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**Report for the Monitoring of the Odour Control Unit at Bryn Pica****Installation Name & Address:**

Biogen Bryn Pica  
Merthyr Road  
Llwycoed  
Aberdare  
CF44 0BX

**Site Permit Number:**

EPR/SP3537VQ

**Stack Reference:**

A5, Carbon Filter Outlet

**Dates of Monitoring Campaign:**

30<sup>th</sup> August 2023

**Report Written by:**

David Littlewood  
Technical Compliance Manager  
MCerts Level 2  
MM06 772  
TE1 TE2 TE3 TE4

**Report Date:**

11<sup>th</sup> September 2023

**Version:**

Version 1

**Signature of Report Writer:**

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Appendix 1 – Monitoring Personnel and Equipment List

Appendix 2 – Laboratory Results

**Overall Aim of the Monitoring Campaign:**

The aim of the monitoring was to assess the effectiveness of the carbon filter odour control plant at Bryn Pica.

**Special Requirements:** There were no special requirements.

**Target Parameters:** Odour

**MONITORING RESULTS**

| Concentration      |                    |        |
|--------------------|--------------------|--------|
| Parameter          | Units              | Result |
| Odour <sup>1</sup> | ouE/m <sup>3</sup> | 273    |

<sup>1</sup> Reference Conditions (REF) are: 293K, 101.3kPa, without correction for water vapour content

**MONITORING DATE(S) & TIMES**

| Parameter      |    | Units              | Concentration | Sampling Date(s) | Sampling Times | Duration (mins) |
|----------------|----|--------------------|---------------|------------------|----------------|-----------------|
| Odour Sample 1 | B4 | ouE/m <sup>3</sup> | 304           | 30/08/2023       | 11:55-11:57    | 2               |
| Odour Sample 2 | B5 | ouE/m <sup>3</sup> | 245           | 30/08/2023       | 11:59-12:01    | 2               |
| Odour Sample 3 | B6 | ouE/m <sup>3</sup> | 271           | 30/08/2023       | 12:03-12:05    | 2               |

All results are expressed at the respective reference conditions.

**PROCESS DETAILS**

Standard Operating Conditions

| Parameter                          | Value                             |
|------------------------------------|-----------------------------------|
| Process Status                     | Normal Operations                 |
| Capacity (of 100%) and Tonnes/Hour | n/a                               |
| Continuous or Batch Process        | Continuous                        |
| Feedstock (if applicable)          | Extract from Waste Reception Hall |
| Abatement System                   | Post Carbon Filter                |
| Abatement System Running Status    | Normal                            |
| Fuel                               | n/a                               |
| Plume Appearance                   | None Visible                      |

**MONITORING & ANALYTICAL METHODS**

| Parameter | Monitoring    | Analysis             |                 |              |
|-----------|---------------|----------------------|-----------------|--------------|
|           | Standard Used | Analytical Technique | Analysis Status | Analysis Lab |
| Odour     | BS EN 13725   | Olfactometry         | UKAS            | ASE          |

**ANALYSIS LABORATORY**

(with short name reference as appears in the table above)

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Air Spectrum Environmental Ltd (ASE) | ISO 17025 Accreditation Number: 8283 |
|--------------------------------------|--------------------------------------|

**SUMMARY OF SAMPLING DEVIATIONS**

| Parameter | Run | Deviation                                             |
|-----------|-----|-------------------------------------------------------|
| All       | All | There are no deviations associated with the sampling. |

**SAMPLE LOCATION****Duct Characteristics**

| Parameter           | Units          | Value      |
|---------------------|----------------|------------|
| Type                | -              | Square     |
| Depth               | m              | 0.8        |
| Width               | m              | 0.8        |
| Area                | m <sup>2</sup> | 0.64       |
| Port Depth          | cm             | 0          |
| Orientation of Duct | -              | Vertical   |
| Number of Ports     | -              | 2          |
| Sample Port Size    | -              | 10mm holes |

**Location of Sampling Platform**

| Parameter                    | Value        |
|------------------------------|--------------|
| Permanent/Temporary Platform | Ground Level |
| Inside/Outside               | Inside       |

**Platform Details**

| EA Technical Guidance Note M1 / EN 15259 Platform Requirements                    | Value |
|-----------------------------------------------------------------------------------|-------|
| Sufficient working area to manipulate probe and operate the measuring instruments | Yes   |
| Platform has 2 levels of handrails (approx. 0.5m & 1.0m high)                     | n/a   |
| Platform has vertical base boards (approx. 0.25m high)                            | n/a   |
| Platform has chains / self closing gates at top of ladders                        | n/a   |
| There are no obstructions present which hamper insertion of sampling equipment    | Yes   |
| Safe Access Available                                                             | Yes   |
| Easy Access Available                                                             | Yes   |

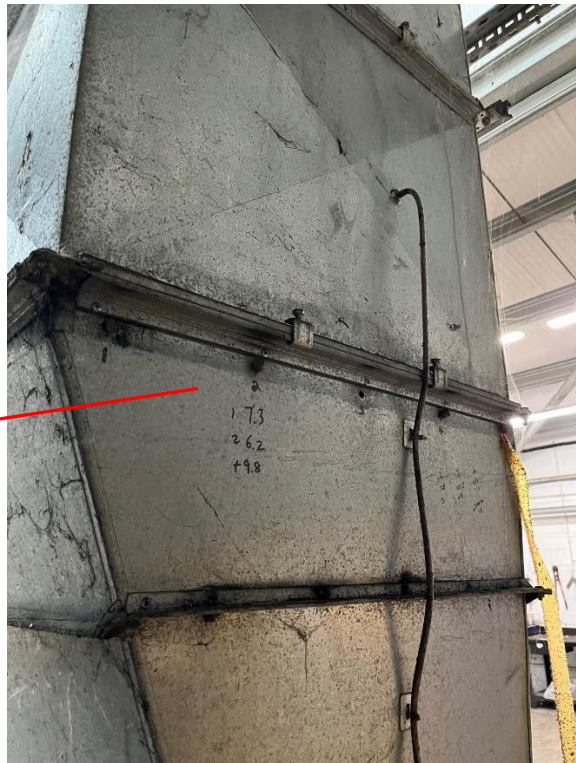
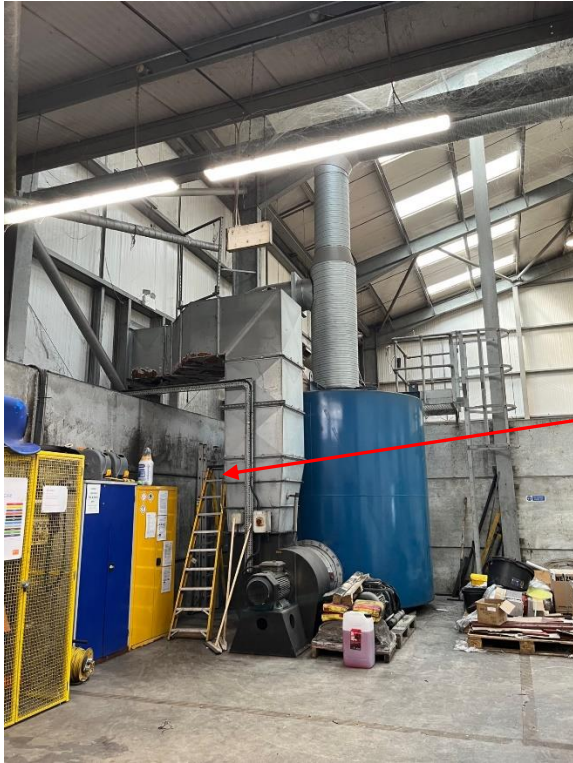
**Sampling Location / Platform Improvement Recommendations**

The sampling location is suitable for monitoring, and therefore there are no improvement recommendations.

**EN 15259 Homogeneity Test Requirements**

There is no requirement to perform an EN 15259 Homogeneity Test on this Stack.

## PLANT PHOTOGRAPHS & SAMPLING POINT



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**APPENDIX 1****STACK EMISSION MONITORING PERSONNEL**

| Position                     | Name             | MCerts Accreditation | Mcerts Number | Technical Endorsements |
|------------------------------|------------------|----------------------|---------------|------------------------|
| Technical Compliance Manager | David Littlewood | MCerts Level II      | MM06 772      | TE1 TE2 TE3 TE4        |

**EQUIPMENT LIST**

| Item Description           | Model No.            | Serial No.  | Calibration Due |
|----------------------------|----------------------|-------------|-----------------|
| Sampling Pump              | 220-4000             | 235210      | 20/03/2024      |
| Digital Manometer Reader   | Kimo MP210           | 1D230500693 | 09/05/2024      |
| Digital Mano Pressure Unit | MPR500               | 1D221203833 | 09/05/2024      |
| Site Balance               | NVV2002              | 8343354354  | 20/05/2024      |
| Digital Barometer          | 14-650-118, 15557603 | 230309530   | 03/05/2025      |

## APPENDIX 2

### LABORATORY RESULTS



#### Olfactometry Report

Report ID 25402 - 31 -08-23  
Issue Number 1  
Issue Date 08/09/2023



Odour Lab  
Air Spectrum Environmental Limited  
Spectrum House  
Worcester WR3 7JW

#### Customer Information

Accredited to  
ISO/IEC 17025:2017

Customer Name Biogen UK Limited  
Address Milton Parc, Milton Ernest  
Bedfordshire  
MK44 1YU  
Customer PO BTLPBRY002006  
Customer Reference BRY

#### Laboratory Information

Laboratory operator Shaun Duffy  
Laboratory Address Spectrum House  
Checketts Lane Industrial Estate  
Checketts Lane  
Worcester WR3 7JW  
Laboratory Description Climate controlled room  
Environmental Conditions Lab Temperature (start) 22.4 C must be < 25.0 C  
Lab Temperature (end) 22.4 C must be within +3C of start  
Lab Humidity 36.4%  
Oxygen 20.90  
Average CO<sub>2</sub> 715ppm must be < 1500ppm  
Storage Temperature Acceptable? Yes

#### Equipment Information

Olfactometer IDES 55600  
Serial Number 55101301  
Number of Panelists 4  
Note Pre-dilutor serial number SN-101255EXN

#### Laboratory Compliance

Laboratory Accuracy, A<sub>od</sub> 0.040 Criteria is ≤ 0.217  
Laboratory Repeatability, r 0.049 Criteria is ≤ 0.477

#### Analysis Information

Standard EN 13725:2003  
Methodology Forced choice method  
Reference odorant N-Butanol 54.1 ppm

#### Certifications

ISO/IEC17025:2017 General requirements of the competence of testing and calibration laboratories  
EN 13725:2003 Olfactometry odour threshold determination using dynamic dilution and forced choice method  
ISO9001:2015 Quality Management Systems  
ISO14001:2015 Environmental Management Systems

#### Report Approval

Report Completed By S. Duffy

Report Approved By A. Wyrne



## Olfactometry Report

Report ID 25402 - 31 08 23  
Issue Number 1  
Issue Date 08/09/2023

### RESULTS

| Result Filename | Sample ID         | Sample Description | Sample Accepted/<br>In time? | Bag fill date &<br>time | Analysis date &<br>time | ΔT (hours) | ou <sub>e</sub> /m <sup>3</sup> | Bag OK |
|-----------------|-------------------|--------------------|------------------------------|-------------------------|-------------------------|------------|---------------------------------|--------|
| B31082306.csv   | 230823-050 - (06) | CARBON OUTLET 3    | Yes PASS                     | 30/08/2023 11:59        | 31/08/2023 09:15        | 21         | 271                             | Yes    |
| B31082305.csv   | 230823-049 - (05) | CARBON OUTLET 2    | Yes PASS                     | 30/08/2023 11:59        | 31/08/2023 08:58        | 21         | 245                             | Yes    |
| B31082304.csv   | 230823-030 - (04) | CARBON OUTLET 1    | Yes PASS                     | 30/08/2023 11:55        | 31/08/2023 08:45        | 21         | 304                             | Yes    |
| B31082315.csv   | 230823-008 - (03) | WRH INLET 3        | Yes PASS                     | 30/08/2023 11:43        | 31/08/2023 10:56        | 23         | 15,329                          | Yes    |
| B31082314.csv   | 230823-007 - (02) | WRH INLET 2        | Yes PASS                     | 30/08/2023 11:40        | 31/08/2023 10:35        | 23         | 15,061                          | Yes    |
| B31082311.csv   | 230823-047 - (01) | WRH INLET 1        | Yes PASS                     | 30/08/2023 11:37        | 31/08/2023 10:10        | 23         | 26,101                          | Yes    |

### Notes

Panelist acuity within acceptable limits

Where the laboratory did not perform the sampling, analysis results apply to samples "as received"

Analysis method carried out in accordance BS EN 13725. Standard uncertainties apply

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When the samples are not collected by ASE, sample dates and times are provided by the customer

The sample transport temperature was recorded to be: < 25 degrees - complies to standard > 25 degrees - not compliant to standard

A laboratory pre-dilution factor of 10.4 has been applied to test results highlighted in yellow. No customer dilution factors have been applied to any results

Sample Fail reason 1 = Sample to Analysis time > 30 hours 4 = reasons 1 + 3  
Refer to code 2 = Sample time not given by Customer 5 = reasons 2 + 3  
next to FAIL 3 = Bag contaminated when received