CITY OF MITCHAM

August 2022

Pasadena historic landfill Community update

Background

In late 2020, the City of Mitcham entered into a Voluntary Site Contamination Assessment Proposal under the *Environment Protection Act 1993*.

It detailed the scope of work, timeframes and objectives for an environmental investigation associated with a former landfill in Pasadena.

The investigation involved the assessment of landfill gas, soil, soil vapour and groundwater within the site area shown below and in nearby areas surrounding the site.

The former landfill was used from 1959 until the early 1960s for the disposal of general household rubbish.

The current phase of environmental investigations is complete and results have been reported upon in a Detailed Site Investigation Report. The objectives of the report were to:

- Review findings from previous investigations to identify scope of works needed to better understand the nature and extent of landfill gas, groundwater and buried waste / fill material at the site.
- Assess if there is potential impact or risk to humans and the environment at the site and its surrounds.

This Community Update summarises the findings of that report.

What area did the investigation cover?

The environmental investigation covered the bulk of the footprint of the former landfill site (referred to as "Lot 101", Port Lincoln Blvd.), and select residential properties. The residential properties were included as an assessment of potential risk from landfill gas had not been conducted at these properties and the boundary of the former landfill in relation to these properties was not well understood.

Results summary

Most of the former landfill site is vacant land. There are very few enclosed spaces over the landfill where gas can accumulate e.g. where there are underground services.

One property in Quinton Court was confirmed to be built over a part of the landfill and trace concentrations of landfill gas were found to be moving into indoor air, below the trigger levels for risk to health.

No evidence of landfill gas movement into other residential properties surrounding the landfill has been found to date.

Concentrations of other chemicals assessed in soil, soil vapour and groundwater were found to be low and acceptable.

No evidence of impacts on regional groundwater were found at the groundwater wells installed / sampled as part of the investigation.

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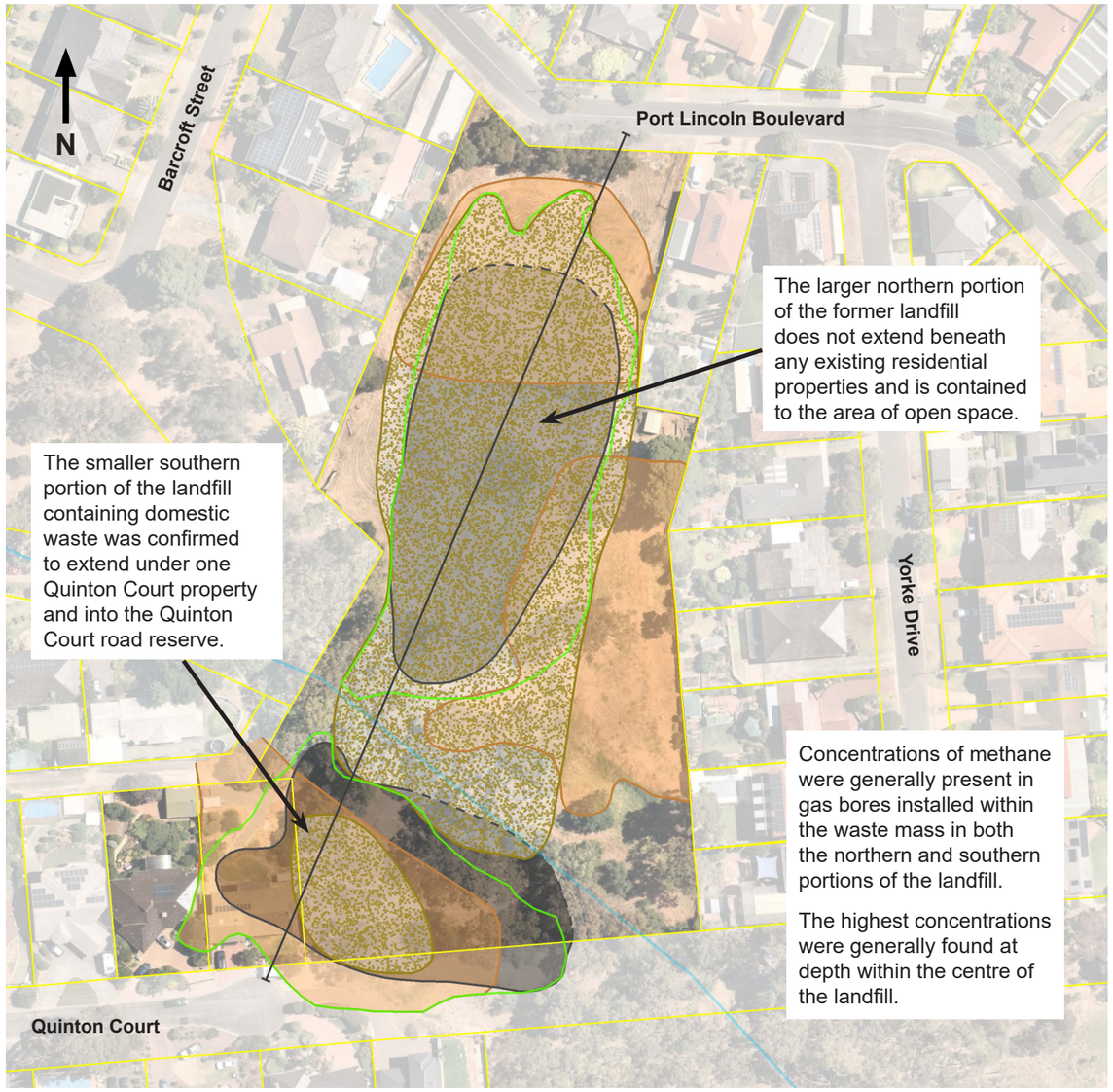
Extent of the former quarry and landfill site showing areas of fill and waste



KEY

- Indicative line of cross-section shown top right
- Property boundaries
- Creek
- Approximate extent of the quarry boundary (excavated prior to the site being used as a landfill)
- Approximate extent of fill with no landfill waste
- Approximate extent of fill with waste such as concrete, bricks and other construction and demolition waste
- Approximate extent of fill with domestic / putrescible waste (waste that can / has decayed)

Cross-section of the former landfill site from Quinton Court to Port Lincoln Boulevard

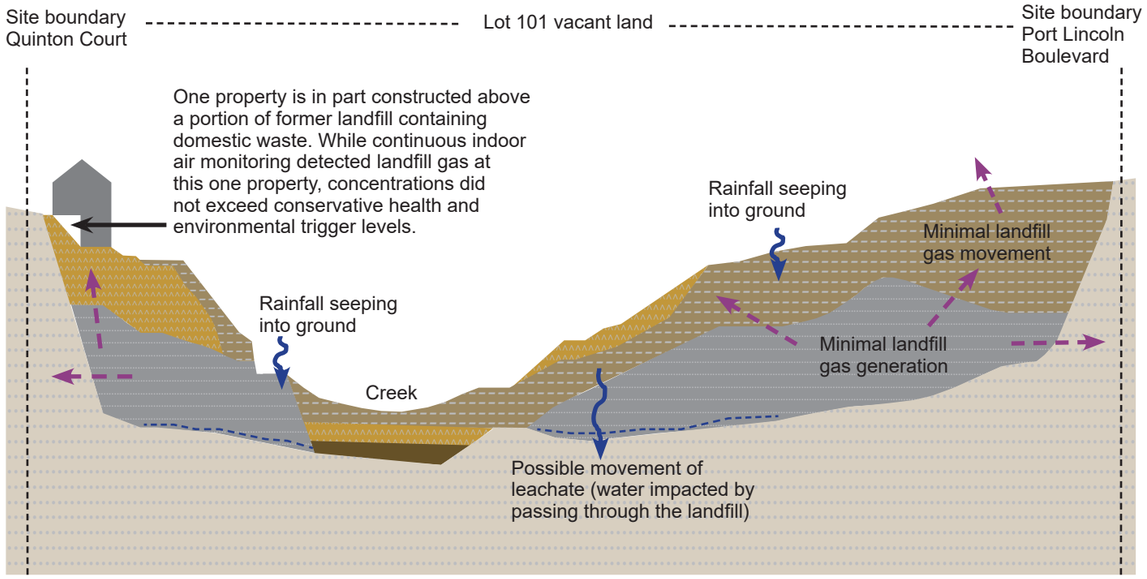


Figure is not to scale

- Approximate extent of fill with no landfill waste
- Approximate extent of fill with waste such as concrete, bricks and other construction and demolition waste
- Approximate extent of fill with domestic / putrescible waste (waste that can / has decayed)
- Natural clay
- Possible gas movement
- Perched leachate / groundwater

Landfill gas findings

- **The risk of potential landfill gas movement to residential properties surrounding the landfill site was assessed to be low.**
- **The risk of exposure to landfill gas at Lot 101 Port Lincoln Boulevard was assessed to be low and acceptable given the site is currently vacant land.**
- Additional monitoring and sampling is proposed along the boundary of the landfill to further confirm these findings.
- No unacceptable concentrations of landfill gas were detected in underground service pits sampled within the investigation area.
- There has been no detection of landfill gas in the indoor air of properties, with one exception (refer cross-section above).
- The highest landfill gas concentrations were found at depth and the movement of methane towards the surface appears limited.
- Carbon dioxide was consistently found in the gas monitoring bores, including those on the boundary of the landfill site. This is as a result of the historical movement of landfill gas, the oxidation of methane to carbon dioxide and natural soil and rock weathering processes known to generate carbon dioxide.
- Landfill gas production and movement are both minimal. This means landfill gas findings are unlikely to change.

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Frequently asked questions

What gases are produced by the breakdown of waste in landfills?

Landfill gas forms from the breakdown of organic waste in landfills. Landfill gas is typically made up of 99% methane and carbon dioxide.

Methane and carbon dioxide are also naturally occurring gases which are present at low concentrations in the earth's atmosphere.

How is potential risk from landfill gas identified?

Finding landfill gas does not automatically mean a risk is present.

For a potential risk to be present from landfill gas, concentrations would need to reach a level that could cause harm and there would need to be a pathway for those concentrations to reach people.

Why are there risks associated with the buildup of landfill gas?

Methane gas can move into, and collect, in confined spaces such as buildings. At concentrations between 5-15% in air, methane can be explosive if there is an ignition source.

Carbon dioxide is heavier than air and can sink towards the ground in enclosed spaces. It can become hazardous by displacing air and reducing the amount of oxygen available to breathe. This can cause symptoms such as nausea, dizziness and headaches - and in extreme situations can cause asphyxiation.

How was landfill gas investigated?

Measurements of landfill gas were undertaken via gas monitoring bores within and surrounding the landfill. The following information is recorded to support the analysis of results:

- Gas concentrations
- Gas pressure
- Gas flow (movement)
- Atmospheric pressure
- Weather conditions
- Ground conditions.

Is there a risk from landfill gas or other chemicals?

One property in Quinton Court was confirmed to be built over a part of the landfill. While trace concentrations of landfill gas were found to be moving into indoor air, these were below the trigger levels for risk to health.

No unacceptable risks from landfill gas to other properties neighbouring the site have been found to date.

Other potential risks associated with soil and groundwater have also been found to be low and acceptable.

Is groundwater safe to use?

There is no current evidence to indicate that the groundwater surrounding the landfill has been impacted by the landfill. Nevertheless, in accordance with advice from SA Health, if you are using groundwater from a domestic bore, it is recommended it is tested to confirm it is safe for use.

Please contact TSA Management on the contact details below if you have a groundwater bore and wish to have it tested.

What are the next steps?

The Detailed Site Investigation Report identified limited additional investigations are needed to further confirm findings.

The City of Mitcham has agreed to carry out these additional investigations, following finalisation of the scope with the Environment Protection Authority of South Australia.

The works are anticipated to occur in the second half of 2022.

Who can we talk to for more information?

The City of Mitcham has a local, dedicated engagement team to work with property owners and residents to address their questions relating to the environmental investigation.

Should you wish to meet with, or speak to the team, please contact:

TSA Management:

Leslie Wapler: 0459 528 057

leslie.wapler@tsamgt.com

City of Mitcham

John Valentine: 8372 8888

You can find further information at:

https://www.mitchamcouncil.sa.gov.au/lot-101-port-lincoln-boulevard-pasadena

The Detailed Site Investigation will be made available through the EPA Public Register:

https://www.epa.sa.gov.au/public_register