



TLCCG

Tullamarine Landfill
Community Consultation Group

MEETING NOTES

THURSDAY

15 October 2020

6.00pm – 8.00pm

Online, via Zoom

FACILITATOR: SUSAN McNAIR, CURRIE COMMUNICATIONS

NOTE TAKER: ISABELLA GRUTZNER, CURRIE COMMUNICATIONS

MEETING PURPOSE

- i. Update on any changes since October 2019 meeting
- ii. Confirm ongoing topics for community consultation and process for 2021

ATTENDEES

Community

- Peter Barbetti
- Sam Cetnola, resident
- Graeme Hodgson, Terminate Toxic Tulla Dump Action Group (TTTDAG) and resident
- Garry Jewell
- Julie Law
- Frank Rivoli, TTTDAG
- Helen and Jos van den Berg, TTTDAG and residents
- Kim Westcombe, resident

EPA Victoria

- Jeremy Settle, Field Team Leader, Metropolitan Region
- Sean Vintin – Senior Environment Protection Officer

Cleanaway

- Peter Fennelly, Post Closure Technical Lead
- Olga Ghiri, Stakeholder and Community Engagement Manager
- Leo Oldridge, Remediation Manager

Apologies

- Ovi Clements
- Barry Griffin, Cleanaway
- Lolita Gunning
- Prue Hicks
- Rhett Jenkinson
- Dianne Lee
- Russell Nilsson
- Helen Patsikatheodorou
- Cherine Fielder
- Harry van Moorst

ABOUT THESE NOTES

Currie Communications has produced these notes, which aim to provide detailed minutes that cover the key information that was provided in the meeting. However, these notes are not intended to be a transcript of the meeting, and discussions, comments and questions have been summarised to reduce the overall length of this document.

Presenters were given the opportunity to review the notes relating to their item to ensure the discussion was accurately summarised, and that it details best available knowledge at the time of the meeting. Attending community members were also given the opportunity to provide feedback, which was addressed by Currie. Additional comments or relevant information received after the meeting have been highlighted in red, and useful hyperlinks have been added to text as additional references.

These notes will be posted on the Tullamarine Community Information page on the Cleanaway website www.cleanaway.com.au/community/major-project/tullamarine-closed-landfill-vic/ and will be available to the public. All meeting participants were asked if they wanted their names to be removed from public version of the document.

The intent of these meeting notes is to promote open communication between Cleanaway, local government, community and EPA Victoria. They are not to be used in a manner that compromises this objective.

AGENDA

2. Welcome, introductions (S.McNair)
3. Meeting principles and purpose (S.McNair)
4. Review of rolling actions (S.McNair)
5. Annual Compliance Report 2019 – key findings and highlights (P.Fennelly, Cleanaway)
6. Questions from the Community
7. Confirm timeline for next meeting (S.McNair)
8. Meeting close (S.McNair)

Meeting opened at 6.00pm.

Item 1: Welcome, introductions

S.McNair (Facilitator) welcomed everyone and all attendees introduced themselves.

Item 2: Meeting principles and purpose

S.McNair noted the previously agreed principles were not available to review and invited the group to discuss how they wanted the meeting to progress. Participants noted the following principles for conduct of the meeting:

- Respect each other
- Give everyone a fair go and a chance to speak
- Openly share information and be transparent
- No personal attacks
- Be clear and concise information – make the message clear
- Be truthful and honest

The purpose of the meeting as stated in the agenda was reviewed and no changes were requested.

Item 3: Review of rolling actions

1019_01 Cleanaway to compile a summary table showing which bores have been tested and to share this with participants.

P.Fennelly to share these tables with participants as appendices to the minutes of this meeting (see Appendix 2).

1019_02 Cleanaway to confirm when the bores in the airport were last looked at.

The table in Appendix 2 shows the most recent date that each bore has been sampled.

1019_03 Cleanaway to provide a table to summarise which recommendations have been completed and which ones are partially completed.

To be included within the upcoming Audit report.

The rolling action list has been updated and is attached to these meeting notes (Appendix 1).

Item 4: Annual Compliance Report 2019 – key findings and highlights

P.Fennelly provided an overview of the 2019 Annual Compliance Report, summarised as follows:

- The Annual PCPAN Compliance Report is one of the license conditions within Cleanaway’s Post Closure Pollution Abatement Notice (PCPAN), which requires Cleanaway to supply to the Environment Protection Authority (EPA) an annual statement of their compliance with or progress towards compliance, by the 31st of March each year.
- Essentially a measure of how Cleanaway complying with the PCPAN.
- The two portions of the Report that had non-compliances were Licence Condition 8 (LC8), relating to landfill gas, and Licence Condition 9.1 (LC9.1), relating to leachate levels in the landfill.
- Actions Cleanaway has taken to address LC8:
 - Perimeter bores measure landfill gas beyond the waste-mass boundary.
 - Installation of 29 new LFG bores (in line with recommendation 19, GHD 2018 Audit Report)
 - In the process of an intensive sampling analysis quality plan, which is showing good results so far.
 - As part of the monitoring plan, Cleanaway has stepped down from weekly to fortnightly, apart from identified problem wells, which will undergo continuous monitoring (24/7).
 - Surface emissions monitoring is stipulated by the auditor-endorsed monitoring plan to be conducted annually in summer. Cleanaway will be conducting surface emissions monitoring in summer and winter months.
- Actions Cleanaway has taken to address LC9.1:
 - Refabricated Well Heads to seal them appropriately. Ongoing monitoring has shown that the problem has been fixed.

Item 5: Questions from Community

P.Fennelly responded to questions from by the community provided in advance of the meeting.

Question 1: Why did Cleanaway take so long to send this report to the community?

P.Fennelly apologised for the delay, explaining that it took time to be distributed due to internal document review processes, as this kind of report is not typically made public.

Question 2: Is the reported non-compliant monitoring of ground water and gas monitoring bores identical to or different from the non-compliance reported in the previous Auditors report?

Cleanaway has been compliant to auditor-verified monitoring plan. Non-compliances were identified, and Cleanaway has taken actions to address them, as outlined in Item 4.

Question 3: Is Cleanaway on track to comply with the current audit report requirements? What delays has Covid-19 caused? If there is a new timeline what is it?

All monitoring is ongoing and has been ongoing through the entire process. Covid-19 has had an impact on works, resulting in delays in getting new perimeter bores installed. As a result of Covid-19’s impact, the most recent audit report has a new due date to get to the EPA for end of November.

Question 4: Is Cleanaway now monitoring PFAS as requested in the Audit report?

Yes, Cleanaway is monitoring PFAS.

Question 5: Can Cleanaway give a guarantee that they will ensure the community get copies of reports promptly?

O.Ghiri apologised for the delay, explaining there were issues in getting it to the printer due to Covid-19. She requested that if community members wanted a printed copy, that they notify her in advance, bearing in mind that it is not the most sustainable practice.

Question 6: When the new Council is elected will Cleanaway again request Hume Council to send a representative to these meetings?

O.Ghiri confirmed it is usual practice for Cleanaway to encourage Council participation at its CRGs. Hume Councillors have been invited to join these meetings on more than one occasion, and Cleanaway will pursue representation in 2021.

Question 7: The annual report is covers 2019. The signoff date for the Version 2 report is 25 August 2020. Could we have an explanation as to why it took 8 months for the report to be finalised please?

Submission due date is 31st March each year. The reason why it took longer to go through the internal reporting process because it was decided that the 2018 audit recommendations would be omitted. This is because a lot has happened since March and there would have been a list of recommendations in the report that have already been completed. The next report is due in six weeks' time, and that will go over every previous recommendation in addition to the new recommendation.

Question 8: Regarding Groundwater Monitoring Wells in Hydraulic Flowlines: the third and fourth dot points lists MB 89U*; MB 89L*; MB 90U* and MB 90L*. These bores do not appear on Figure 2 Appendix A (page 51 of 1036). May we have a complete map/figure please? Also, where may I find an explanation of the asterisk superscript?

The asterisk represented the newer bores that were recommended in the previous Environmental Monitoring Plan (EMP). The asterisk can be disregarded.

Action 1020_01: P.Fennelly to supply a complete figure of the Groundwater Monitoring bores. This figure will be included in the upcoming audit report.

Question 9: Ground water is still classified as Segment B under the SEPP of 23 October 2018 based on the Total Dissolved Solids. Is there, or can one be produced, a graph showing the levels of Total Dissolved Solids in the ground water from prior to 1972 when the quarry was operating to the present? If not from 1972 then from the commencement of ground water monitoring to the present?

Those details should be incorporated into upcoming Audit Report.

Question 10: I note the release of the Australian Government 2017 Guidelines for Groundwater Quality Protection in Australia: National Water Quality Management Strategy replaced the 1995 term of Beneficial Use with the term Groundwater Quality. Has EPA adopted the new term in the subordinate documents to the delayed EPA Act 2018?

S.Vintin explained that the reference to the 'Australian Government 2017 Guidelines for Groundwater Quality Protection in Australia' may be incorrect as a) It is a 2013 document, and b) it incorporates beneficial uses from the SEPP. My recollection of the query related to SEPP Waters and the term 'Beneficial Use', to which EPA provide the following clarification:

The EP Act 2018 does not specifically reference the terms ‘Beneficial Use’ or ‘Groundwater Quality’ and the short answer is the terms will be interchangeable. The terms environmental value, indicator, and objective used in the new ‘Environment Reference Standards’ correspond to the terms beneficial use, environmental indicator and environmental quality objective as used in SEPPs, as shown in the table below i.e. The meaning is the same, the terminology has just been updated to align with more contemporary use.

Instrument	Term for use	Term for the quality or substance	Term for concentration
ERS	Environmental value	Indicator	Objective
SEPPs	Beneficial use	Environmental indicator	Environmental quality objective

Question 11: Table 6.1, page 20-22 of the Report (pages 22-24 of 1036) is titled Target Leachate Level Results (October – December 2019) but the tables cover the period January to December 2019. There is a conflict here. Please explain.

All of the sumps were resurveyed to have the appropriate height. Table 6.1 shows the updated survey levels, and the data was retrofitted back in time to cover the entire year, so it can be seen that the trajectory of the leachate is reducing and is not compliant. Cleanaway is in the process of updating the hydrogeological assessment, with assistance from consultants, in order to be compliant. Redoing this report will allow Cleanaway to use more data to achieve more accurate modelling.

Question 12: In addition the Well ID is listed as L1 to L14 (including L6). I note that Figure 2 at Attachment A (page 51 of 1036) identifies Wells as TULL-LS01 to TULL-LS14 but no TULL-LS06 but 2x TULL-LS09. Just to clarify, is the nomenclature used in Table 6 of L1 to L14 the same as the nomenclature of TULL-LS 01 to TULL-LS14 in Figure 2 and which of the two TULL-LS09 is actually TULL-LS06?

P.Fennelly, explained that TULL-LS06 would be L6, the reason for this being that sometimes the sampling programs are aligned with other programs, resulting in different naming conventions.

Post meeting question from G. Hodgson: P. Fennelly has not answered the question fully. If he is saying that TULL-LX is the same as LX that is fine. But which of the two wells identified as TULL-LS09 is actually TULL-LS06 (or L6 given the multiple numbering conventions.)

Response from P.Fennelly: Please refer to Figure 2b within the report as those locations are named correctly.

Question 13: How do the actions arising, such as perimeter bore relocation, from the 2018 Post Closure Audit Report of September 2019 by Mr Wajahat Bajawa of GHD impact upon this Report? What differences in noncompliance with the PAN are there between this Report and the Post Closure Audit Report?

There is currently no impact to this report. The bore installation has been completed and the monitoring is underway. They’re two very separate reports.

Question 14: The carcinogenic Vinyl chloride gas is a common contaminant found near landfills. Were there any tests for the presence of Vinyl Chloride gas? If not, why not?

Yes, Vinyl Chloride has been sampled within the leachate at the site.

Question 15: Referring to paragraph 2.5.1 Groundwater Monitoring Network, it is stated that groundwater bores are shown in Figure 2, Appendix A. I’m unable to locate MB12 or MB66U.

There have been issues within Figure 2, naming issues, double ups and sumps and bores missing. Figure 4 contains appropriate leachate locations and bores.

Question 16: Can we please have new map showing all the bores, including the old and new ones so we know which have been replaced?

Action 1020_02: P.Fennelly to supply updated maps of all bores. These maps will be included in the upcoming audit report.

Question 17: What is the current storage capacity of the leachate ponds?

There are four leachate ponds with combined capacity of 16 megalitres. Those ponds are utilised for stormwater capture during winter months. That stormwater is pumped up onto the cap during summer months to water the grass. Excess can be disposed of to sewer through a trade waste consent if required.

Question 18: Has there been any events this year where the stormwater from the site has flowed directly to Moonee Ponds creek.

No, the rock pond is the last place it goes, and it has not overflowed, nor come anywhere near overflowing. It is very carefully monitored.

Question 19: Who is responsible for monitoring such events and how is it recorded?

Peter Fennelly is responsible. Routine site inspections conducted monthly at a minimum and recorded.

Question 20: When was the most recent water quality testing of the leachate ponds?

If there is any discharge to sewer, there is a full suite of testing that is done on the stormwater that is kept in the leachate ponds. Leachate ponds are only used for stormwater collected onsite, then used to irrigate the cap.

Question 21: The number of Kangaroos appear to be increasing within the Cleanaway fence. What is the plan to feed them over summer? Cull them? Move them and impact their breeding?

There is a good stockpile of stormwater to irrigate the cap and provide sufficient feed for kangaroo over the summer months. However, P.Fennelly will take question on notice and speak to professionals.

Statement to the Board of Cleanaway from Helen van den Berg: I request that these minutes are sent to the Board of Cleanaway, because this is not a reflection of the competency, respect or courtesy we have for the people onsite. It is a comment to the board of Cleanaway to make them aware that Cleanaway's internal policy of being non-transparent to the community is unacceptable to us. A delay of 5 months in getting permission to share the report to the community is insulting and disrespectful. By the time we got the report it was useless. We note the continuing failure in accuracy on mapping. We note that even though for many years we have said "Please make sure there is a consistency in naming bores," that doesn't occur. And we're frustrated. I request a response from the Cleanaway Board in which they give a guarantee that these serious documents, which we volunteers living near the dump, living with the threats – probably low, but potentially catastrophic – we are tired of the senior management's disregard for keeping us well informed. The last time I spoke up about something like this, the guy got sacked. That is a policy determined by senior managers to have a non-transparent culture. Cleanaway clearly has a cultural problem, which has been reported in the press. A culture in senior management of bullying. That reflects badly on the company and I pity the workers who have to put up with it. The point is that you have a responsibility as a listed company to behave respectfully and ethically towards the community. We're fed up. We need a change of management. We need to get the documents within a month of the EPA so we can sit down and read them, analyse them, chat to one another, help each other with our understanding, and refer to people with more expertise than us.

We're not being paid for this. Either Cleanaway improves dramatically and sends the next audit report to us within a month, or we're going to find a way of giving Cleanaway more bad press. I'm already speaking to reporters who are interested in the story. There's fair warning. We are transparent, you are not. And you need to change. It's an internal senior management problem. Nothing to do with the people on the ground here, who are respectful, courteous and do their very best.

Action 1020 03: S.McNair confirmed that Helen's verbatim statement would be forwarded to the Cleanaway Board.

Question 22: In the report it mentions penetrations to the cap. Are they existing penetrations, and can I confirm you are not boring new holes in the cap?

P.Fennelly confirmed there have been no new penetrations through the cap at all. Everything mentioned in the report is existing. Nothing new in the cap at all. No plans for future penetrations.

Question 23: It was my understanding that you were collecting gas samples from all over the site, but it appears that it is only from select areas. Where is the gas being collected from the site?

P.Fennelly reinforced that it is being collected from right across the site. The network is essentially from the existing sumps and other portions that are collecting the gas from gas blanket. The gas blanket covers entire site, but the actual collection point is within specific location. A vacuum is applied to the extraction points, and depending on how deep they are, it could pull the gas from quite deep or it could be coming from the surface.

Question 24: The report explains Cleanaway is testing for gas leakage on the cap and finds most of it was coming from the bores. Were there any places where it was leaking out of the cap itself?

No. They were all coming through penetrations.

Question 25: Do you know the source of the PFAS that you're monitoring?

PFAS is in just about everything – a permanent marker, Teflon coating of frypans, and a whole lot of things – if anyone's thrown them into their garbage bins and into the landfill. So it's likely to leach out of that.

Post-meeting question from G. Hodgson: Tullamarine is/was supposed to be a Prescribed Waste facility. Based on the reply are we now being told that general household and non-prescribed industrial waste was also disposed of at the site? If such waste was not dumped at the site then from what Prescribed Industrial Waste would PFAS be present.

Response from P. Fennelly: Please refer to the 2018 Audit report (GHD, 2019), section 3.4 "The majority of waste accepted during the 1970's was inert (approximately 80%) and the remainder was prescribed industrial waste (Kleinfelder 2016)".

The below list shows examples of where PFAs has been widely used (Source: Department of the Environment and Energy);

- some types of fire-fighting foams
- some industrial processes, such as metal plating and plastics etching
- some photo-imaging applications, such as X-ray films
- aviation hydraulic fluid
- the manufacture of some non-stick cookware and other products
- some fabric, furniture and carpet stain protection applications
- some food packaging.

Question 26: There have been reports of the impact of PFAS at the airport. Is that having an impact at the Tullamarine Landfill?

P.Fennelly: If there is a risk of that, it should be covered in upcoming Audit Report. PFAS is expected in every landfill.

J.Settle: EPA's landfill principal expert Nick Simmons did an assessment using sampling from multiple landfills, and found across rural and urban environments that all landfills showed [PFAS in the](#) leachate. Will link to report in the minutes for community information.

Action 1020 04: J.Settle to provide link to Nick Simmons' report on PFAS.

After the meeting, J.Settle recommended interested community members can view the report by following this link: https://www.researchgate.net/publication/336603065_PFAS_concentrations_of_landfill_leachates_in_Victoria_Australia_-_implications_for_discharge_of_leachate_to_sewer

Question 27: We were alerted about PFAS leakage at the airport after the Commonwealth investigated an airport in NSW. This particular site is monitored, and the EPA also monitors various areas and we never picked any of that up until it was found out through another source and the press got involved. The monitoring system doesn't seem to be adequate to pick up the increase in PFAS.

J.Settle explained that PFAS it is an emerging contaminant. While it's been around since the 1960s, the known impacts have only emerged in the last decade. EPA is working with the airport. The airport has conducted a DSI ([Detailed Site Investigation](#)), and their website has some of that information, and Helen's FOI request also unveiled more information. So it is correct that there is information on PFAS monitoring it's just not necessarily in the public realm.

The sampling for PFAS is done by many different people. What we haven't seen is good collation of all that PFAS data for assessment and comparison. This is something that is being discussed by governments at a state level around the world regarding collation and transparency across data sets. But right now there is a lot of different data out there. As a general comment, where EPA has sampled for PFAS, we have found PFAS in varying levels. It's quite ubiquitous in our environment.

In terms of impact on the Tullamarine landfill site, the ground water was mounded underneath the landfill. For anything to come into the landfill it would have to climb a hydraulic gradient to get into the bottom of the landfill. Therefore, on gradient alone, the impact of external PFAS is estimated to be limited.

Question 28: Are any of the abundant animals onsite nesting or burrowing impacting the cap?

P. Fennelly reported that there has not been any noticeable burrowing impacts to the cap. This is noted as part of Cleanaway's routine inspections.

Question 29: There has been work happening on the embankment that faces the creek, what's happening there?

A fair bit of erosion had occurred, so Cleanaway has put in geotextiles and rock to slow water down to prevent any further erosion and sedimentation of the rock pond.

Question 30: How many active bores are being monitored on site?

Last year's audit report details all the ground water bores and explains how often their monitored and what they're monitored for. There are 108 groundwater monitoring bores (some may be dual/nested) and approximately 50 landfill gas bores, also nested.

Question 31: Have there been any impacts of people on the site or fence?

There haven't been any observed impacts from people. Kangaroos tend to put holes in the fence. As part of routine inspections of the site, perimeter checks are high on the list to ensure appropriate security of the site.

Question 32: There is some clarification required on section 7.2.1, paragraph 2: "during the assessment period carbon dioxide (CO₂) was recorded in the range of 0% to 25.6% ... the adopted trigger level is 1.5%...No background carbon dioxide level has been determined for the site, so the adopted trigger level is 1.5%." Are you going to do anything to determine the background CO₂ level? What action do you take when you observe exceedances, other than report them to the EPA? If you are contributing more greenhouse gases, you need to offset that. Does the EPA require Cleanaway to take action to remediate it?

P.Fennelly: If Cleanaway does exceed any of those action levels (this goes for both CO₂ and methane (CH₄)), Cleanaway makes adjustments to the gas field and balance it accordingly to try to best to prevent any migration offsite. Cleanaway's main concern is taking control of any methane exceedances, as strongest risk is associated with it.

S.Vintin: On 14 Feb 2020 EPA issued Cleanaway with PAN to address exceedances and to create an LFG Improvement Plan. As a result, Cleanaway has installed 29 new LFG monitoring bores, which is a strong response to the PAN. Cleanaway are going in the right direction. Requirements of PAN are quite stringent, including weekly monitoring of the CO₂ and CH₄ levels, which is what Cleanaway is doing.

Post meeting question from Graeme Hodgson: Was the PAN as a consequence of the Audit report that identified new bores were required to be installed to correct the misplacement of some perimeter bores?

Response from Peter Fennelly: The PAN was in response to LFG exceedances at perimeter monitoring bores. The recommendations within the audit was also taken into consideration.

J.Settle: Regarding background CO₂ levels, the BEMP doesn't require that a background CO₂ bore must be put in, but it sets a conservative value and then the onus is on the operator to install one if they believe the value provided is too conservative. Cleanaway is following the process to use the default level because they haven't installed a bore to demonstrate to the EPA that another level is more appropriate.

Question 33: Section 7.2.2 mentions hotspots. What does that relate to?

P.Fennelly explained that those hotspots are in regards to the surface emissions, and they are the locations where methane has come through. They were tested on that infrastructure at the penetrations of the cap, and that's been rectified. Subsequent surface emissions monitoring demonstrate that the problem has been addressed.

Question 34: Is "Appendix D: Third party consultant to undertake leachate and groundwater risk assessment" report in progress?

That was in response to the exceeded leachate target levels. Initially, as was written in the previous Hydrogeological Assessment, Cleanaway was going to conduct a leachate and ground water risk assessment. Cleanaway discussed it with their auditor, who discussed it with the EPA, and there has been a change in direction to update the Hydrogeological Assessment.

Question 35: Section 6.3.2 says "barium detected above adopted ecological and irrigation criteria at eight groundwater samples" what does that mean? What are the risks?

P.Fennelly: Section 6.3.2 is a summary of groundwater monitoring that was completed. It's a stepped approach; there are different criteria associated with different levels of risk. In this case, the levels of barium mean that the water would not be useful for irrigation.

S.Vintin clarified that those criteria don't mean there's an immediate risk of harm. It's more that further investigation is required. They're trigger values, meaning that if you exceed them then it triggers further investigation and assessment, which is what Cleanaway is doing.

Question 36: In the report it says that it's not a problem to have particular levels of contaminants in groundwater and does not intersect with waterways. Is anyone doing testing at those sites where the groundwater intersects with waterways? Or is it just an assumption that the contaminants can't have reached there by that time? If we know there is contaminated groundwater heading towards creeks, there is an obligation to be testing those creeks? There is a biodiversity hotspot in Hume. There is a need for vigilance to protect the creeks and these places.

P.Fennelly emphasised that Cleanaway does not want to cause any further harm. In the remediation team we are doing our best continue monitoring the site, evaluate the risk and minimise all risks as much as possible.

Question 37: If contaminants are detected over the limit, what does Cleanaway do about it?

The updated Hydrogeological Assessment aims to look into what can be done to mitigate the effects. The report is still in progress. It is widely understood that this site is historically contaminated. Pumping out all of the groundwater that has any contaminants would have a snowball effect on many different areas. The plan is to look at the risk, quantify the risk and work out the most appropriate response to that.

Question 38: The selling of the buffer land. We're all in agreeance that it's going to take many years for us to be confident that it's safe. It seems illogical for Cleanaway to be looking to sell off the buffer land for somebody else to develop.

O.Ghiri: reported that there hasn't been much movement since last update well over a year ago. 53x Audit was conducted as per Hume Council requirement, and the land was sold with council approval. There were assurances that groundwater monitoring would continue as part of the sale.

J.Settle confirmed land has been sold to MAB. The 53x Audit conducted in 2014 by independent auditor Anthony Lane. He made the determination that the buffer land was suitable for change of use to industrial or residential land. There's a broader assessment that needs to be made in terms of what separation of industrial and residential zones should be made.

Question 39: Does Cleanaway tabulate ongoing results year on year? Do you have results going back from 1972, or if not, from when? Do you have a graph that shows the groundwater quality over the years so we can see if the quality is increasing, decreasing or remaining stable?

P.Fennelly: There are huge amounts of data when it comes to groundwater monitoring. Last year's audit report has tables in the back of the report with data dating back quite some time. The next audit report will be looking at where the groundwater quality is going.

Helen requested to see the timetable of the groundwater testing regime.

Action 1020_05: P.Fennelly to supply timetable of groundwater testing regime (see Appendix 3).

Item 6 Confirm timeline for next meeting

Audit report due to the EPA at the end of November.

The EPA will need a month to review from a technical point of view, and from a higher-level process management review.

At the end of calendar year, the report will be uploaded to the EPA website. Helen requested that she is provided a hardcopy, colour copy of the report within 2-3 days of it being uploaded to the website.

Appreciating that Christmas period falls in this time, it was proposed that the next Community Consultation Group meeting would be scheduled towards the end of February or early March, allowing the community sufficient time to read the report and submit question to Cleanaway and the EPA in advance.

Item 7: Close of meeting

Minutes will be shared as a draft, and if you have any questions or queries, please get in contact and we'll go through the transcripts to ensure that they're as accurate as they can be.

Meeting closed at 8.00pm.

Appendix 1: Rolling action list

UPDATED 15 October 2020

Reference	Action	Who	Status
1020_1	P.Fennelly to supply a complete figure of the Groundwater Monitoring bores.	Peter	To be included in upcoming audit report.
1020_2	P.Fennelly to supply updated maps of all bores	Peter	To be included in upcoming audit report.
1020_3	S.McNair to forward Helen van den Berg's verbatim statement to the Cleanaway Board.	Susan	<i>Complete.</i>
1020_4	J.Settle to provide link to Nick Simmons' report on PFAS.	Jeremy	<i>Complete.</i>
1020_5	P.Fennelly to supply timetable of groundwater testing regime	Peter	<i>Complete (see Appendix 3.)</i>

Appendix 2: Bore testing summary table

Location	Date Sampled
MB50	Apr-2018
MB51L	4/10/2019
MB51U	4/10/2019
MB52L	2013
MB52M	2013
MB52U	2013
MB54L	Apr-2018
MB54U	Apr-2018
MB58M	19/08/2020
MB58U	19/08/2020
MB60L	20/08/2020
MB60U	20/08/2020
MB62	4/10/2019
MB18	2013
MB19	2013
MB20	2013
MB21	2012
MB22	2012

Appendix 3: Timetable of groundwater testing regime



Annual Monitoring Schedule 2020 – Groundwater,

Stormwater and Leachate

Tullamarine Landfill

cleanaway.com.au

Table 1 – 2020 Monitoring Schedule Overview

Monitoring Regime	2020											
	January	February	March	April	May	June	July	August	September	October	November	December
Groundwater Monitoring												
LNAPL Gauging		All Wells			All Wells			All Wells			All Wells	
Moonee Ponds Creek - Salinity Monitoring Network		All Wells			Quarterly wells only			All Wells			Quarterly wells only	
Moonee Ponds Creek - Vicinity Monitoring Network		Annual Wells Only										
Natural Attenuation Monitoring								Annual Wells				
Hydraulic Flow Lines Monitoring												
LNAPL Monitoring Network - Laboratory Analysis												
Remaining Wells Monitoring												
Surface Water Monitoring												
Field Parameters		All Locations			All Locations			All Locations			All Locations	
Stream Reconnaissance		All Locations			All Locations			All Locations			All Locations	
Laboratory Analysis - EC					All Locations							
Laboratory Analysis - COI												
High Spatial Resolution Salinity Study												
Leachate Monitoring												
Leachate Well Sampling		All Wells			All Wells			All Wells			All Wells	

Table 2 – 2020 Quarterly Schedule Overview

	February	May	August	November
Groundwater	<p>Gauging: 10005, 10006, MB3, MB6U, MB6L, MB7L, MB8L, MB10, MB12, MB23, MB25, MB26, MB27, MB28, MB28L, MB29, MB30, MB31, MB32, MB33, MB35, MB36, MB37, MB38, MB39, MB40, MB41, MB42, MB44, MB45L, MB45U, MB45M, MB46L, MB47, MB48L, MB48U, MB49L, MB49U, MB63, MB64, MB65U, MB66U, MB68U, MB69, MB70, MB71, GW1 and GW2.</p> <p>Sampling:</p> <p>MPC Salinity Network MB6U, MB10, MB45U, MB45M, MB65U, MB68U.</p> <p>MPC Vicinity Network: MB12, MB23, MB66U, MB69</p>	<p>Gauging: 10005, 10006, MB3, MB6U, MB6L, MB7L, MB8L, MB10, MB12, MB23, MB25, MB26, MB27, MB28, MB28L, MB29, MB30, MB31, MB32, MB33, MB35, MB36, MB37, MB38, MB39, MB40, MB41, MB42, MB44, MB45L, MB45U, MB45M, MB46L, MB47, MB48L, MB48U, MB49L, MB49U, MB63, MB64, MB65U, MB66U, MB68U, MB69, MB70, MB71, GW1 and GW2.</p> <p>Sampling:</p> <p>MPC Salinity Network: MB6U, MB10, MB23 and MB69.</p>	<p>Gauging: 10005, 10006, MB3, MB6U, MB6L, MB7L, MB8L, MB10, MB12, MB23, MB25, MB26, MB27, MB28, MB28L, MB29, MB30, MB31, MB32, MB33, MB35, MB36, MB37, MB38, MB39, MB40, MB41, MB42, MB44, MB45L, MB45U, MB45M, MB46L, MB47, MB48L, MB48U, MB49L, MB49U, MB63, MB64, MB65U, MB66U, MB68U, MB69, MB70, MB71, GW1 and GW2.</p> <p>Sampling:</p> <p>MPC Salinity Network MB6U, MB10, MB45U, MB45M, MB65U, MB68U.</p> <p>Natural Attenuation:</p> <p>Tulla3U, Tulla3L, MB8L, MB13, MB14, MB27, MB34U, MB34L, MB37, MB42, MB49U, MB49L, MB56, MB58U, MB58M, MB60U, MB60L, MB61, MB61L, MB63, MB72, MB73, MB74, MB76, MB82, MB83, MB85, MB86U, MB86L, MB87U, MB87L, MB88U, MB88L, MB89U, MB89L, MB90U* and MB90L</p>	<p>Gauging: 10005, 10006, MB3, MB6U, MB6L, MB7L, MB8L, MB10, MB12, MB23, MB25, MB26, MB27, MB28, MB28L, MB29, MB30, MB31, MB32, MB33, MB35, MB36, MB37, MB38, MB39, MB40, MB41, MB42, MB44, MB45L, MB45U, MB45M, MB46L, MB47, MB48L, MB48U, MB49L, MB49U, MB63, MB64, MB65U, MB66U, MB68U, MB69, MB70, MB71, GW1 and GW2.</p> <p>Sampling:</p> <p>MPC Salinity Network: MB6U, MB10, MB23 and MB69.</p>
Surface Water	<p>Moonee Ponds Creek Visual Inspection</p> <p>Locations: Eastern Boundary, northern site boundary, centrally along northern site boundary and western site boundary</p> <p>Sampling: MPCL01A, MPCL04, MPCL06, MPCL07, UPPER MPCL, MPCL08, MPCL09, LOWER MPCL, MPCL12, MPCL13, MPCL15, Rock Pond.</p>	<p>Moonee Ponds Creek Visual Inspection</p> <p>Locations: Eastern Boundary, northern site boundary, centrally along northern site boundary and western site boundary</p> <p>Sampling: MPCL01A, MPCL02, MPCL04, MPCL06, MPCL07, UPPER MPCL, MPCL08, MPCL09, LOWER MPCL, MPCL12, MPCL13, MPCL15 and Rock Pond</p>	<p>Moonee Ponds Creek Visual Inspection</p> <p>Locations: Eastern Boundary, northern site boundary, centrally along northern site boundary and western site boundary</p> <p>Sampling: MPCL01A, MPCL04, MPCL06, MPCL07, UPPER MPCL, MPCL08, MPCL09, LOWER MPCL, MPCL12, MPCL13, MPCL15, Rock Pond.</p>	<p>Moonee Ponds Creek Visual Inspection</p> <p>Locations: Eastern Boundary, northern site boundary, centrally along northern site boundary and western site boundary</p> <p>Sampling: MPCL01A, MPCL04, MPCL06, MPCL07, UPPER MPCL, MPCL08, MPCL09, LOWER MPCL, MPCL12, MPCL13, MPCL15, Rock Pond.</p>

Appendix 4: Cleanaway presentation



Rolling action list

Reference	Action	Who	Status
0418_5	Cleanaway to provide a statement to the community outlining the ongoing monitoring of the flare, the instruments to be used and the technical limitations regarding these measurements.	Stephanie Holland	Complete. To be removed from action list.
1018_02	Set the dates of future meetings so they align with the release of a report or other relevant activity.	Susan McNair	Complete. To be removed from action list.
1018_03	Forward meeting notes to council to encourage their interest and engagement.	Susan McNair	Complete. To be removed from action list.
1019_01	Cleanaway to compile a summary table showing which bores have been tested and to share this with participants quarterly.	Peter Fennelly	
1019_02	Cleanaway to confirm when the bores in the airport were last looked at.	Peter Fennelly	
1019_03	Cleanaway to provide a table to summarise which recommendations have been completed and which ones are partially completed.	Peter Fennelly	
1019_04	Meeting minutes to be shared with council.	Susan McNair	

Meeting purpose

- Update on any changes since October 2019 meeting
- Confirm ongoing topics for community consultation and process for 2021

Principles of conduct

- Respect each other
- Give everyone a fair go and a chance to speak
- Openly share information and be transparent
- No personal attacks
- Be clear and concise information – make the message clear
- Be truthful and honest

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Zoom meeting format

1. Cleanaway presentation
2. EPA presentation
3. Question time

How to ask a question

Option 1 – Type your question

- Click on 'Chat' – then type your question where you see 'Type message here' – press enter.
- Your question will be raised by Susan, at the appropriate time.

Option 2 – Raise hand:

- Click on 'Participants' then 'Raise hand' to indicate you have a question.
- Stay on mute until your host, Susan, invites you to ask your question, then unmute yourself to ask your question.

For those who have phoned in, those questions not covered

- Susan will allow time at the end for anyone who has phoned in to ask any questions

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What is an Annual PCPAN Compliance Report?

- LC13. of the Post Closure Pollution Abatement Notice (PCPAN) states:

By 31st March each year you must supply to the Authority an annual statement on your compliance with or progress towards compliance with each requirement of this notice.

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Compliance Items – LC8 and LC9.1

- LC8. *You must take all practical measures to prevent emissions of landfill gas from exceeding the levels specified in the Best Practice Environmental Management Guidelines, Siting, Design, Operation and Rehabilitation of Landfills, 12 August 2015 (EPA Publication 788.3).*
- LC9.1. *By the dates specified in Schedule 1 of the Hydrogeological Assessment Report (Hydrogeological Assessment, Tullamarine Closed Landfill, Revision 3 dated 26 June 2015), you must extract leachate from the cells such that it does not exceed the levels specified for each cell.*

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LC8.

- Perimeter Bores – Beyond the waste-mass boundary
- Surface Emissions – Fugitive emissions through the cap surface

What has been implemented?

- Installation of 29 new LFG bores (recommendation 19, GHD 2018 Audit Report)
- Repaired Well Heads/infrastructure

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LC9.1.

Bore ID:	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
Bore RL (mAHD):	120.65	120.02	117.69	117.25	115.11	120.29	112.16	118.44	113.6	109.59	116.05	118.28	115.03	115.48
Bore RL (mAHD) post headworks):	122.7	123.56	120.87	121.1	119.91	124.14	114.46	120.35	116.07	111.99	118.59	123.56	119.54	120.85
Leachate Level Target (mAHD): 01.06.2018	92.5	92.5	92.5	92	92	92	92	92	92	92	92	92.5	92	92.5
Leachate Level Target (mAHD):01.06.2020	91.5	91.5	91.5	91	91	91	91	91	91	91	91	91.5	91	91.5



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Community Questions

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CLEANAWAY 

Thank you

CLEANAWAY 