



# TLCCG

## Tullamarine Landfill Community Consultation Group

**OUR PURPOSE:** to foster collaboration between the community, Transpacific and EPA Victoria, and ensure community concerns and aspirations regarding the closed Tullamarine Landfill and adjoining land form part of the decision making process.

### NOVEMBER 2016 MEETING SNAPSHOTS

This meeting provided an update on site rehabilitation.

#### Groundwater Technical Review for Auditor's Review (TRAR)

Alan O'Brien and Kieren McDermott, Cleanaway provided an update on the Groundwater Technical Review for Auditor's Review (TRAR) and recent activities undertaken at the landfill. The Groundwater Monitoring Plan will be distributed in a few weeks for discussion and input in early 2017.



#### Groundwater Monitoring

Community members were invited to watch the drilling process for the new groundwater wells on 4 November 2016. Four New Groundwater Well locations (two wells installed with upper and lower monitoring points) and four New Vapour Implant locations (three implants installed at two locations and single implants installed at two locations) were installed in the residential areas: Hillcrest Avenue, Western Avenue and two in Wright St. The new wells will be sampled in January/February.

On site photoionisation detection (**PID**) sensors are used to measure any volatile hydrocarbon gases around the rig to protect the workers. When the soil core reaches the surface, it is placed in a plastic bag and a sample is taken to further test for harmful gas in the formation. No readings were detected.

Community Meet the Drillers, 4 Nov

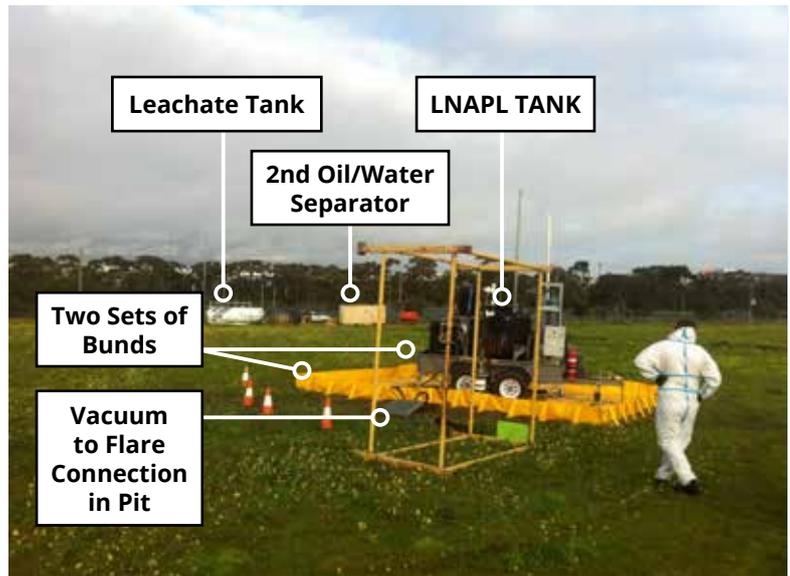


Completed Drill Hole, 14 Nov



# Leachate Extraction and Light Non-Aqueous Phase Liquids (LNAPL) extraction

Leachate extraction is being undertaken to test the rate of leachate extraction possible and to determine what influence the removal of leachate will have on the landfill over time. E.g. what volume can be extracted before the sumps go dry. Some Light Non-Aqueous Phase Liquids (LNAPL) was extracted as a by-product of this process. It was sent offsite to be incinerated as a scheduled waste. There are currently no boreholes in Mound 3 to monitor for leachate. In response to the Auditor's recommendations, a combined leachate and landfill gas extraction well will be added to Mound 3 and connected to the flare. Drilling is to start in April 2017.



Leachate Extraction, 3 August

Community members questioned whether it was possible to review the decision not to extract the LNAPL, despite the extra costs, to reduce the volume and further safeguard the community. They also requested a review of the equipment being used.

Cleanaway responded that the next technical review is in 2018.

## Flare Sampling

The Flare Emissions Report has been circulated but there is an amended version dated 25 November 2016. The flare sampling is to identify which chemicals are of most concern which will then be investigated further. Some parameters are not reaching the 99.9% destruction targets that were anticipated.

## Stormwater Connection

Cleanaway staff have met with Friends of Moonee Ponds Creek to discuss their concerns for the creek from the stormwater. Further discussions are planned.

## Community Consultant Assessment

Alistair Nairn, EPA Victoria informed the group that the review is still with the independent US consultant, Steven Amter, Disposal Safety Incorporated, Washington. A report is expected within weeks.



# Key findings of the Technical Review for Auditor's Review TRAR:

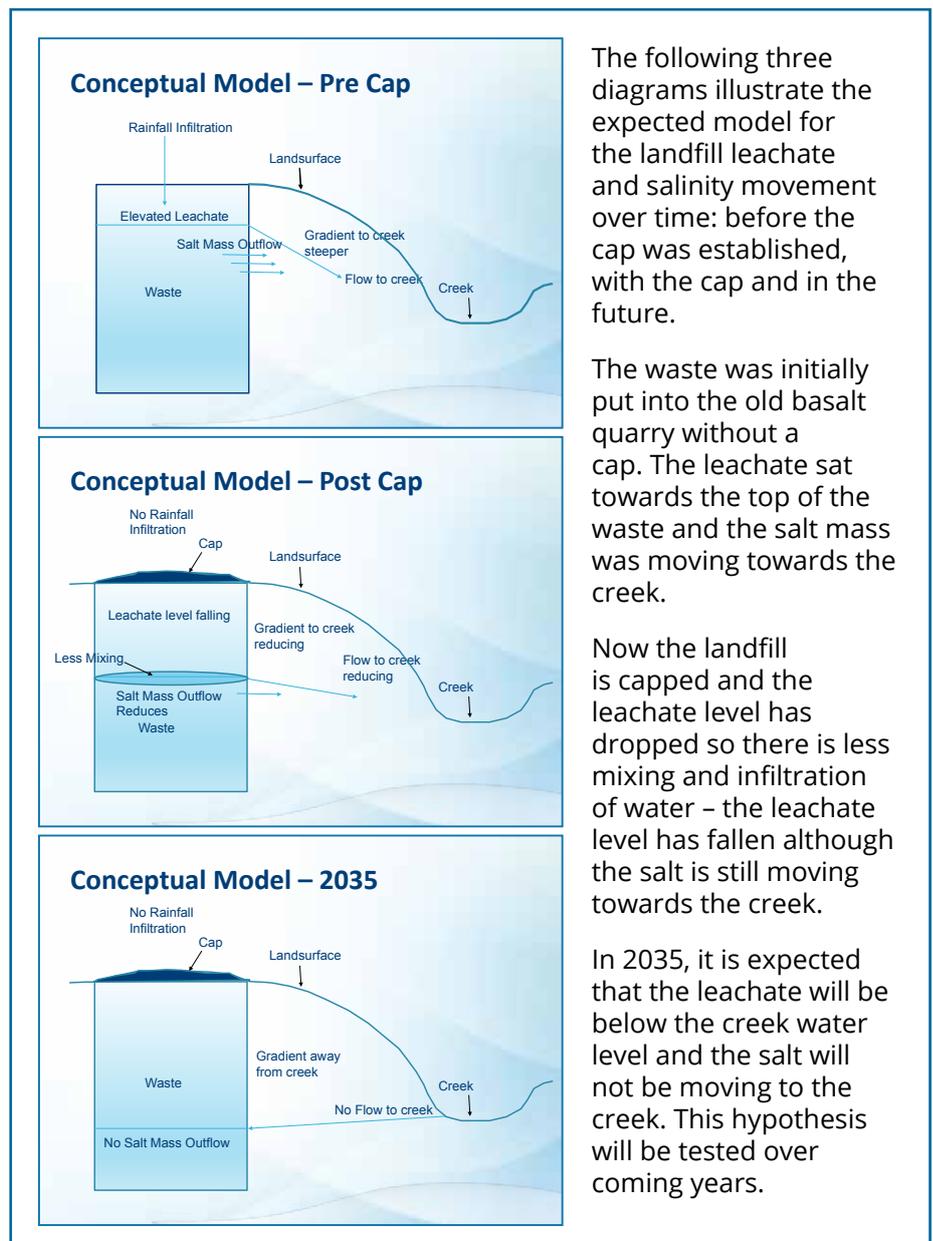
- Provides a greater understanding of the landfill
- Landfill risk profile is still considered low – no change
- LNAPL is ‘..functionally immobile..’ EHS Support 2015
- Leachate mound is showing signs of reducing.
- Of over 20 boreholes assessed between the landfill and creek, groundwater salinity trends are generally stable or decreasing. A single borehole next to landfill MB6U is increasing.
- Creek salinity trends are reducing except at location 4 (upstream).
- Natural Attenuation is occurring in the groundwater to the east and southeast of the landfill.
- Macro invertebrate and frog surveys show no evidence of landfill effects on the creek.
- No contingency protocols were triggered.

## Other Groundwater Trend Anomalies:

- Metals chromium, nickel, selenium and zinc were detected in some boreholes with increasing trend and above initial screening criteria. The levels are below criteria for human health protection.
- Out of 110 boreholes two show trend anomalies for petroleum hydrocarbons
- Chlorobenzene (MB4L), Vinyl Chloride, and 1,2 Dichloroethane (MB61L) were detected above initial screening criteria and with an increasing trend. Risk assessment indicates they are low risk to environment and pose no risk to residents (no direct or indirect pathways are evident).

## Other Surface Water Trend Anomalies:

- One of the ten monitoring locations showed evidence of non-landfill source.
- Another shows a possible effect from saline groundwater, there is not enough data to support this assessment and while the risk is considered low further monitoring is required to confirm.



The following three diagrams illustrate the expected model for the landfill leachate and salinity movement over time: before the cap was established, with the cap and in the future.

The waste was initially put into the old basalt quarry without a cap. The leachate sat towards the top of the waste and the salt mass was moving towards the creek.

Now the landfill is capped and the leachate level has dropped so there is less mixing and infiltration of water – the leachate level has fallen although the salt is still moving towards the creek.

In 2035, it is expected that the leachate will be below the creek water level and the salt will not be moving to the creek. This hypothesis will be tested over coming years.

## NEXT MEETING:

The next meeting will be held on 22 February 2017

For a full account of discussions at the meeting and associated attachments see the meeting notes at <http://www.cleanaway.com.au/community/major-project/tullamarine-closed-landfill-vic/>

TLCCG is supported by Cleanaway in order to foster good communication and relations with the community.