Environmental Data Analysis Report

Damp And Mould Causation & Property Condition Assessment

Client: [Client Name]
Property: [Property ID]
Prepared by: Vericon Systems Ltd
Date: [Insert Date]
Report Reference: VER-DM-[Case Ref]

1. INSTRUCTIONS

Vericon Systems Ltd has been instructed to analyse environmental data from the above property and provide an evidence-based opinion regarding:

- The presence of **conditions conducive to damp and mould**
- The **duration and severity** of those conditions
- The **most likely causation factors**
- Whether evidence indicates:
  - **Structural/building defects**, or
  - **Occupancy-related influences**
- Supporting records including:
  - **QR-based audit logs**
  - **Photographic evidence**
  - **HomeHub message audit logs**

Vericon Systems Ltd role is limited to the analysis and interpretation of recorded data. The conclusions are derived solely from objective datasets and are not influenced by client instruction or desired outcome.

2. DATA SOURCES AND EVIDENCE INTEGRITY

2.1 Environmental Sensor Data

Data has been collected using Vericon MultiDot sensors monitoring:

- Temperature (°C)
- Relative Humidity (%)

Analysis of temperature and humidity correlation provides insight into:

- Moisture generation events
- Ventilation effectiveness
- Sustained environmental risk conditions

It is established that **prolonged high humidity (>70%) combined with lower temperatures increases the likelihood of damp and mould formation**

2.2 QR Code Audit Trail System

Vericon utilises a **QR-code-based audit process** to generate a secure, time-stamped record of all property interactions.

Each scan records:

- Date and time
- User identity
- Location within the property
- Activity undertaken

These logs are:

- Stored securely
- Sequentially recorded
- Resistant to retrospective alteration

Sample Audit Log Extract

Date & Time	User	Action Type	Location	Activity Description	Photo Evidence	Notes
14/10/2025 09:12	J. Smith	Site Visit	Bathroom	Extractor fan inspected and tested	Yes	Operational, airflow confirmed
14/10/2025 09:18	J. Smith	Evidence Capture	Bathroom	Photos of ceiling and tile grout	Yes	No mould present
15/12/2025 10:03	A. Brown	Inspection	Bathroom	Damp & mould inspection	Yes	No structural indicators
15/12/2025 10:08	A. Brown	Evidence Capture	Bathroom	Window and vent condition recorded	Yes	Vent unobstructed

Audit System Significance

This system provides:

- Verified attendance records
- Evidence of inspection and maintenance activity
- Demonstrable occupant engagement
- A chronological audit trail suitable for legal scrutiny

2.3 Photographic Evidence

The Vericon system supports:

- Time-stamped, location-linked photographs
- Direct association with audit entries
- Secure storage alongside sensor data

Photographs provide:

- Visual confirmation of conditions
- Evidence of:
  - Ventilation status
  - Presence or absence of mould
  - Property condition at specific dates

2.4 Continuous Risk Monitoring and Scoring

Vericon's analytics platform operates a **continuous environmental risk assessment** across all connected properties.

- Environmental data is analysed at 5-minute intervals
- Each data cycle generates a numerical Damp and Mould Risk Score
- Scores are calculated using a consistent algorithm based on:
  - Temperature
  - Relative humidity
  - Duration of elevated conditions
  - Ventilation response behaviour

The algorithm applies consistent, rule-based analysis of temperature, humidity, and duration thresholds in line with established environmental risk principles.

Risk Score Framework

- Risk is expressed as a quantified numerical value
- Scores are aggregated over time to:
  - Identify trends
  - Assess severity
  - Prioritise intervention

Portfolio Benchmarking

Each property's risk profile is assessed relative to:

The wider portfolio of connected properties monitored by Vericon

This enables classification of the property as:

- **Low Risk** – within expected environmental range
- **Medium Risk** – elevated but not abnormal
- **High Risk** – significantly above typical property conditions
- **Extreme Risk** – High expectancy of mould growth in the short term

Significance in this Case

This approach provides:

- Objective, data-driven risk classification
- A consistent method for comparing properties
- Evidence of whether conditions are:
  - Typical for occupied homes
  - Or indicative of exceptional or abnormal behaviour

Legal Relevance

The presence of continuous 5-minute risk assessment demonstrates:

- **Ongoing proactive monitoring**, not intermittent inspection
- The ability to identify **emerging risk patterns in near real-time**
- A consistent and auditable framework for:
  - Risk identification
  - Property management decisions

2.5 Resident Communication Audit (HomeHub System)

Where the Vericon HomeHub system is installed, all communications issued to occupants are:

- Automatically generated or manually created
- Time-stamped at point of sending
- Logged when accessed (read receipt recorded)

This creates a **verifiable communication audit trail** demonstrating:

- Delivery of guidance
- Occupant engagement
- Timeliness of intervention

Sample Communication Log Extract

Message Type	Message Title	Message Content (Summary)	Date Sent	Date Read
Custom	Confirmation	Complaint registration acknowledged	30/11/2025 – 14:09	30/11/2025 – 18:28
HomeHub Generated	Ventilation Advice	High humidity detected in bathroom	02/12/2025 – 08:35	02/12/2025 – 13:43
HomeHub Generated	Ventilation Advice	Extraction usage guidance	03/12/2025 – 08:20	03/12/2025 – 08:51
HomeHub Generated	Ventilation Advice	Importance of ventilation	04/12/2025 – 08:10	04/12/2025 – 09:32
Custom	Surveyor Appointment	Request to arrange inspection	06/12/2025 – 11:45	06/12/2025 – 17:35

Key Observations

- The tenant's complaint was **acknowledged promptly**
- Targeted **ventilation advice was issued repeatedly**
- Messages were **received and read within short timeframes**
- A **physical inspection was arranged within a reasonable period**

Legal Significance

This communication record demonstrates:

- The client took **active and timely steps** following notification
- The occupant was provided with **clear and actionable guidance**
- There is **documented evidence of engagement by both parties**

2.6 Photographic Evidence (Condition and Remediation)

Photographic evidence has been captured during site visits using the Vericon site application and recorded directly within the Vericon system, with

each image being user, date, and time-stamped to ensure a complete and auditable record. Images are captured and embedded within the system at the point of inspection and cannot be retrospectively altered, forming part of the secure evidential record. The images below provide visual confirmation of the conditions observed within the property, including the presence and subsequent remediation of mould growth. The following images illustrate the condition of the bathroom ceiling before and after remedial cleaning works.

Figure 1 – Bathroom Ceiling (Pre-Works Condition)

Date: 26 November 2024

- Visible mould growth across ceiling surface
- Pattern consistent with condensation accumulation
- Extractor fan present within area

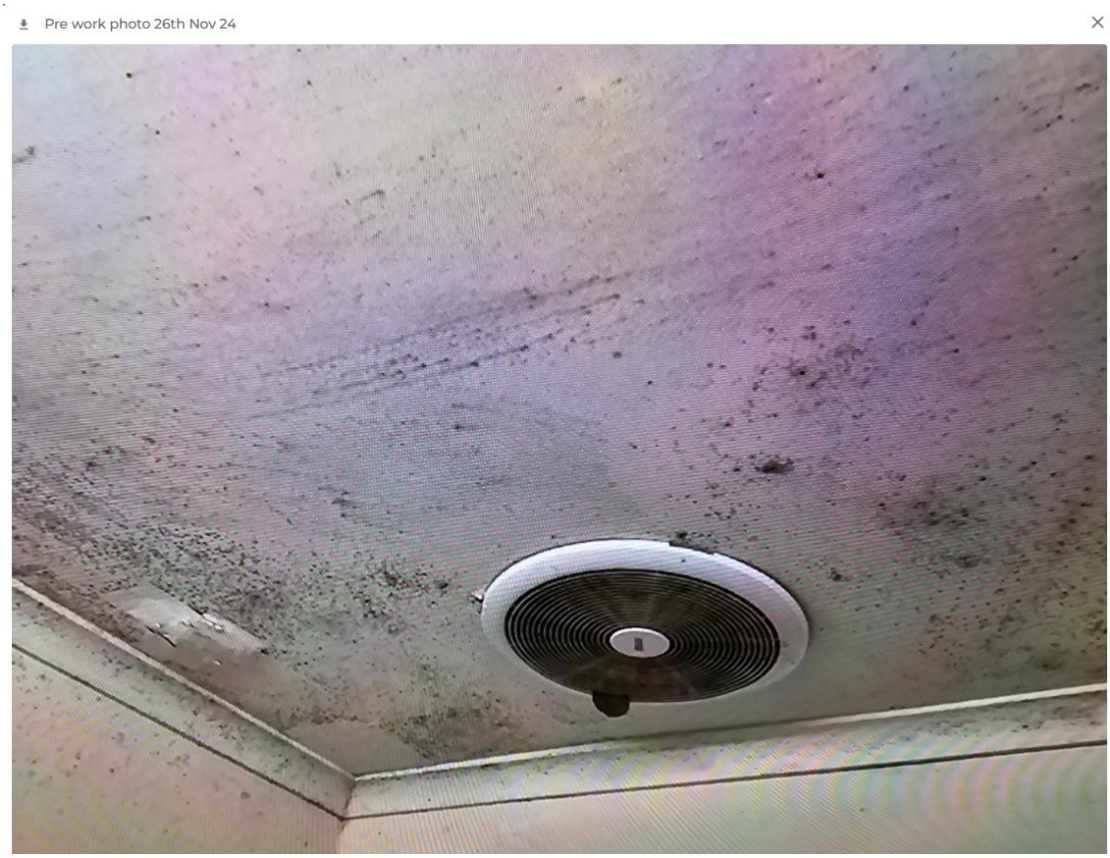
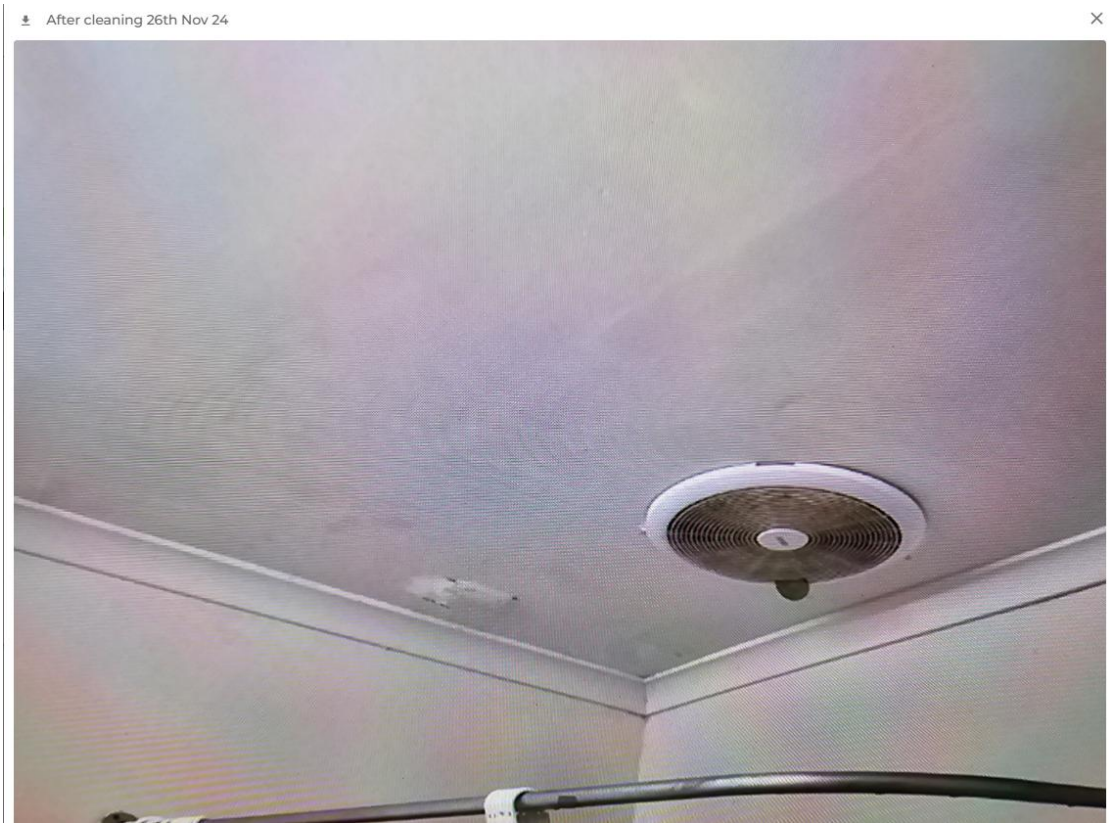


Figure 2 – Bathroom Ceiling (Post-Cleaning Condition)

Date: 26 November 2024

- Surface cleaned and mould removed
- No visible indication of persistent saturation
- No evidence of structural water ingress



The photographic evidence supports the conclusion that the condition observed is consistent with **condensation-related mould growth rather than structural defect**, and forms part of the overall evidential record alongside environmental data, audit logs, and system-generated activity.

Observation

- Mould presence is **surface-level and responsive to cleaning**
- Growth pattern is consistent with **humidity-related condensation**
- No visual indicators of:
    - Penetrating damp
    - Structural defect
    - Continuous water ingress

These observations are consistent with the environmental data and risk analysis presented within this report.

3. METHODOLOGY

Analysis has been undertaken using:

- Correlation of temperature and humidity trends
- Identification of:
  - Sustained high humidity
  - Ventilation response rates
- Application of:
  - Damp & Mould Risk algorithm
  - Ventilation efficiency scoring

It is recognised that:

- Short-term humidity spikes (e.g. showers) are not causal alone
- Sustained elevated humidity is the primary driver of mould risk

4. FINDINGS

4.1 Environmental Conditions

Data indicates:

- Periods of **elevated humidity levels**, particularly in colder months
- These conditions correlate with:
  - Reduced internal temperatures
  - Slower humidity dissipation

Such conditions increase damp and mould risk when sustained over time.

4.2 Ventilation Behaviour

Analysis shows:

- Inconsistent ventilation patterns
- Humidity does not reduce at expected rates following moisture events

This is consistent with:

- Intermittent or insufficient use of ventilation systems

4.3 Occupancy-Related Factors

Environmental patterns demonstrate:

- Regular moisture generation (e.g. bathing/showering)
- Extended periods where humidity remains elevated

This strongly indicates:

- Moisture retention due to behavioural factors, including:
  - Limited ventilation
  - Inconsistent heating usage

4.4 Structural Assessment

From the available data:

- Temperature trends follow expected seasonal patterns
- No consistent anomalies suggesting:
  - Fabric failure
  - Penetrating damp
  - Persistent cold bridging

Interpretation

There is no evidence within the data to support the conclusion that structural defect is the primary cause of the reported conditions.

4.5 Corroborative Evidence

Audit logs and photographic records demonstrate:

- Property inspections have been undertaken
- Ventilation systems have been checked and confirmed operational
- Conditions at inspection points did not consistently show mould presence

This provides **verification** of property condition over time.

5. CAUSATION ANALYSIS

Primary Factors Identified

- Sustained high humidity
- Inconsistent ventilation
- Lower internal temperatures

Secondary Factors

- Normal occupancy moisture generation
- Seasonal environmental changes

Causation Conclusion

On the balance of probabilities, the damp and mould risk identified within the property is attributable primarily to:

- **Environmental conditions influenced by occupant behaviour**, particularly ventilation and heating usage

rather than:

- Structural defects within the building fabric

6. PROPERTY MANAGEMENT AND COMPLIANCE

Evidence demonstrates that the client has:

- Implemented continuous environmental monitoring
- Maintained a verifiable audit trail of property interactions
- Enabled photographic evidence capture
- Facilitated inspection and maintenance activities

Conclusion on Management

These measures represent a **proactive and reasonable approach to property management**, consistent with expected standards of care.

7. LIMITATIONS

- Analysis is based on available sensor locations
- Additional sensors may provide further context
- Photographic evidence represents conditions at specific times only

8. STATEMENT OF TRUTH

This report has been prepared using objectively recorded environmental data and Vericon analytical systems.

The conclusions presented are based on:

- Observed data trends
- Established environmental principles
- Corroborating audit and photographic evidence

Vericon Ltd is the provider of the monitoring system from which the data is derived. Its role in this report is limited to the objective analysis and interpretation of recorded environmental data.

The conclusions are based solely on recorded datasets and established environmental principles and are not influenced by client instruction or desired outcomes

9. OVERALL LEGAL POSITION

This report is suitable for use as supporting evidence in legal proceedings, including housing disrepair claims and damp and mould disputes.