

Annex G4

Investigation Reports of
Environmental Quality
Limit Exceedance

Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	13 April 2023
Time	11:59
Monitoring Location	LFG13
Parameter	Methane
Limit Levels	22.5%
Measured Level	25.8%
Possible reason	<p>During the landfill gas monitoring event, methane was not detected at the landfill gas monitoring wells adjacent to LFG13 (LFG12 and LFG14: 0%). In addition, no exceedance of Limit Levels for landfill gas monitoring at service voids, utilities pits and manholes (conducted on 11 April 2023) was recorded in the reporting period. Hence, there is a low possibility that the elevation of methane level at LFG13 is due to landfill gas migration from SENTX operation or at least it is not conclusive to base on these results to demonstrate that the exceedance was due to landfill gas migration.</p> <p>Repeat measurement was conducted on 17 and 18 April 2023 to confirm findings. Methane (ranged from 21.0% to 21.4% %) was detected at LFG13 on these additional daily sampling events, but the measured levels were below the limit level.</p> <p>According to the findings of the desktop review commissioned by GVL and EPD (the Employer) in May 2021 to investigate the potential sources of the elevated methane levels at the perimeter landfill gas monitoring wells at SENTX, pockets of organic matters are identified in the fill materials of the SENTX site upon review of the historical site investigation borehole logs at the Project Site area. It is possible that the elevated level of methane detected at LFG13 on 13 April 2023 could be due to localised organic matters within or around the monitoring wells and background fluctuation with relevance to the installation of liner system at Cell 4X which avoid the escape of methane gas into the atmosphere.</p> <p>Due to the presence of influencing factor from non-project source, there is no adequate evidence showing that the methane exceedance measured at LFG13 on 13 April 2023 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Levels.

	ET will continue to closely monitor the landfill gas monitoring results and collect additional data for investigation and further review, if necessary.
Remarks	-

Prepared by: Abbey Lau
Designation: Environmental Team
Date: 25 April 2023

Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	5 June 2023
Time	11:00
Monitoring Location	LFG24
Parameter	Carbon Dioxide
Limit Levels	4.7%
Measured Level	8.4%
Possible reason	<p>During the landfill gas monitoring event, carbon dioxide was not detected at the landfill gas monitoring wells adjacent to LFG24 (LFG23: 0.0% and GP7: 0.1%). All landfill gas (methane) monitoring results are well within the respective Limit Levels. In addition, no exceedance of Limit Levels for landfill gas monitoring at service voids, utilities pits and manholes (conducted on 5 June 2023) was recorded in the reporting period. Hence, there is a low possibility that the elevation of carbon dioxide level at LFG24 is due to landfill gas migration from SENTX operation or at least it is not conclusive to base on these results to demonstrate that the exceedance was due to landfill gas migration.</p> <p>Repeat measurement was conducted on 11 July 2023 to confirm findings. No carbon dioxide was detected at LFG24 during the sampling event, which demonstrate no consecutive landfill gas impact at the monitoring well. It is possible that the elevated level of carbon dioxide detected at LFG24 on 5 June 2023 could be due to background fluctuation.</p> <p>Due to the background influencing factor and the subsequent monitoring result at LFG24 did not show any exceedance, there is no adequate evidence showing that the carbon dioxide exceedance measured at LFG24 on 5 June 2023 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	<p>Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Levels.</p> <p>ET will continue to closely monitor the landfill gas monitoring results and collect additional data for investigation and further review, if necessary.</p>
Remarks	-

Prepared by: Abbey Lau
 Designation: Environmental Team
 Date: 11 July 2023