

Meeting Minutes

Neighbourhood Liaison Group (NLG) Meeting
Thursday 7 September 4:30pm – 6:00pm
Rimu/Totara Room, Te Takeretanga o Kura-hau-pō,
10 Bath Street, Levin 5510

In attendance

Parekura McGregor (Facilitator)	David Moore
Dan Higgs (Horizons Regional Council)	Graeme Lindsay
David McMillan (HDC)	Viv Bold
Daniel Haigh (HDC)	Lindsay Strachan (Earthtech)
Deanna Paki (Lake Trustee)	Matilda (Earthtech)
Scott Wardlaw	Charles Rudd
Christine Moriarty	Taitiana Taukiri (HDC)
Jack Warren	Campbell Dodds (HRC)

Welcome and Karakia

Meeting opened by new Chair, Parekura McGregor and a karakia by David Moore.

Apologies

Eugene Henare, Jenny Rowan, Rachel Moore and Peter Everton.

Moved: Deanna Paki

Seconded: David Moore

Acknowledgments

Acknowledgements for Daniel Parker, Turkington Team, Dean Wilson, Remana Sullivan-Rudd, Pātaka Moore, Ricky Heihei.

Meeting Purpose

Daniel introduced Lindsay and mentioned that the purpose of the meeting is to share information widely and efficiently.

Earthtech Report Update and Presentation

Lindsay discussed the presentation. Presentation attached below.

Levin Landfill Site Investigations

4 - 9 September 2023


Assessment of Groundwater Pollution Plume Mobility and Remediation Plan



Overview of today's presentation

- ❑ Landfill leachate – a brief overview of type, age, concerns
 - Also covering ammonical-Nitrogen
 - Leachate treatment
 - Wetlands systems
- ❑ Overview of the Investigations taking place
 - The plan and approach
 - Findings so far
- ❑ Q & A





Landfill leachate may be defined as being:

The liquid emission resulting from the biodecomposition processes of landfilled wastes and the flushing of liquids (mainly rainwaters) through the wastes.



Further:

A highly concentrated and complex waste water comprising numerous dissolved contaminants, dependant upon the advancement of the waste degradation processes



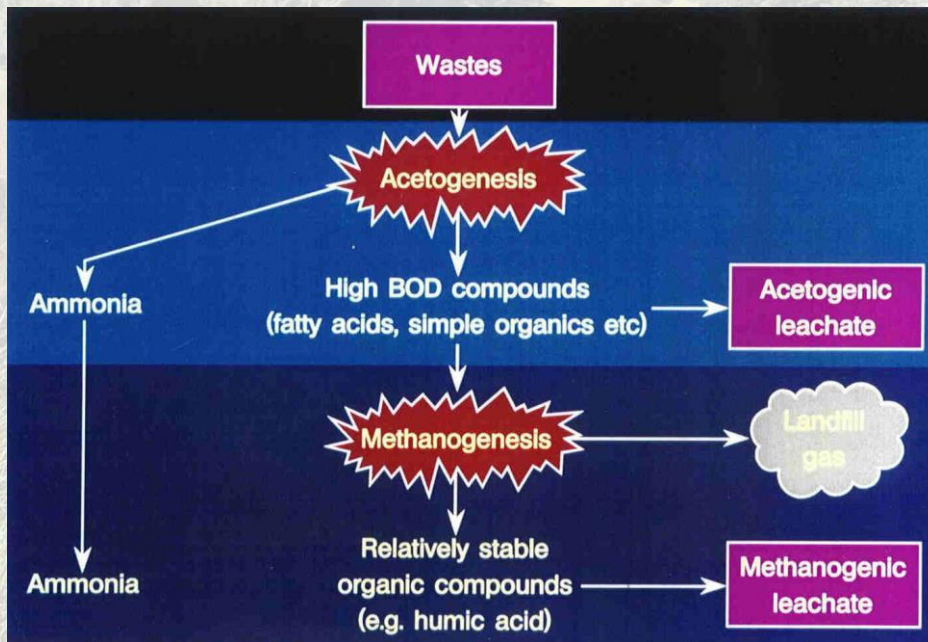
Colloquially:

The Landfill
“Black Box”




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Leachate Production

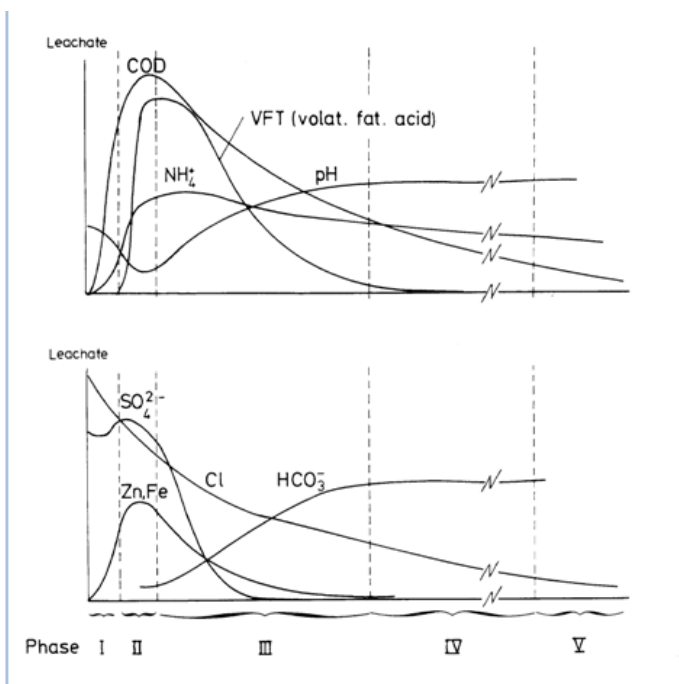



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Landfill Leachate Introduction

Milestone Works:

1. Farquhar and Rovers (1973)
2. Ham and Bookter (1982) (from works from 1966)
3. Howard Robinson (1982 – date)
4. Keith Knox (1983 – date)
5. Ehrig (1984)
6. Christensen and Kjeldsen (1989)
7. Christensen, Cossu and Stegmann (1992)

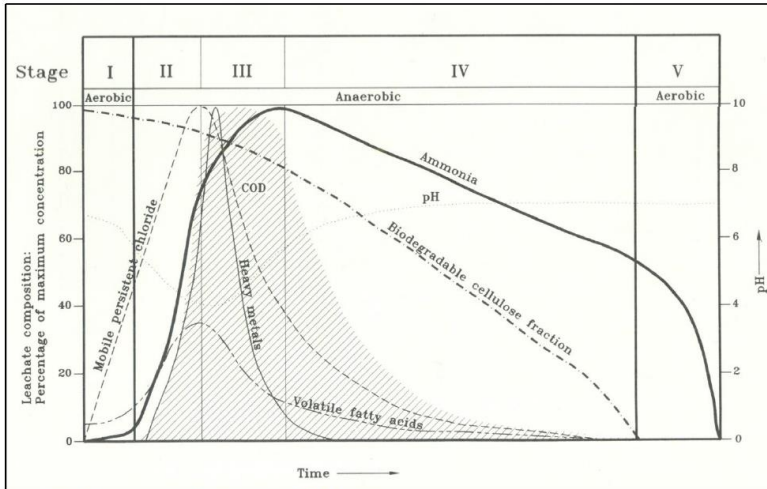


Landfill Processes

Developments in landfill leachate
(Christensen & Kjeldsen, 1989 and
Christensen, Cossu and Stegmann, 1990)

Landfill Processes

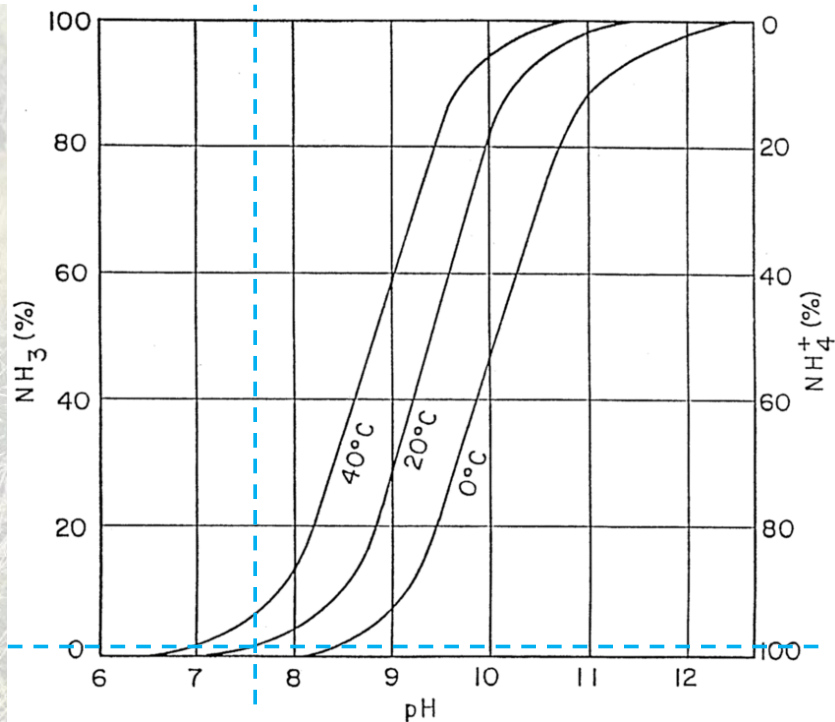
Figure 5-3 Changes in Leachate Composition with Time



Source: UK Department of Environment 1991

Technical Guidelines for
Disposal to Land
Rev 3, pg 58 (WasteMINZ, 2022)

Periodic Table of the Elements																		18 VIIIA He 4.003																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Landfill leachate compared to Compost leachate:

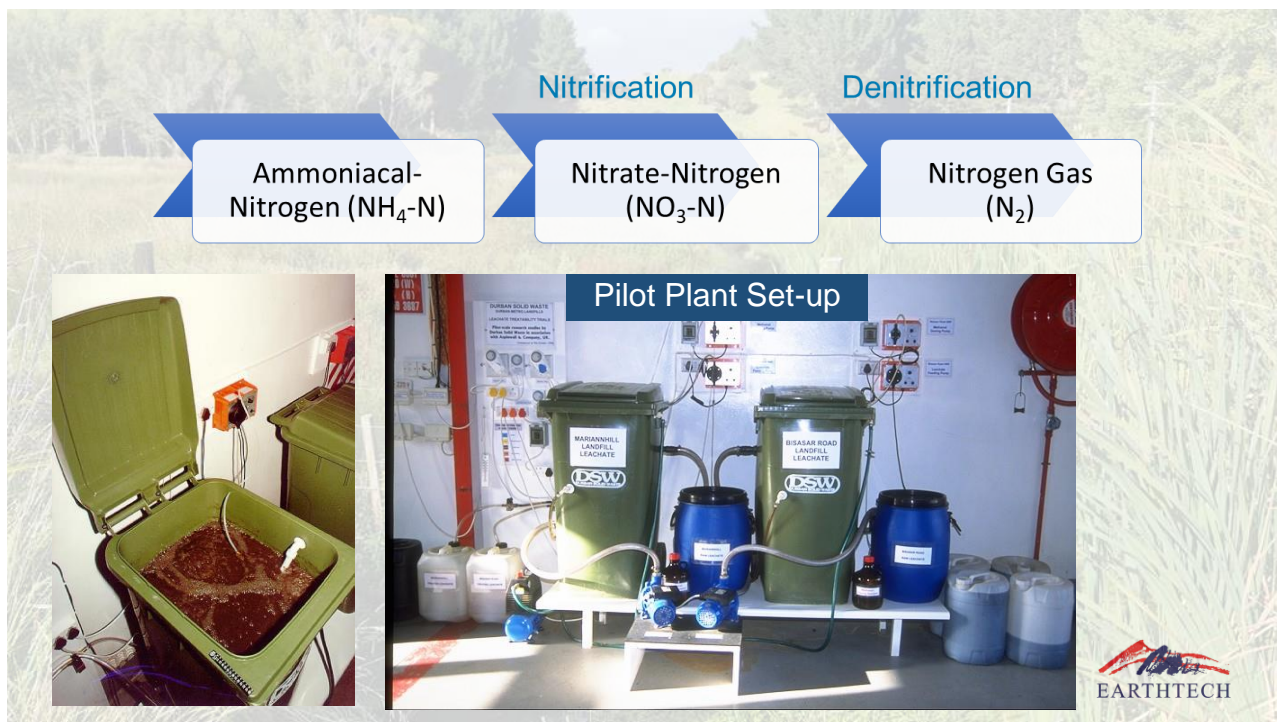
Compost – Aerobic Processes

- Aerobic bacteria and production of organics with nitrate, carbon, phosphorus, etc
- Non smelly – organic smell
- Produces (some) carbon dioxide

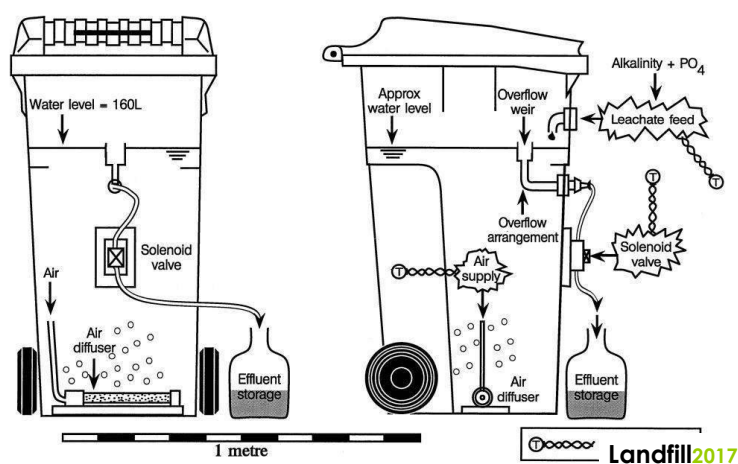
Landfill – Anaerobic

- Anaerobic bacteria and production of ammoniacal-N, VFA's, ascetic acids,
- Typically smelly
- Produces methane and carbon dioxide

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Pilot Plant Design



Landfill2017

October 2017
Seminar



Constructed Reedbed Polishing Treatment



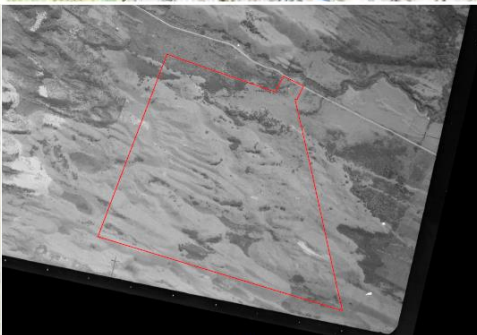


Site Investigations underway





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1939



1957



1971



1983

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2005



2010

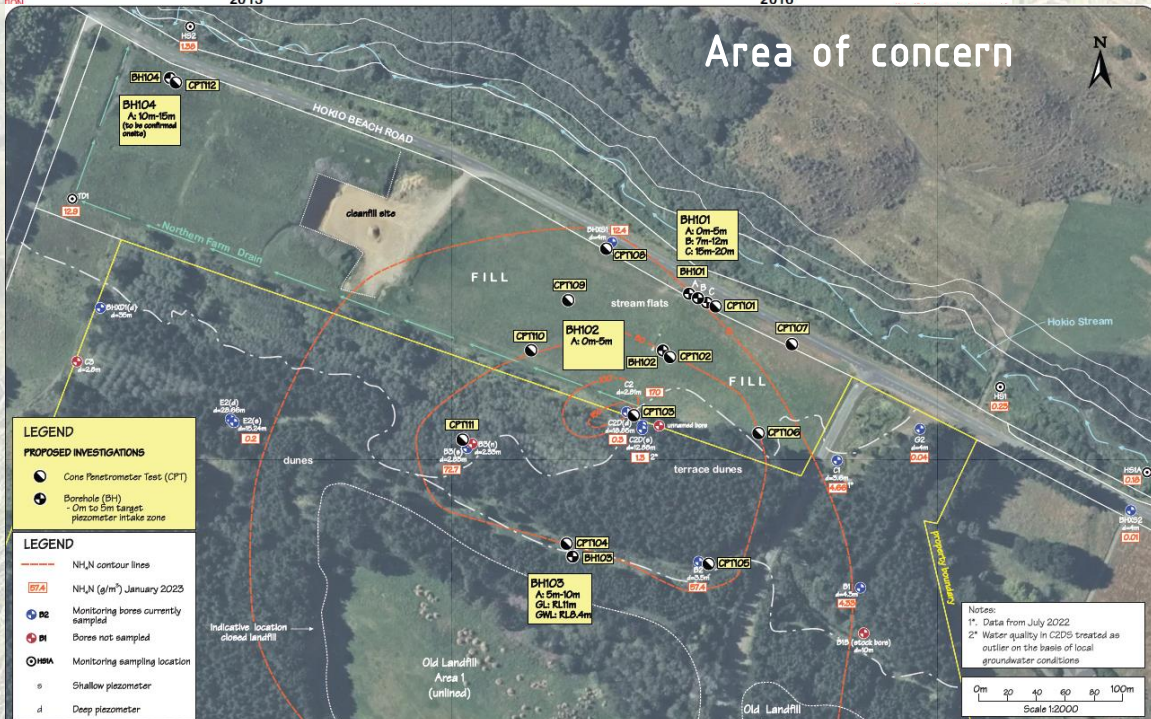


2013



2016

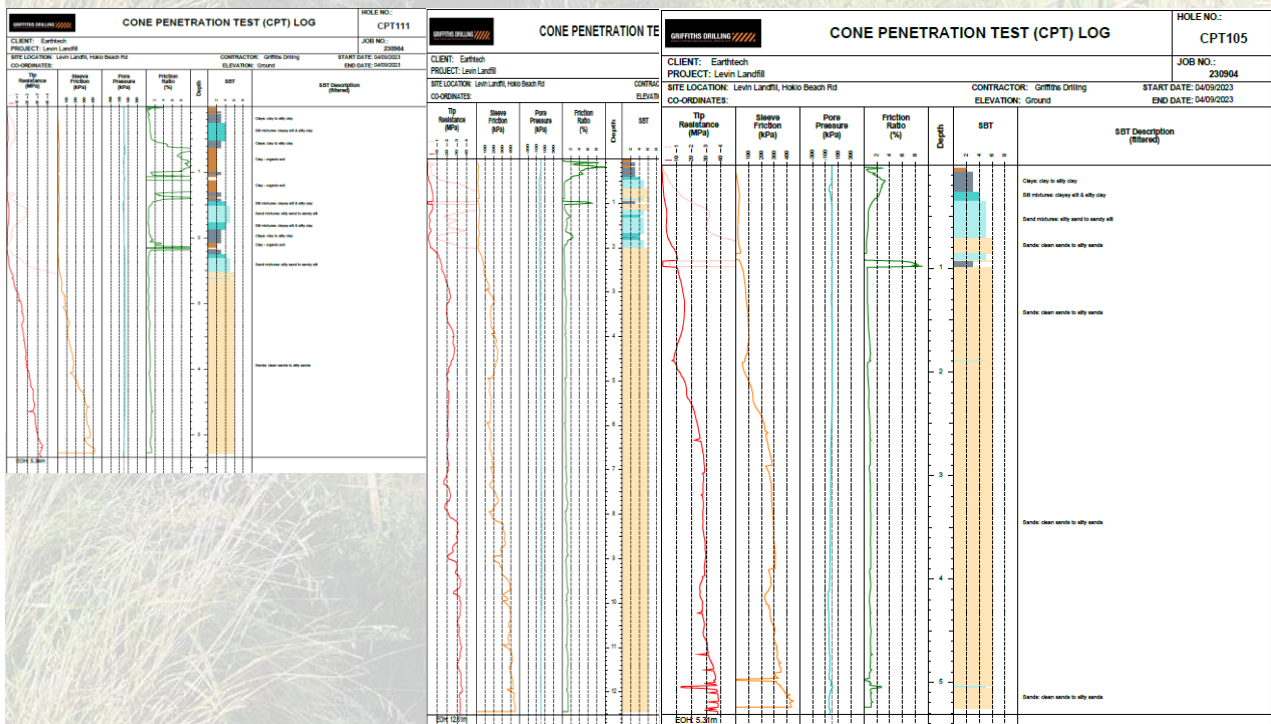
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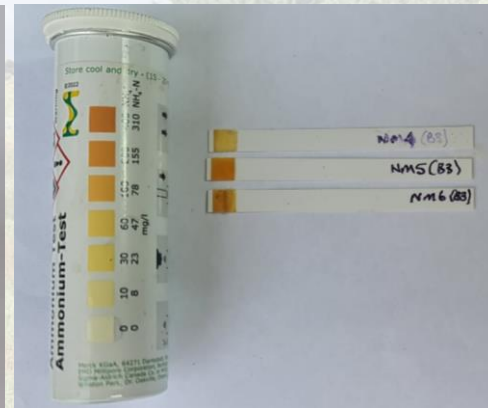
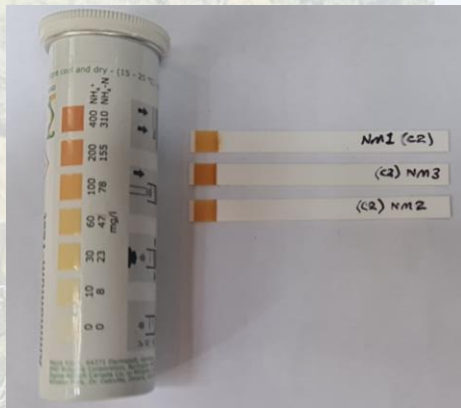
Current Findings

- We're still building up the overall geological / geotechnical picture, but have encountered the following:

CPT no.	Refusal Depth (m)	CPT no.	Refusal Depth (m)	CPT no.	Refusal Depth (m)
Drilled 4 September 2023		Drilled 5 September 2023		Drilled 6 September 2023	
CPT103	12.5	CPT101	10	CPT112	12.5
CPT104	5.8	CPT102	9.8	CPT110	11.0
CPT105	5.3	CPT106	5.3	CPT109	16.0
CPT111	5.3	CPT107	16.3	CPT108	11.0







Monitoring Point Location Description	NM1	NM2	NM3	NM4	NM5	NM6
Area	BHC2 line			BHB3 line		
Date	6-Nov-23	6-Nov-23	6-Nov-23	6-Nov-23	6-Nov-23	6-Nov-23
EC ($\mu\text{mS/cm}$)	1212	1277	2095	924	1077	1420
EC (mS/m)	121.2	127.7	209.5	92.4	107.7	142
NH ₄ -N (mg/l)	110	300	380	120	160	350


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Thank you everyone for listening
Tēnā koutou katoa

Questions / Nga patai?


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Deanna mentioned that this was the best presentation that she has ever seen from a hydrologist or anybody that deals with water, including ground water. Thanks on behalf of the Lake Trust.

Parekura thanked Lindsay for the presentation.

Landfill Visits

Hikoi Te Whenua

Reflection on the Hikoi te Whenua at Levin Landfill. Parekura thanked everyone that came. Thanks to John Turkington who took good care of the NLG members on site. Charles mentioned that David also took care of the members.

Archaeologist Visit

Mention of the Archaeologist Visit on site so everyone is informed of the activities at Levin Landfill.

Turkington Field-day

Deanna complimented John Turkington and the team for how they left the site. The midden site were left in excellent condition. Noted that you could barely tell where the middens are and it was a brilliant job.

Matters Arising

Charles mentioned that he had matters arising but due to the time constraint he would hold off until the next official meeting.

Viv mentioned water testing bores on site.

Action: HDC will respond to Viv via text message.

Introduction to the new staff members; Campbell Dodds, Horizons Regional Council and Scott Wardlaw, Horowhenua District Council.

Mention of the latest Stantec report.

Action: HDC to email link to Stantec report NLG.

Date for Next NLG Meeting

Tentative date is 23 November 2023, 4:30pm.

Action: HDC to confirm date by Friday 27 October.

Closing and Karakia

David closed the meeting with a Karakia.