

# **Closed Landfill Monitoring – Compliance or Complacency?**

WasteMINZ 2025, Christchurch

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# Closed Landfills in New Zealand

- Over 3000 closed landfills
- Majority closed pre-2000
- Can be sited in non-ideal locations



## On the coast





## Next to a river





## In a steep valley





# Encroaching housing development & adjacent to a wetland





# Encroaching housing development



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# Closed Landfills in New Zealand

- Usually owned/managed by local authorities
- Discharges to air, land and water consented by regional councils
- Common consent conditions:
  - Monitoring of groundwater, surface water, landfill gas
  - Landfill surface/cap inspections
  - Aftercare Management Plan



# Closed Landfill Compliance Monitoring – AECOM's Experiences



- 14 consented closed landfills in the Waikato Region
- 4 district councils





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# What's Involved to Assess Compliance?



# Assessing Compliance

- Monitoring of landfill gas, leachate, groundwater, surface water
- Physical inspections – cap, vegetation, stability, treatment systems
- Reporting to regional council





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## Assessing Compliance

- Field work: 1 week per quarter for each local authority
- Monitoring reports: 3 weeks per quarter for each local authority
- Annual cost to local authority can be over six figures





# How is Compliance Determined?



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# Achieving Compliance

- Not straightforward
- Requirements vary even for the same regional council:
  - Monitoring
  - Analysis suites
  - Trigger levels
  - Non-compliance actions
- Purpose – what is being protected?





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# Achieving Compliance

- Tick box exercise – complacency?
- Non-compliance issues:
  - Reactionary
  - Budgeting
  - Predictable?
  - Real impacts?





# Solutions



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# Closed Landfills are Contaminated Sites?

- Treat them as such
- Prepare a CSM
- Amend the monitoring plan



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# Audit of Consent Conditions

- Reference to the CSM
- Are they fit for purpose?
- Communicate with regional council



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This is what AECOM has been doing



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## Example 1 – Leachate Seeps

- Leachate seeps observed at toe of landfill
- WRC requested the seeps be remediated
- Agreement with WRC for an investigation first to assess environmental impacts





## Example 2 – Surface Water

- Consent requires surface water sampling during summer groundwater minimum levels
- Surface water sampling locations regularly dry
- Agreement to do a review of the sampling programme
- Seek change to consent conditions





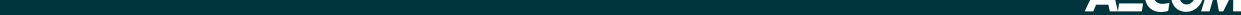
## Example 3 – Landfill Gas

- Exceedance of trigger levels in boundary wells
- WRC requested investigation into exceedances
- Use data from off-site wells to assess risk
- Seek change to consent conditions





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## Summary

- Consent conditions not always fit for purpose
- Easy to tick the box and not ask questions – complacency
- Harder to challenge and seek beneficial change
- Local authorities should expect value for money
- Engage with regional councils
- Deliver meaningful compliance



**Thank you.**