mine sites - mining, processing, stockpiles, landfilling, chemical storage, fuel storage, and workshops.
- Toxicity is specific to the metal, metalloid, or chemical form that the element is in.
- Persistence and mobility are dependent on environmental conditions and soil and rock properties. When acid-generating rock is exposed to air and water, the acid generated releases metal and metalloids from the rock and increases the mobility of some metals.



# CONTAMINATED SITES & HISTORIC MINES

- Some have ongoing discharges that may be treated (passive and active) or may not be treated at all.
- Check if resource consents are required.
- Discharges to land, water, and air.
- Check all HAIL has been covered.
- Acid sulfate soils.



# INTEGRATED APPROACH

- Baseline sampling – required for new operations and historic mining sites
- Proactive approach – gather information on historic sites at the same time as baseline information
- Delineation of the site (soil and water)
  - Preliminary Site Investigation (PSI) – desktop and prelim sampling
  - Detailed Site Investigation (DSI) – water and soil sampling (laterally & vertically)
- Source – contaminant load contributions
- Tier 2 assessments to allow for site-specific guideline values





# MONITORING AND MANAGEMENT

- Monitoring long term to understand contributions from historic sites before, during, and after new project/operations
- Historic sites have valuable geochemical information that can inform new projects
- Site specific consideration
- Check archaeological and heritage requirements



# GREENROAD

