AMBIENT GAS MONITORING QUARTERLY UPDATE



Presentation of landfill gas data detected on NIEA staff personal gas monitors – 2026 Q3 (July 2026 to September 2026)

October 2026

Mobuoy Remediation Project Team

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Executive Summary

Reporting Period:	23/06/2026 – 30/09/2026
Background	Ambient gas is continuously monitored using personal gas monitors worn by NIEA staff onsite. As staff move throughout the site, the monitors provide real-time alerts if gas concentrations reach levels that may pose a health and safety risk. To record and utilise data collected by personal gas monitors, our staff record gas readings displayed on personal monitors at designated monitoring locations, and this information is discussed and presented in this report. It should be noted that data is generated by health and safety monitoring equipment rather than landfill gas monitoring instruments that are designed to support conventional or formal landfill gas monitoring NIEA have developed Ambient Gas Monitoring as an additional approach to landfill gas monitoring and is intended to compliment the formal ground gas and surface gas monitoring arrangement that are in place. The purpose of this report is to utilise, and make available, ambient landfill gas data obtained from personal gas monitors worn by NIEA staff during site inspections and communicate all information we hold on landfill gas at the Mobuoy site.
Monitoring in Period:	The ambient gas monitoring data presented in this report was collected using a Crowcon T4 Personal Gas Monitors that are worn by NIEA staff when carrying out work on the Mobuoy site. Results were recorded 13 times (weekly) at 12 monitoring locations. Monitoring locations are located within the site, at the site boundary, and beyond the site boundary. The following atmospheric parameters were monitored: • Flammable gas (includes methane) • Oxygen • Carbon Monoxide • Hydrogen Sulphide
Summary outcome:	1. No. of occasions personal gas monitor alarms activated: **0** 2. Highest flammable-gas (incl. methane) reading: **1% LEL** 3. Lowest oxygen reading: **20.8%** 4. Highest carbon-monoxide reading: **0 ppm at location [ID]** 5. Highest hydrogen-sulphide reading: **0 ppm at location [ID]** 6. Investigative actions required: **None**
Conclusion	No personal gas-monitor alarms were activated, and the gas levels detected at each of the monitoring conditions are consistent with background levels not impacted by landfill gas. The results confirm that no risks associated with landfill gas were posed to NIEA staff while carrying out the monitoring rounds.

1.0 Introduction

1.1 Background Information on Gas Monitoring at the Mobuoy Site

The gasses we monitor are collectively known as 'Landfill Gas'. The term 'Landfill Gas' refers to gasses that are associated with decomposing waste. The two main gasses that are generally consistent across all types of decomposing waste are methane and carbon dioxide; however, hydrogen sulphide and other gases may be present in small amounts.

We monitor landfill gas because when waste breaks down and decomposes, landfill gas is a natural byproduct of that process and, when unmanaged, it is the main emission to air from buried waste.

In addition to methane and carbon dioxide, we also monitor oxygen and carbon monoxide. Below the ground, the levels of these gasses provide us with more information on potential changes in the waste mass.

We monitor landfill gas in 3 main ways –

Ground gas monitoring which involves measuring gases that are present below the ground surface using installed monitoring boreholes. The gases we monitor are, Methane (CH_4), Carbon dioxide (CO_2), Oxygen (O_2), Hydrogen sulphide (H_2S), and Carbon monoxide (CO).

Surface gas monitoring involves measuring methane emissions at the ground surface to investigate if methane gas generated below the ground surface is reaching the surface.

Ambient gas monitoring, similar to surface gas monitoring, involves measuring landfill gasses in the air within the Mobuoy site and at locations outside the perimeter of the site. This is not a conventional, or formal, technique, but one we have developed to compliment the formal ground gas and surface gas monitoring to provide additional reassurance that the modelled potential 'worst case' scenario risks, presented in the Gas Risk Assessment are not materialising.

1.2 Purpose of this Report

Ambient gas is continuously monitored using personal gas monitors worn by NIEA staff onsite. As staff move throughout the site, the monitors provide real-time alerts if gas concentrations reach levels that may pose a health and safety risk

To record and utilise data collected by personal gas monitors, our staff record gas readings displayed on personal monitors at designated monitoring locations. Our monitoring locations are discussed and presented in Section 3.0 of this report.

The purpose of this report is to utilise, and make available, ambient landfill gas data obtained from personal gas monitors worn by NIEA staff during site inspections and communicate all information we hold on landfill gas at the Mobuoy site.

1.3 Reporting Period

This is the first Ambient Gas Monitoring Report. This report presents ambient gas monitoring information during the period from **23rd June 2026 to 30th September 2026.**

2.0 Limitations

Personal gas monitors are principally health and safety instruments that measure the atmosphere in the immediate vicinity of the person wearing the equipment. The monitoring results in this report:

- Represent conditions encountered at monitoring locations along the inspection route on the dates shown;
- May be influenced by weather, atmospheric pressure, wind, or other temporary conditions;
- Compliment formal ground gas and surface gas monitoring arrangements; and,
- Are not used to review or revise the landfill-gas conceptual site model or Gas Risk Assessment;

2.0 Personal Gas Monitor Information

2.1 Personal Gas Monitoring Equipment and Gasses Monitored

The ambient gas monitoring data presented in this report were collected using a Crowcon T4 Personal Gas Monitor, designed to provide personal protection against the four most common landfill gasses that people could potentially be exposed to in landfill sites: oxygen depletion or enrichment, flammable gases (including methane), hydrogen sulphide, and carbon monoxide (CO).

2.2 Configured Alarm Settings

Low Level Alarm

Low-level alarms on personal gas monitors are set to provide an early warning that air conditions are beginning to deteriorate before they reach a dangerous level. The purpose is to give NIEA staff sufficient time to assess the situation, withdraw from the area, improve ventilation, or implement other control measures before a potentially dangerous condition develops.

Low level alarms are set at low thresholds for gases such as methane, carbon dioxide, hydrogen sulphide, carbon monoxide, and oxygen deficiency are early action levels, not safety levels.

High Level Alarm

High-level alarms on personal gas monitors are set to indicate that a gas concentration has reached a level requiring immediate action because there is a high risk to health and safety. Unlike low alarms, which provide an early warning, a high alarm signals that NIEA staff may be approaching or are being exposed to unsafe levels of gas.

Table 2.1 – Alarm Levels

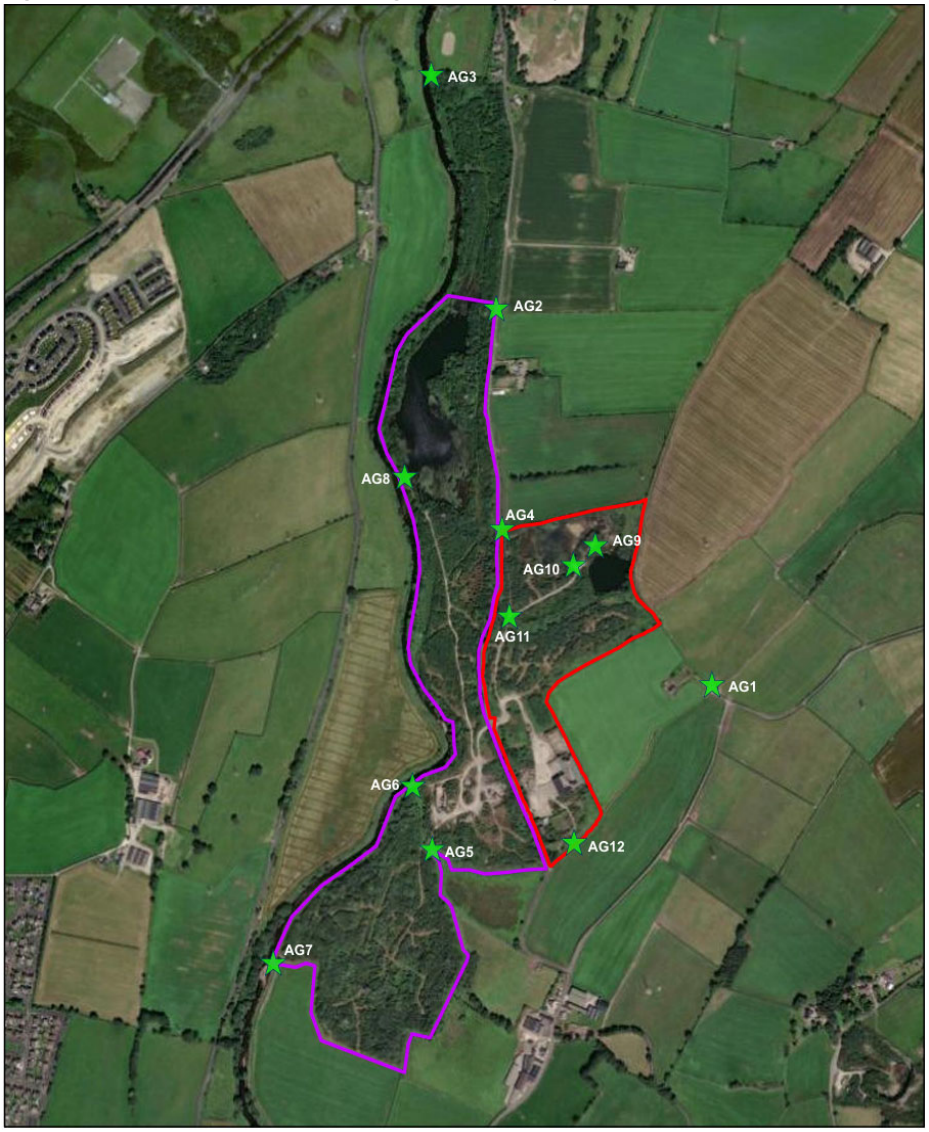
Parameter	Low Alarm	High Alarm
Flammable Gasses (including methane)	10% LEL / 0.5% methane by volume	20% LEL / 1% methane by volume
Oxygen	19.5%	23.5%
Carbon Monoxide	30 ppm (parts per million)	100 ppm
Hydrogen Sulphide	5 ppm	10 ppm

3.0 Monitoring Locations

Table 3.1 – Ambient Gas Monitoring Locations

Location ID	Location Description
AG1	Fincairn Road (Off site – East of site)
AG2	Mobuoy Road (Site Boundary)
AG3	Carmoney Road (Mobuoy Bridge)
AG4	Mobuoy Road (Site Boundary)
AG5	Campsie Sand & Gravel (Site Boundary)
AG6	River Faughan (Site Boundary)
AG7	River Faughan (Site Boundary)
AG8	River Faughan (Site Boundary)
AG9	City Industrial Waste (On site)
AG10	City Industrial Waste (On site)
AG11	City Industrial Waste (On site)
AG12	Site Boundary (City Industrial Waste)

Figure 3.1 Ambient Gas Monitoring Location Map



4.0 Ambient Gas Monitoring Results

4.1 Results

The ambient monitoring results recorded by NIEA staff during ambient gas monitoring are presented in full at Appendix A. In the context of the purpose of monitoring ambient gas, the results have been summarised on Table 4.1.

In summary, no low-level alarms were triggered during NIEA works at the site, including at the designated monitoring locations.

A review of the monitoring results at each of the monitoring locations indicate typical unimpacted air conditions and this is supported by no detectable levels of flammable gas (including methane), carbon monoxide, and hydrogen sulphide. The lowest level of oxygen recorded was 20.8%, which is indicative of air that is not depleted of oxygen, which would be the case if there was an impact from landfill gas.

During monitoring carried out on 6th August 2026, 1% LEL flammable gasses (including methane) was detected at most of the monitoring locations. 0% LEL flammable gasses (including methane) was detected at all monitoring locations during other monitoring rounds carried out during the monitoring period. Due to the level being marginally above zero, significantly below the low-level alarm (10% LEL), and the widespread occurrence, this result is likely attributable to general background levels in the area at the time and reflects the sensitivity of the monitor.

Table 4.1 – Number of time alarms triggered

Location ID	Number of Sampling Events	Methane - Occasions low alarm Triggered	Oxygen - Occasions low alarm Triggered	Carbon Monoxide - Occasions low alarm Triggered	Hydrogen Sulphide - Occasions low alarm Triggered
AG1	13	0	0	0	0
AG2	13	0	0	0	0
AG3	13	0	0	0	0
AG4	13	0	0	0	0
AG5	13	0	0	0	0
AG6	13	0	0	0	0
AG7	13	0	0	0	0
AG8	12	0	0	0	0
AG9	11	0	0	0	0
AG10	13	0	0	0	0
AG11	13	0	0	0	0
AG12	13	0	0	0	0

4.2 Alarm Activations

None

4.3 Explanation of Alarm Activations

No alarms activated.

Health, Safety, and Environmental Assessment

5.1 Health and Safety

No personal gas-monitor alarms were activated during ambient gas monitoring in the monitoring period. This indicates that the configured alarm thresholds were not reached in the immediate breathing zones of the staff wearing the monitors during the inspection period. Subsequently, no adverse impacts from landfill gas were detected.

5.2 Environmental – Potential impacts on current Conceptual Site Model

The personal-monitor information and associated site observations during site inspections did not identify any material changes at the site, such as additional pathways for landfill gas to be emitted or the presence of potential new sensitive receptors, that would impact the current landfill-gas conceptual site model and Gas Risk Assessment.

5.3 Requirement for Further Investigations

None

6.0 Conclusion

No personal gas-monitor alarms were activated, and the gas levels detected at each of the monitoring locations are consistent with background levels not impacted by landfill gas.

The results confirm that no risks associated with landfill gas were posed to NIEA staff while carrying out the monitoring rounds.

A review of the monitoring results at each of the monitoring locations indicate typical unimpacted air conditions and this is supported by no detectable levels of flammable gas (including methane), carbon monoxide, and hydrogen sulphide. The lowest level of oxygen recorded was 20.8%, which is indicative of air that is not depleted of oxygen, which would be the case if there was an impact from landfill gas.

7.0 Next Monitoring Period

Oct to Dec 2026 – Q4

Appendix A – Ambient Gas Monitoring Data

Glossary of Terms

CH4	- Methane
O2	- Oxygen
H2S	- Hydrogen sulphide
CO	- Carbon monoxide

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
23/06/2026	AG1	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG2	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG3	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG4	0	0	21	0	Hot, Sunny, Dry	
23/06/2026	AG5	0	0	21	0	Hot, Sunny, Dry	
23/06/2026	AG6	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG7	0	0	21.1	0	Hot, Sunny, Dry	
23/06/2026	AG8	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG9	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG10	0	0	20.9	0	Hot, Sunny, Dry	
23/06/2026	AG11						Not sampled
23/06/2026	AG12						Not sampled
01/07/2026	AG1	0	0	21	0	Hot, Sunny, Dry	
01/07/2026	AG2	0	0	21	0	Hot, Sunny, Dry	
01/07/2026	AG3	0	0	20.9	0	Hot, Sunny, Dry	
01/07/2026	AG4	0	0	21	0	Hot, Sunny, Dry	
01/07/2026	AG5	0	0	20.9	0	Hot, Sunny, Dry	
01/07/2026	AG6	0	0	20.9	0	Hot, Sunny, Dry	
01/07/2026	AG7	0	0	21	0	Hot, Sunny, Dry	
01/07/2026	AG8						Not sampled
01/07/2026	AG9						Not sampled
01/07/2026	AG10						Not sampled

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
01/07/2026	AG11						Not sampled
01/07/2026	AG12	0	0	20.9	0	Hot, Sunny, Dry	
08/07/2026	AG1	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG2	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG3	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG4	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG5	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG6	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG7	0	0	21	0	Hot, Sunny, Dry	
08/07/2026	AG8	0	0	20.9	0	Hot, Sunny, Dry	
08/07/2026	AG9	0	0	20.9	0	Hot, Sunny, Dry	
08/07/2026	AG10	0	0	20.9	0	Hot, Sunny, Dry	
08/07/2026	AG11	0	0	20.9	0	Hot, Sunny, Dry	
08/07/2026	AG12	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG1	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG2	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG3	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG4	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG5	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG6	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG7	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG8	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG9	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG10	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG11	0	0	20.9	0	Hot, Sunny, Dry	
16/08/2026	AG12	0	0	20.9	0	Hot, Sunny, Dry	
22/07/2026	AG1	0	0	21	0	Mild, dry, overcast	

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
22/07/2026	AG2	0	0	21	0	Mild, dry, overcast	
22/07/2026	AG3	0	0	20.9	0	Mild, dry, overcast	
22/07/2026	AG4	0	0	21	0	Mild, dry, overcast	
22/07/2026	AG5	0	0	20.9	0	Mild, dry, overcast	
22/07/2026	AG6	0	0	20.9	0	Mild, dry, overcast	
22/07/2026	AG7	0	0	21	0	Mild, dry, overcast	
22/07/2026	AG8	0	0	20.9	0	Mild, dry, overcast	
22/07/2026	AG9						Not sampled
22/07/2026	AG10						Not sampled
22/07/2026	AG11						Not sampled
22/07/2026	AG12						Not sampled
29/07/2026	AG1	0	0	20.9	0	Rain	
29/07/2026	AG2	0	0	20.9	0	Rain	
29/07/2026	AG3	0	0	20.9	0	Rain	
29/07/2026	AG4	0	0	20.9	0	Rain	
29/07/2026	AG5	0	0	20.9	0	Rain	
29/07/2026	AG6	0	0	20.9	0	Rain	
29/07/2026	AG7	0	0	20.9	0	Rain	
29/07/2026	AG8	0	0	20.9	0	Rain	
29/07/2026	AG9	0	0	20.9	0	Rain	
29/07/2026	AG10	0	0	20.9	0	Rain	
29/07/2026	AG11	0	0	21	0	Rain	
29/07/2026	AG12	0	0	20.9	0	Rain	
06/08/2026	AG1	0	0	20.9	0	Rain	
06/08/2026	AG2	0	0	20.9	1	Mild, dry, overcast	
06/08/2026	AG3	0	0	20.9	0	Mild, dry, overcast	
06/08/2026	AG4	0	0	21	1	Mild, dry, overcast	
06/08/2026	AG5	0	0	20.9	0	Mild, dry, overcast	

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
06/08/2026	AG6	0	0	20.9	0	Mild, dry, overcast	
06/08/2026	AG7	0	0	21	1	Mild, dry, overcast	
06/08/2026	AG8	0	0	20.9	1	Mild, dry, overcast	
06/08/2026	AG9	0	0	20.9	1	Mild, dry, overcast	
06/08/2026	AG10	0	0	20.9	1	Mild, dry, overcast	
06/08/2026	AG11	0	0	20.9	1	Mild, dry, overcast	
06/08/2026	AG12	0	0	20.9	1	Mild, dry, overcast	No gas odours observed by staff during site inspection on 06/08/2026. Flammable Gas detections potentially reflective of ambient gas at time of inspection.
20/08/2026	AG1	0	0	20.9	0	Mild, occasional light rain	
20/08/2026	AG2	0	0	21	0	Mild, occasional light rain	
20/08/2026	AG3	0	0	20.9	0	Mild, occasional light rain	
20/08/2026	AG4	0	0	20.9	0	Mild, occasional light rain	
20/08/2026	AG5	0	0	21	0	Mild, occasional light rain	
20/08/2026	AG6	0	0	21.1	0	Mild, occasional light rain	
20/08/2026	AG7	0	0	21	0	Mild, occasional light rain	
20/08/2026	AG8	0	0	21	0	Mild, occasional light rain	
20/08/2026	AG9	0	0	20.9	0	Mild, occasional light rain	
20/08/2026	AG10	0	0	21	0	Mild, occasional light rain	
20/08/2026	AG11	0	0	20.9	0	Mild, occasional light rain	

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
20/08/2026	AG12	0	0	20.9	0	Mild, occasional light rain	
26/08/2026	AG1	0	0	20.9	0	Light rain	
26/08/2026	AG2	0	0	20.9	0	Light rain	
26/08/2026	AG3	0	0	20.9	0	Light rain	
26/08/2026	AG4	0	0	20.9	0	Light rain	
26/08/2026	AG5	0	0	20.9	0	Light rain	
26/08/2026	AG6	0	0	20.9	0	Light rain	
26/08/2026	AG7	0	0	20.9	0	Light rain	
26/08/2026	AG8	0	0	20.9	0	Light rain	
26/08/2026	AG9	0	0	21	0	Light rain	
26/08/2026	AG10	0	0	21	0	Light rain	
26/08/2026	AG11	0	0	20.9	0	Light rain	
26/08/2026	AG12	0	0	20.9	0	Light rain	
01/09/2026	AG1	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG2	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG3	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG4	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG5	0	0	20.8	0	Mild, occasional light rain	
01/09/2026	AG6	0	0	20.8	0	Mild, occasional light rain	
01/09/2026	AG7	0	0	20.8	0	Mild, occasional light rain	
01/09/2026	AG8	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG9	0	0	20.9	0	Mild, occasional light rain	

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
01/09/2026	AG10	0	0	20.9	0	Mild, occasional light rain	
01/09/2026	AG11	0	0	21	0	Mild, occasional light rain	
01/09/2026	AG12	0	0	20.9	0	Mild, occasional light rain	
16/09/2026	AG1	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG2	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG3	0	0	21.1	0	Mild, dry, overcast	
16/09/2026	AG4	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG5	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG6	0	0	21	0	Mild, dry, overcast	
16/09/2026	AG7	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG8	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG9	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG10	0	0	21	0	Mild, dry, overcast	
16/09/2026	AG11	0	0	20.9	0	Mild, dry, overcast	
16/09/2026	AG12	0	0	20.9	0	Mild, dry, overcast	
23/09/2026	AG1	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG2	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG3	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG4	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG5	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG6	0	0	21	0	Mild, occasional showers	
23/09/2026	AG7	0	0	20.9	0	Mild, occasional showers	

Date	Location	H2S (ppm)	CO (ppm)	O2 (%vol)	Flam. Gases (%LEL)	Weather Conditions	Comments
23/09/2026	AG8	0	0	21	0	Mild, occasional showers	
23/09/2026	AG9	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG10	0	0	20.9	0	Mild, occasional showers	
23/09/2026	AG11	0	0	21	0	Mild, occasional showers	
23/09/2026	AG12	0	0	21.1	0	Mild, occasional showers	
30/09/2026	AG1	0	0	20.9	0	Dry, windy	
30/09/2026	AG2	0	0	20.9	0	Dry, windy	
30/09/2026	AG3	0	0	20.9	0	Dry, windy	
30/09/2026	AG4	0	0	20.9	0	Dry, windy	
30/09/2026	AG5	0	0	20.9	0	Dry, windy	
30/09/2026	AG6	0	0	20.9	0	Dry, windy	
30/09/2026	AG7	0	0	20.9	0	Dry, windy	
30/09/2026	AG8	0	0	20.9	0	Dry, windy	
30/09/2026	AG9	0	0	20.9	0	Dry, windy	
30/09/2026	AG10	0	0	20.9	0	Dry, windy	
30/09/2026	AG11	0	0	20.9	0	Dry, windy	
30/09/2026	AG12	0	0	20.9	0	Dry, windy	