

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	17 May 2022
Time	14:51
Monitoring Location	LFG6
Parameter	Methane
Limit Levels	1.0 %
Measured Level	1.8%
Possible reason	<p>During the landfill gas monitoring event, methane was not detected at the landfill gas monitoring wells adjacent to LFG6 (LFG5 and LFG7: 0%). In addition, no exceedance of Limit Levels for landfill gas monitoring at service voids, utilities pits and manholes (conducted on 17 May 2022) and flammable gas surface emission monitoring (conducted on 18 May 2022) was recorded in the reporting period. Hence, there is a low possibility that the elevation of methane level at LFG6 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 1 and 2 June 2022 to confirm findings. Methane was not detected at LFG6 and its adjacent monitoring wells (LFG5 and LFG7) during the sampling events, which demonstrate no consecutive landfill gas hazard at the monitoring locations.</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 LFG6 on 17 May 2022 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 nearby 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 and the subsequent monitoring results at LFG6 did not show any exceedances, there is no adequate evidence showing that the methane exceedance measured at LFG6 on 17 May 2022 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

	<p>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: 21 June 2022

Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	3 October 2022
Time	14:51
Monitoring Location	LFG13
Parameter	Methane
Limit Levels	22.5 %
Measured Level	24.1 %
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 5 October 2022) 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 from 4 to 7 October 2022 to confirm findings. Methane (ranged from 10.7% to 19.3%) 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 3 October 2022 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 3 October 2022 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	-

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Designation: Environmental Team
Date: 23 November 2022