

**JMU-200-03004**

**添付資料－6**

## **NOVA #500 Black Paint の試験報告書**

**試験番号 02-E-JAM010203-6**

**8ページ以降に OSI 社のデータを添付する。**

ASTM E1559

試験報告書 (Test Report)  
放出ガスレート試験 (Outgassing Rate Test)

|                                                  |                               |                    |       |
|--------------------------------------------------|-------------------------------|--------------------|-------|
| 試験リーダー<br>Test Leader                            | J.GARRETT                     |                    |       |
| 試験番号<br>Test Number                              | 03-E-JAM010203-6              |                    |       |
| 試験依頼者<br>Test Requestor                          | NASDA                         |                    |       |
| 試料名<br>Sample Name                               | Nova #500 Black Paint         |                    |       |
| 製造者<br>Manufacturer                              | Nippon Paint                  |                    |       |
| 製造者の識別番号<br>Manufacturer's Identification        | _____                         |                    |       |
| ロット番号<br>Lot Number                              | _____                         |                    |       |
| 素材名<br>Material Name                             | _____                         |                    |       |
| 繊維・充填材の組成・含有率<br>Fiber / Filler Composition      | N/A (Volume %) %              |                    |       |
| ホルダ／基板の材質・寸法<br>Holder / Substrate Specification | (Material)<br>N/A             | (Dimension)<br>N/A |       |
| 処理履歴 Processing History                          |                               |                    |       |
| 混合比率 (質量比又は体積比)<br>Mixing Ratio (Mass or Volume) | N/A                           |                    |       |
| 硬化条件 Curing Condition                            | Step1                         | Step2              | Step3 |
| 温度<br>Temperature                                |                               |                    |       |
| 時間<br>Time                                       |                               |                    |       |
| 雰囲気<br>Atmosphere                                |                               |                    |       |
| 処理日付<br>Processed Date                           |                               |                    |       |
| その他の条件<br>Other Process                          | _____                         |                    |       |
| 試料寸法 (cm)<br>Sample Dimension                    | 試料面積 179.85(cm <sup>2</sup> ) |                    |       |

|                        |                  |            |
|------------------------|------------------|------------|
|                        | 署名欄<br>Signature | 日付<br>Date |
| 試験リーダー<br>Test Leader  |                  | / /        |
| 点検<br>Checked          |                  | / /        |
| 承認<br>Approved (NASDA) |                  | / /        |

ASTM E1559

# 試験報告書 (Test Report)

## 放出ガスレート試験 (Outgassing Rate Test)

(2/5)

|                                                       |                                                                                                                 |                                      |                                      |                                      |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| 要求試験項目<br>Test Demand                                 | <input type="checkbox"/> Method A <input checked="" type="checkbox"/> Method B <input type="checkbox"/> Special |                                      |                                      |                                      |
| 試験開始日<br>Test Date                                    | JAN / 29 / 2003                                                                                                 |                                      |                                      |                                      |
| 試験装置 Test Apparatus                                   |                                                                                                                 |                                      |                                      |                                      |
| ブランク試験実施日<br>Last Blank Run, Date                     | _____                                                                                                           |                                      |                                      |                                      |
| 加熱セル開口部寸法<br>Effusion Cell Orifice Dimensions         | (Length)<br>3.0 mm                                                                                              | (Radius)<br>3.0 mm                   |                                      |                                      |
| 試験開始時チャンバ圧力<br>Initial Test Chamber Pres.             | $10^{-8} \sim 10^{-6}$ Pa                                                                                       |                                      |                                      |                                      |
| 試験終了時チャンバ圧力<br>Final Test Chamber Pres.               | $10^{-8} \sim 10^{-6}$ Pa                                                                                       |                                      |                                      |                                      |
| 試料温度<br>Sample Temperature                            | 88.5°C                                                                                                          |                                      |                                      |                                      |
| 加熱時間<br>Heating Duration                              | 144Hour                                                                                                         |                                      |                                      |                                      |
| 質量測定 Mass Measurement                                 |                                                                                                                 |                                      |                                      |                                      |
| ホルダ/基板質量<br>Holder/Substrate Mass                     | 4.69500g = $m_h$                                                                                                |                                      |                                      |                                      |
| 試料+ホルダ/基板質量 (試験前)<br>Sample+Holder Mass (Before Test) | 6.06800g = $m_{s+h}(i)$                                                                                         |                                      |                                      |                                      |
| 試料+ホルダ/基板質量 (試験後)<br>Sample+Holder Mass (After Test)  | _____ = $m_{s+h}(f)$                                                                                            |                                      |                                      |                                      |
| ex-situ 質量損失比<br>ex-situ Total Mass Loss              | _____ = $\frac{m_{s+h}(i) - m_{s+h}(f)}{m_{s+h}(i) - m_h} \times 100$                                           |                                      |                                      |                                      |
| QCM                                                   | 1                                                                                                               | 2                                    | 3                                    | 4 (Method B)                         |
| 温度<br>Temperature                                     | -193°C                                                                                                          | -40°C                                | -10°C *1                             | 25°C                                 |
| 試験開始時周波数<br>Initial Frequency                         | 2594.626Hz                                                                                                      | 2628.910Hz                           | 2411.821Hz                           | 2701.286Hz                           |
| 試験終了時周波数<br>Final Frequency                           | 5791.392Hz                                                                                                      | 2844.597Hz                           | 2426.362Hz                           | 2705.281Hz                           |
| 感度<br>Sensitivity                                     | $2.26 \times 10^8 \text{ Hz/g/cm}^2$                                                                            | $2.26 \times 10^8 \text{ Hz/g/cm}^2$ | $2.26 \times 10^8 \text{ Hz/g/cm}^2$ | $2.26 \times 10^8 \text{ Hz/g/cm}^2$ |
| 視野因子<br>View Factor                                   | 415.02 cm <sup>2</sup>                                                                                          | 415.02 cm <sup>2</sup>               | 415.02 cm <sup>2</sup>               | 415.02 cm <sup>2</sup>               |
| 試験終了時 in-situ TML (VCM)<br>Final in-situ TML (VCM)    | 0.4281%                                                                                                         | 0.02888%                             | 0.001947%                            | 0.0005350%                           |
| 試験結果<br>Test Results                                  | Fig.1～4 参照<br>See Fig.1～4                                                                                       |                                      |                                      |                                      |
| コメント<br>Comment                                       | *1: This temperature was nominal because QCM3 was really controlled at -6.9°C in mistake for -10°C.             |                                      |                                      |                                      |

(3/6)

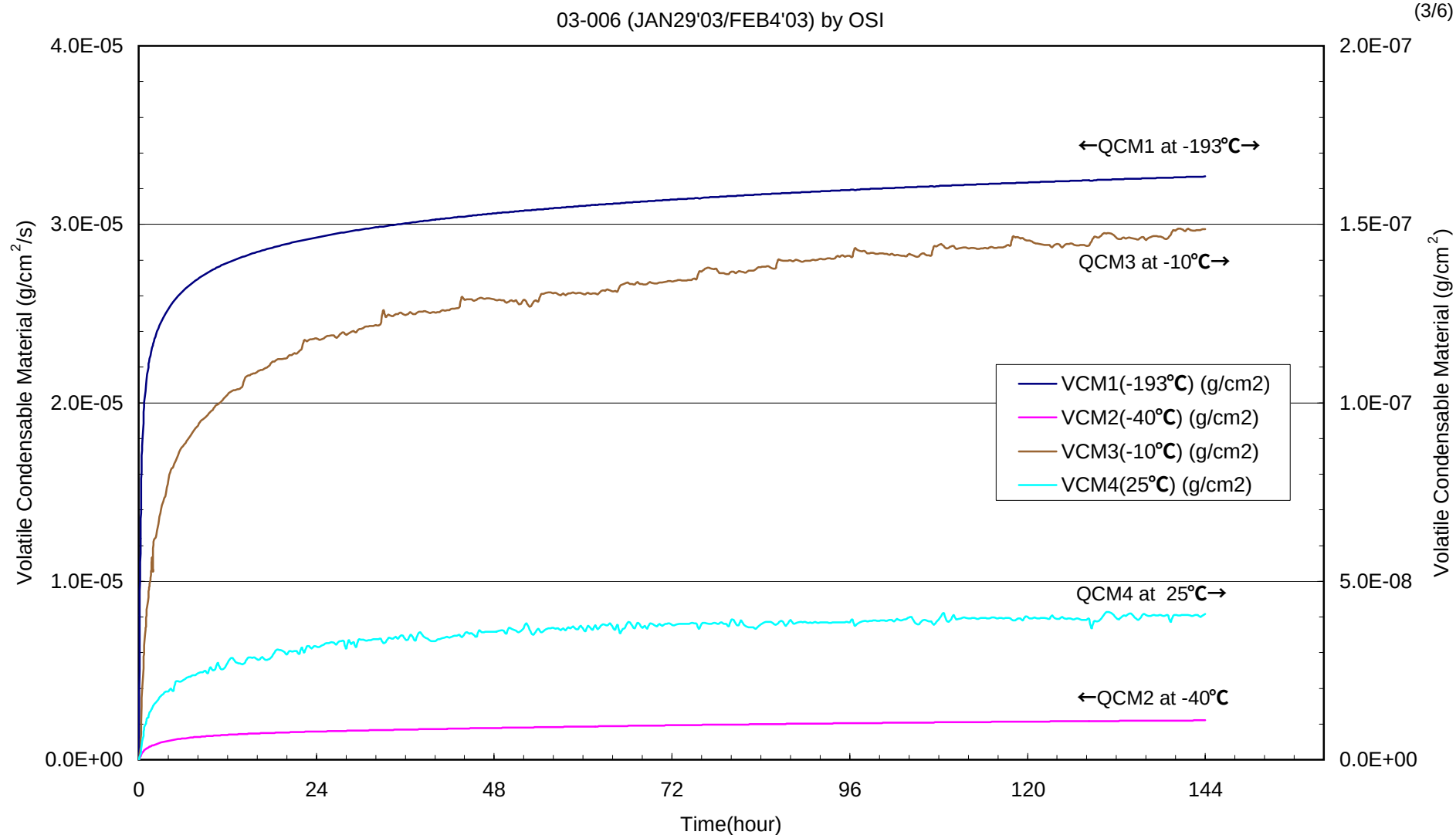


Fig.1 Volatile Condensable Material for QCMs at -193°C, -40°C, -10°C and 25°C as a Function of Time during the Isothermal Outgassing Test on NOVA #500 Black Paint at 88.5°C.

(4/6)

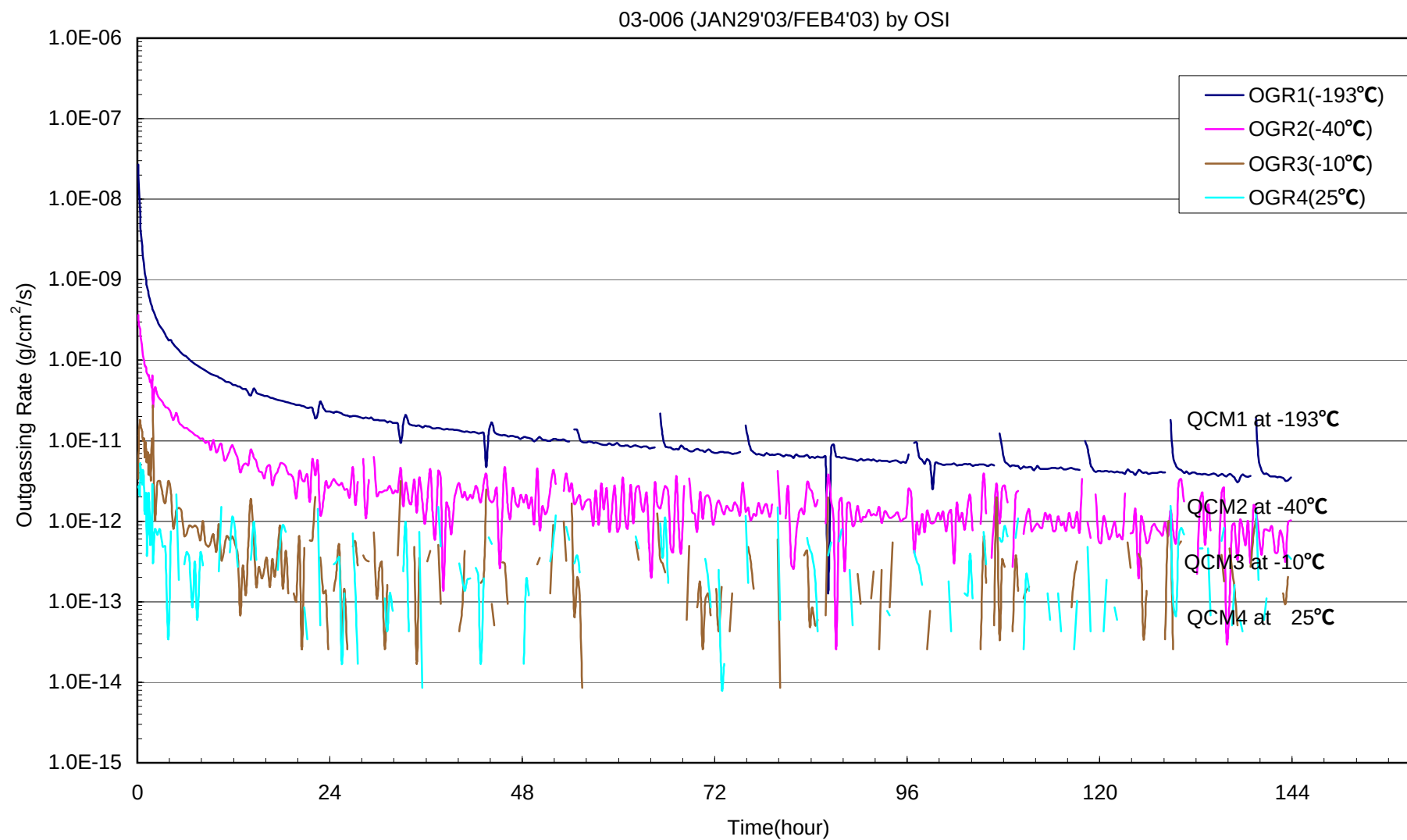


Fig.2 Outgassing Rate from Sample as a Function of Time during the Isothermal Outgassing Test on NOVA #500 Black Paint at 88.5°C.

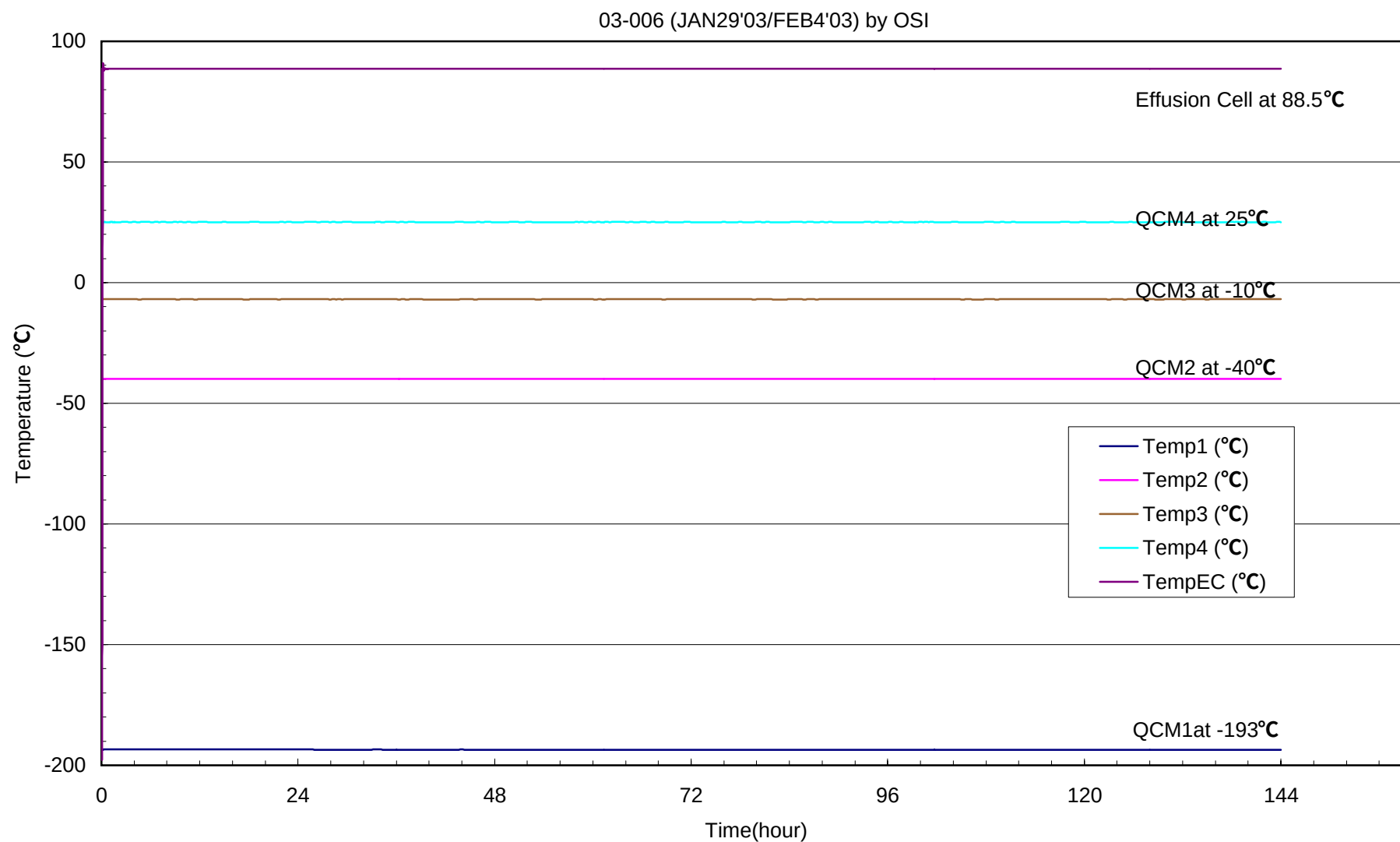


Fig.3 Temperature Fluctuation as a Function of Time during the Isothermal Outgassing Test on NOVA #500 Black Paint at 88.5°C.

03-006 (JAN29'03/FEB4'03) by OSI

(6/6)

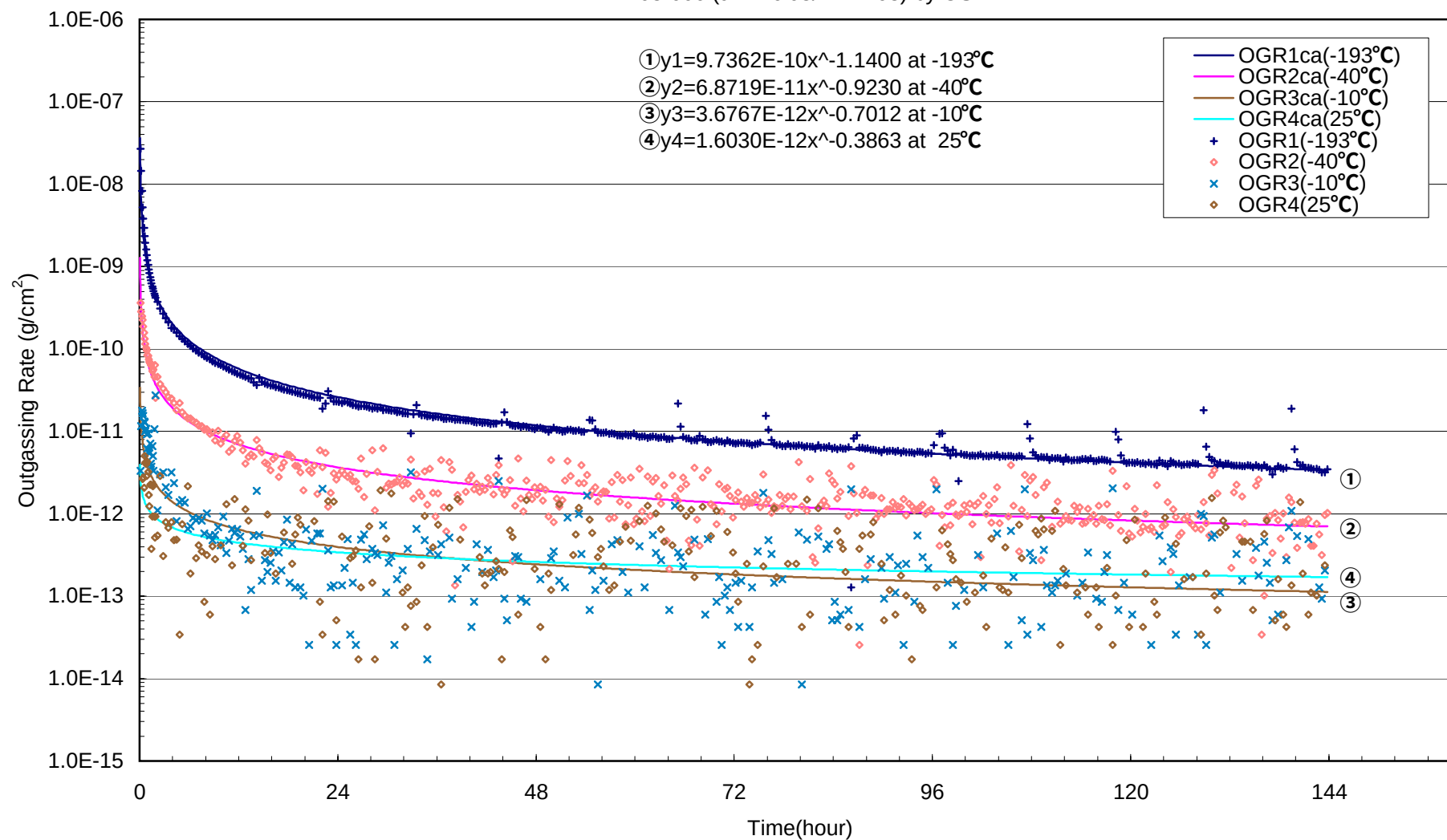


Fig.4 Outgassing Rate from Sample as a Function of Time during the Isothermal Outgassing Test on NOVA #500 Black Paint at 88.5°C (with Fitting Curves).