

Permit Number: EA/EPR/BK36381F/V002

Operator:

Hydro Aluminium Deeside

Facility:

Wrexham Aluminium Works

Form Number:

Air1b



# Reporting of emissions to air for the period from 01/07/13 to 31/12/13

| Emission Point | Substance / Parameter      | Emission Limit Value  | Reference Period | Result                                                      | Test Method  | Sample Date and Times   | Uncertainty            |
|----------------|----------------------------|-----------------------|------------------|-------------------------------------------------------------|--------------|-------------------------|------------------------|
| A1             | Particulates               | -                     | -                | (annual sampling for calibration of CEM completed 25/06/13) | -            | -                       | -                      |
| A1             | Sulphur Dioxide            | 25 mg/m <sup>3</sup>  | 2 hour average   | 7.5 mg/m <sup>3</sup>                                       | BS EN 14791  | 06/12/13, 12:51 – 13:51 | 1.0 mg/m <sup>3</sup>  |
| A1             | Volatile Organic Compounds | 20 mg/m <sup>3</sup>  | Hourly average   | 1.9 mg/m <sup>3</sup>                                       | BS EN 13526  | 05/12/13, 09:50 – 13:50 | 1.3 mg/m <sup>3</sup>  |
| A1             | Gaseous Fluorides (as HF)  | 1 mg/m <sup>3</sup>   | 4 hour average   | 0.05 mg/m <sup>3</sup>                                      | BS ISO 15713 | 04/12/13, 12:45 – 14:45 | 0.01 mg/m <sup>3</sup> |
| A1             | Hydrogen Chloride          | 10 mg/m <sup>3</sup>  | Hourly average   | 0.57 mg/m <sup>3</sup>                                      | BS EN 1911   | 06/12/13, 10:00 – 12:00 | 0.08 mg/m <sup>3</sup> |
| A1             | Dioxins                    | 0.1 ng/m <sup>3</sup> | 4 hour average   | 0.02 ng/m <sup>3</sup>                                      | BS EN 1948   | 05/12/13, 13:25 – 17:25 | 0.01 ng/m <sup>3</sup> |
| A1             | Carbon Monoxide            | 100 mg/m <sup>3</sup> | Hourly average   | 14.0 mg/m <sup>3</sup>                                      | BS EN 15058  | 05/12/13, 09:50 – 13:50 | 2.0 mg/m <sup>3</sup>  |
| A1             | Oxides of Nitrogen         | 60 mg/m <sup>3</sup>  | Hourly average   | 4.1 mg/m <sup>3</sup>                                       | BS EN 14792  | 05/12/13, 09:50 – 13:50 | 4.1 mg/m <sup>3</sup>  |

Signed ...Joel Priest .....  
(Authorised to sign as representative of Operator)

Date.....10/01/14.....

Results have been corrected as per condition 3.1.4

MONITORING RETURNS N. WAL-3

CHECKED & AUTHORISATION

TPM/CJMB

ON FOR PUBLIC RELEASE

INITIALS DATE

SL 27.1.14

JB 27.1.14

GR 27.1.14

JB ED02m

Permit Number: EA/EPR/BK36381F/V002

Operator:

Hydro Aluminium Deeside

Facility:

Wrexham Aluminium Works

Form Number:

Air1c

## Reporting of emissions to air for the period from 01/07/13 to 31/12/13

| Emission Point | Substance / Parameter      | Emission Limit Value  | Reference Period | Result                                                      | Test Method  | Sample Date and Times   | Uncertainty            |
|----------------|----------------------------|-----------------------|------------------|-------------------------------------------------------------|--------------|-------------------------|------------------------|
| A12            | Particulates               | -                     | -                | (annual sampling for calibration of CEM completed 25/06/13) | -            | -                       | -                      |
| A12            | Sulphur Dioxide            | 25 mg/m <sup>3</sup>  | 2 hour average   | 4.31 mg/m <sup>3</sup>                                      | BS EN 14791  | 06/12/13, 14:10 – 15:10 | 0.59 mg/m <sup>3</sup> |
| A12            | Volatile Organic Compounds | 20 mg/m <sup>3</sup>  | Hourly average   | 10.5 mg/m <sup>3</sup>                                      | BS EN 13526  | 05/12/13, 18:00 – 22:00 | 1.5 mg/m <sup>3</sup>  |
| A12            | Gaseous Fluorides (as HF)  | 1 mg/m <sup>3</sup>   | 4 hour average   | 0.10 mg/m <sup>3</sup>                                      | BS ISO 15713 | 09/12/13, 10:45 – 12:45 | 0.01 mg/m <sup>3</sup> |
| A12            | Hydrogen Chloride          | 10 mg/m <sup>3</sup>  | Hourly average   | 0.88 mg/m <sup>3</sup>                                      | BS EN 1911   | 09/12/13, 08:30 – 10:30 | 0.12 mg/m <sup>3</sup> |
| A12            | Dioxins                    | 0.1 ng/m <sup>3</sup> | 4 hour average   | 0.07 ng/m <sup>3</sup>                                      | BS EN 1948   | 06/12/13, 12:51 – 16:51 | 0.02 ng/m <sup>3</sup> |
| A12            | Carbon Monoxide            | 100 mg/m <sup>3</sup> | Hourly average   | 51.0 mg/m <sup>3</sup>                                      | BS EN 15058  | 05/12/13, 18:00 – 22:00 | 20.0 mg/m <sup>3</sup> |
| A12            | Oxides of Nitrogen         | 60 mg/m <sup>3</sup>  | Hourly average   | 14.8 mg/m <sup>3</sup>                                      | BS EN 14792  | 05/12/13, 18:00 – 22:00 | 4.2 mg/m <sup>3</sup>  |

Signed ...Joel Priest.....  
(Authorised to sign as representative of Operator)

Date.....10/01/14.....

Results have been corrected as per condition 3.1.4

Permit Number: EA/EPR/BK36381F/V002

Operator:

Hydro Aluminium Deeside

Facility:

Wrexham Aluminium Works

Form Number:

Air1d

**Reporting of emissions to air for the year .....2013.....**

| Emission       |                       |                      |                  |                                                                                                                          |             |                         |                        |
|----------------|-----------------------|----------------------|------------------|--------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|------------------------|
| Emission Point | Substance / Parameter | Limit Value          | Reference Period | Result                                                                                                                   | Test Method | Sample Date and Times   | Uncertainty            |
| A13            | Particulates          | -                    | 4 hour average   | 0.13 mg/m <sup>3</sup><br>(actual result given – result minus uncertainty is -0.06 mg/m <sup>3</sup> ) mg/m <sup>3</sup> | BS EN 13284 | 27/07/13, 10:05 – 14:43 | 0.19 mg/m <sup>3</sup> |
| A13            | Carbon monoxide       | 150mg/m <sup>3</sup> | Hourly average   | 3.3 mg/m <sup>3</sup>                                                                                                    | BS EN 15056 | 27/07/13, 10:40 – 14:40 | 2.1 mg/m <sup>3</sup>  |
| A13            | Oxides of nitrogen    | 60mg/m <sup>3</sup>  | Hourly average   | 19.2 mg/m <sup>3</sup>                                                                                                   | BS EN 14792 | 27/07/13, 10:40 – 14:40 | 1.8 mg/m <sup>3</sup>  |

Signed ...Joel Priest.....  
(Authorised to sign as representative of Operator)

Date.....24/07/13.....

Results have been corrected as per condition 3.1.4

