

TEST REPORT

Name and address of the Customer: M/s Utkal Alumina International Ltd,
Tikiri, Rayagada

Customer's reference: 71101388 Dtd-04.08.2016

Stack Monitoring Results Period: Oct'16 - Mar'17 (Monthly Average Values)

1. CALCINER - A

| Parameter | Prescribed Standard | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | 6 Months Average |
|---------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|------------------|
| Temperature °C | | 153.5 | 155.5 | 165.8 | 164.5 | 166.0 | 164.3 | 161.6 |
| Velocity m/sec | | 7.6 | 7.7 | 7.9 | 8.4 | 8.6 | 8.6 | 8.1 |
| Particulate Matter mg/Nm ³ | 50 | 23.5 | 23.7 | 24.2 | 26.2 | 27.3 | 28.2 | 25.5 |
| SO ₂ (mg/Nm ³) | | 169.5 | 172.3 | 176.3 | 172.8 | 177.0 | 174.3 | 173.7 |
| NOx (mg/Nm ³) | | 54.3 | 56.3 | 61.0 | 68.8 | 71.5 | 68.8 | 63.4 |

2. CALCINER -B

| Parameter | Prescribed Standard | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | 6 Months Average |
|---------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|------------------|
| Temperature °C | | 160.3 | 158.5 | 162.8 | 166.0 | 166.8 | 164.5 | 163.1 |
| Velocity m/sec | | 7.4 | 7.2 | 7.4 | 7.9 | 7.7 | 8.0 | 7.6 |
| Particulate Matter mg/Nm ³ | 50 | 22.3 | 20.3 | 21.3 | 23.3 | 22.5 | 23.5 | 22.2 |
| SO ₂ (mg/Nm ³) | | 151.3 | 154.5 | 157.8 | 160.8 | 163.5 | 161.0 | 158.1 |
| NOx (mg/Nm ³) | | 50.0 | 52.0 | 54.8 | 57.5 | 56.8 | 54.3 | 54.2 |

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3. CPP Unit-1 of Power Plant

| Parameter | Prescribed Standard | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | 6 Months Average |
|---------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|------------------|
| Temperature °C | | 130.5 | 133.7 | 121.0 | 122.0 | 121.0 | 135.3 | 127.3 |
| Velocity m/sec | | 12.2 | 13.1 | 12.3 | 13.2 | 13.8 | 15.2 | 13.3 |
| Particulate Matter mg/Nm ³ | 50 | 36.5 | 38.0 | 35.0 | 39.3 | 31.8 | 32.7 | 35.5 |
| SO ₂ (mg/Nm ³) | 600 | 250.0 | 257.0 | 250.7 | 258.7 | 262.8 | 278.3 | 259.6 |
| NOx (mg/Nm ³) | 300 | 61.3 | 64.7 | 60.0 | 64.0 | 61.3 | 85.0 | 66.0 |

4. CPP Unit-2 of Power Plant

| Parameter | Prescribed Standard | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | 6 Months Average |
|---------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|------------------|
| Temperature °C | | 126.0 | 122.3 | 124.0 | 123.7 | 125.0 | 129.0 | 125.0 |
| Velocity m/sec | | 11.8 | 10.8 | 11.5 | 12.7 | 13.8 | 14.7 | 12.5 |
| Particulate Matter mg/Nm ³ | 50 | 34.3 | 32.7 | 34.7 | 39.0 | 34.0 | 36.0 | 35.1 |
| SO ₂ (mg/Nm ³) | 600 | 220.0 | 217.0 | 219.0 | 228.3 | 240.0 | 276.0 | 233.4 |
| NOx (mg/Nm ³) | 300 | 55.0 | 54.3 | 57.3 | 62.0 | 63.5 | 85.0 | 62.9 |



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5. CPP Unit-3 of Power Plant

| Parameter | Prescribed Standard | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | 6 Months Average |
|---------------------------------------|---------------------|-----------------------|--------|--------|--------|--------|--------|------------------|
| Temperature °C | | under shut down | 129.0 | 125.5 | 128.0 | 129.0 | 133.7 | 129.0 |
| Velocity m/sec | | | 12.8 | 12.5 | 13.2 | 15.2 | 16.2 | 14.0 |
| Particulate Matter mg/Nm ³ | 50 | | 39.5 | 37.5 | 43.0 | 36.5 | 40.0 | 39.3 |
| SO ₂ (mg/Nm ³) | 600 | | 255.5 | 251.5 | 259.5 | 264.0 | 279.3 | 262.0 |
| NO _x (mg/Nm ³) | 300 | | 65.0 | 61.5 | 65.5 | 68.5 | 86.0 | 69.3 |

Note : No deviation is observed and all the values are with in the standard prescribed under EC & CTO.

Diambars Asutcha

Authorized Signatory

Kalyani Laboratories Private Limited

