# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1178250215

| | | |
|---|---|---|
| Report No.: | ME-1178250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003311F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTAN INDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Stack Emission | Sampling Done by | Laboratory |
| Sampling Location | Boiler Unit No. 1 | Sample Quantity / Packing | Thimble: 1 X 1 No.<br>$SO_2$:30 mL X 1 No. PVC Bottle<br>$NO_X$:25 mL X 1 No. PVC Bottle<br>CO: 1L X 1 No. Gas Bladder |
| Date of Sampling | 14.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 20.02.2025 |

| **Stack Details** | |
|---|---|
| Stack Identity | Boiler Unit No. 1 |
| Stack attached to | ESP of Boiler Unit No. 1 |
| Material of construction | M.S. |
| Stack height above ground level (Meter) | 275 |
| Stack diameter (Meter) | 4.6 |
| Stack shape at top | Round |
| Type of fuel | Coal |
| Fuel Consumption (t/h) | 173 |
| Load at the time of monitoring (MW) | 253 |
| Time of Monitoring (h) | - |

| Sr. No. | Parameter | Unit | Result | #Limit | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)** | | | | |
| 1 | Flue gas Temperature | $^0C$ | 124 | - | IS 11255 (Part 3):2008 |
| 2 | Flue gas Velocity | m/s | 28.9 | - | IS 11255 (Part 3):2008 |
| 3 | Flue gas Flow Rate | $Nm^3/h$ | 1207658 | - | IS 11255 (Part 3):2008 |
| 4 | Particulate Matter (PM) | $mg/Nm^3$ | 33 | 50 | IS 11255 (Part 1):1985 |
| 5 | Sulphur Dioxide ($SO_2$) | $mg/Nm^3$ | 572 | 600 | IS 11255 (Part 2):1985 |
| 6 | Oxides of Nitrogen ($NO_X$) | $mg/Nm^3$ | 305 | 450 | IS 11255 (Part 7): 2005 |
| 7 | Carbon Monoxide (CO) | $mg/Nm^3$ | 9.5 | - | IS 5182 (Part 10): 1999 (NDIR method) |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing

TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1178250215

| | | |
|---|---|---|
| Report No.: | ME-1178250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003311F | |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit
2. LOQ: Limit of Quantification
3. #: Limit as per MPCB Consent
4. The result listed refers only to the tested sample(s) and applicable parameter(s).
5. This report is not to be reproduced except in full, without the written approval of the laboratory.
6. Any complaint pertaining to the report can be addressed to mahabalreports@gmail.com

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing

MEEPL

MAHABAL ENVIRO ENGINEERS PVT. LTD. Laboratory Division

TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1179250215

| | | |
|---|---|---|
| Report No.: | ME-1179250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003312F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTAN INDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Stack Emission | Sampling Done by | Laboratory |
| Sampling Location | Boiler Unit No. 2 | Sample Quantity / Packing | Thimble: 1 X 1 No.<br>$SO_2$:30 mL X 1 No. PVC Bottle<br>$NO_X$:25 mL X 1 No. PVC Bottle<br>CO: 1L X 1 No. Gas Bladder |
| Date of Sampling | 14.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 20.02.2025 |

| **Stack Details** | |
|---|---|
| Stack Identity | Boiler Unit No. 2 |
| Stack attached to | ESP of Boiler Unit No. 2 |
| Material of construction | M.S. |
| Stack height above ground level (Meter) | 275 |
| Stack diameter (Meter) | 4.6 |
| Stack shape at top | Round |
| Type of fuel | Coal |
| Fuel Consumption (t/h) | 171 |
| Load at the time of monitoring (MW) | 250 |
| Time of Monitoring (h) | - |

| Sr. No. | Parameter | Unit | Result | #Limit | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)** | | | | |
| 1 | Flue gas Temperature | $^0C$ | 129 | - | IS 11255 (Part 3):2008 |
| 2 | Flue gas Velocity | m/s | 28.8 | - | IS 11255 (Part 3):2008 |
| 3 | Flue gas Flow Rate | $Nm^3/h$ | 1188568 | - | IS 11255 (Part 3):2008 |
| 4 | Particulate Matter (PM) | $mg/Nm^3$ | 35 | 50 | IS 11255 (Part 1):1985 |
| 5 | Sulphur Dioxide ($SO_2$) | $mg/Nm^3$ | 572 | 600 | IS 11255 (Part 2):1985 |
| 6 | Oxides of Nitrogen ($NO_X$) | $mg/Nm^3$ | 294 | 450 | IS 11255 (Part 7): 2005 |
| 7 | Carbon Monoxide (CO) | $mg/Nm^3$ | 8.5 | - | IS 5182 (Part 10): 1999 (NDIR method) |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1179250215

| | | |
|---|---|---|
| Report No.: | ME-1179250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003312F | |

**END OF REPORT**

**Note:**
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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1180250215

| | | |
|---|---|---|
| Report No.: | ME-1180250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003313F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTAN INDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Stack Emission | Sampling Done by | Laboratory |
| Sampling Location | Boiler Unit No. 4 | Sample Quantity / Packing | Thimble: 1 X 1 No.<br>$SO_2$:30 mL X 1 No. PVC Bottle<br>$NO_X$:25 mL X 1 No. PVC Bottle<br>CO: 1L X 1 No. Gas Bladder |
| Date of Sampling | 14.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 20.02.2025 |

| **Stack Details** | |
|---|---|
| Stack Identity | Boiler Unit No. 4 |
| Stack attached to | ESP of Boiler Unit No. 4 |
| Material of construction | M.S. |
| Stack height above ground level (Meter) | 275 |
| Stack diameter (Meter) | 4.6 |
| Stack shape at top | Round |
| Type of fuel | Coal |
| Fuel Consumption (t/h) | 126 |
| Load at the time of monitoring (MW) | 149 |
| Time of Monitoring (h) | - |

| Sr. No. | Parameter | Unit | Result | #Limit | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)** | | | | |
| 1 | Flue gas Temperature | $^0C$ | 125 | - | IS 11255 (Part 3):2008 |
| 2 | Flue gas Velocity | m/s | 28.5 | - | IS 11255 (Part 3):2008 |
| 3 | Flue gas Flow Rate | $Nm^3/h$ | 1068294 | - | IS 11255 (Part 3):2008 |
| 4 | Particulate Matter (PM) | $mg/Nm^3$ | 33 | 50 | IS 11255 (Part 1):1985 |
| 5 | Sulphur Dioxide ($SO_2$) | $mg/Nm^3$ | 471 | 600 | IS 11255 (Part 2):1985 |
| 6 | Oxides of Nitrogen ($NO_X$) | $mg/Nm^3$ | 319 | 450 | IS 11255 (Part 7): 2005 |
| 7 | Carbon Monoxide (CO) | $mg/Nm^3$ | 7.5 | - | IS 5182 (Part 10): 1999 (NDIR method) |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



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## TEST REPORT

SA-1180250215

| | | |
|---|---|---|
| Report No.: | ME-1180250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003313F | |

**END OF REPORT**

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TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SA-1181250215

| | | |
|---|---|---|
| Report No.: | ME-1181250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003314F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTAN INDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Stack Emission | Sampling Done by | Laboratory |
| Sampling Location | Boiler Unit No. 5 | Sample Quantity / Packing | Thimble: 1 X 1 No.<br>$SO_2$:30 mL X 1 No. PVC Bottle<br>$NO_X$:25 mL X 1 No. PVC Bottle<br>CO: 1L X 1 No. Gas Bladder |
| Date of Sampling | 14.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 20.02.2025 |

| **Stack Details** | |
|---|---|
| Stack Identity | Boiler Unit No. 5 |
| Stack attached to | ESP of Boiler Unit No. 5 |
| Material of construction | M.S. |
| Stack height above ground level (Meter) | 275 |
| Stack diameter (Meter) | 4.6 |
| Stack shape at top | Round |
| Type of fuel | Coal |
| Fuel Consumption (t/h) | 145 |
| Load at the time of monitoring (MW) | 269 |
| Time of Monitoring (h) | - |

| Sr. No. | Parameter | Unit | Result | #Limit | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)** | | | | |
| 1 | Flue gas Temperature | $^0C$ | 131 | - | IS 11255 (Part 3):2008 |
| 2 | Flue gas Velocity | m/s | 29.4 | - | IS 11255 (Part 3):2008 |
| 3 | Flue gas Flow Rate | $Nm^3/h$ | 1207274 | - | IS 11255 (Part 3):2008 |
| 4 | Particulate Matter (PM) | $mg/Nm^3$ | 31 | 50 | IS 11255 (Part 1):1985 |
| 5 | Sulphur Dioxide ($SO_2$) | $mg/Nm^3$ | 483 | 600 | IS 11255 (Part 2):1985 |
| 6 | Oxides of Nitrogen ($NO_X$) | $mg/Nm^3$ | 310 | 450 | IS 11255 (Part 7): 2005 |
| 7 | Carbon Monoxide (CO) | $mg/Nm^3$ | 6.9 | - | IS 5182 (Part 10): 1999 (NDIR method) |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



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## TEST REPORT

SA-1181250215

| | | |
|---|---|---|
| Report No.: | ME-1181250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003314F | |

**END OF REPORT**

**Note:**
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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1174250215

| | | |
|---|---|---|
| Report No.: | ME-1174250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003307F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ambient Air | Sampling Done by | Laboratory |
| Sampling Location | Village Kapustalni | Sample Quantity / Packing | $PM_{10}$, B(a), Ni, As, Pb: Filter Paper 1 X 3 No.<br>$PM_{2.5}$: Filter Paper 1 X 1 No.<br>$SO_2$:30 mL X 6 No. PVC Bottle<br>$NO_2$:30 mL X 6 No. PVC Bottle<br>$NH_3$:10 mL X 24 No. PVC Bottle<br>$O_3$:10 mL X 24 No. PVC Bottle<br>Charcoal Tubes: 1 X 6 No.<br>CO:2L X 3No. Gas Bladder |
| Date of Sampling | 14.02.2025 to 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)** | | | | |
| 1 | Sulphur Dioxide ($SO_2$) | µg/m³ | 15.3 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6 |
| 2 | Nitrogen Dioxide ($NO_2$) | µg/m³ | 17.4 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10 |
| 3 | Particulate Matter (size less than 10µm) or $PM_{10}$ | µg/m³ | 61 | 100 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14 |
| 4 | Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ | µg/m³ | 22 | 60 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30 |
| 5 | Ozone ($O_3$) | µg/m³ | BQL (LOQ:19.6) | 180 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34 |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1174250215

| | | |
|---|---|---|
| Report No.: | ME-1174250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003307F | |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| 6 | Lead (as Pb) | µg/m³ | BQL (LOQ:0.02) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 7 | Carbon Monoxide (CO) | mg/m³ | 0.65 | 04 | CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method) |
| 8 | Ammonia ($NH_3$) | µg/m³ | BQL (LOQ:20) | 400 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39 |
| 9 | Benzene ($C_6H_6$) | µg/m³ | BQL (LOQ:1) | 05 | IS 5182 (Part 11): 2006 |
| 10 | Benzo(a)Pyrene (Particulate phase only) | ng/m³ | BQL (LOQ:0.5) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47 |
| 11 | Arsenic (as As) | ng/m³ | BQL (LOQ:0.3) | 06 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 12 | Nickel (as Ni) | ng/m³ | 4.18 | 20 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. TWA: Time Weighted Average
4. Duration of Sampling: 24 h
5. NAAQS: National Ambient Air Quality Standard
6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, $PM_{10}$, $PM_{2.5}$, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
7. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1175250215

| | | |
|---|---|---|
| Report No.: | ME-1175250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003308F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ambient Air | Sampling Done by | Laboratory |
| Sampling Location | Village Dawargaon | Sample Quantity / Packing | $PM_{10}$, B(a), Ni, As, Pb: Filter Paper 1 X 3 No.<br>$PM_{2.5}$: Filter Paper 1 X 1 No.<br>$SO_2$:30 mL X 6 No. PVC Bottle<br>$NO_2$:30 mL X 6 No. PVC Bottle<br>$NH_3$:10 mL X 24 No. PVC Bottle<br>$O_3$:10 mL X 24 No. PVC Bottle<br>Charcoal Tubes: 1 X 6 No.<br>CO:2L X 3No. Gas Bladder |
| Date of Sampling | 14.02.2025 to 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)** | | | | |
| 1 | Sulphur Dioxide ($SO_2$) | µg/m³ | 8.7 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6 |
| 2 | Nitrogen Dioxide ($NO_2$) | µg/m³ | 12.3 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10 |
| 3 | Particulate Matter (size less than 10µm) or $PM_{10}$ | µg/m³ | 46 | 100 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14 |
| 4 | Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ | µg/m³ | 19 | 60 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30 |
| 5 | Ozone ($O_3$) | µg/m³ | 19.9 | 180 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34 |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1175250215

| | | |
|---|---|---|
| Report No.: | ME-1175250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003308F | |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| 6 | Lead (as Pb) | µg/m³ | BQL (LOQ:0.02) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 7 | Carbon Monoxide (CO) | mg/m³ | 0.81 | 04 | CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method) |
| 8 | Ammonia ($NH_3$) | µg/m³ | 23.6 | 400 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39 |
| 9 | Benzene ($C_6H_6$) | µg/m³ | BQL (LOQ:1) | 05 | IS 5182 (Part 11): 2006 |
| 10 | Benzo(a)Pyrene (Particulate phase only) | ng/m³ | BQL (LOQ:0.5) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47 |
| 11 | Arsenic (as As) | ng/m³ | BQL (LOQ:0.3) | 06 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 12 | Nickel (as Ni) | ng/m³ | BQL (LOQ:3) | 20 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. TWA: Time Weighted Average
4. Duration of Sampling: 24 h
5. NAAQS: National Ambient Air Quality Standard
6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, $PM_{10}$, $PM_{2.5}$, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing

MAHABAL ENVIRO ENGINEERS P. LTD. Laboratory Division

TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1176250215

| | | |
|---|---|---|
| Report No.: | ME-1176250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003309F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ambient Air | Sampling Done by | Laboratory |
| Sampling Location | Near Wagholi Gate | Sample Quantity / Packing | $PM_{10}$, B(a), Ni, As, Pb: Filter Paper 1 X 3 No.<br>$PM_{2.5}$: Filter Paper 1 X 1 No.<br>$SO_2$:30 mL X 6 No. PVC Bottle<br>$NO_2$:30 mL X 6 No. PVC Bottle<br>$NH_3$:10 mL X 24 No. PVC Bottle<br>$O_3$:10 mL X 24 No. PVC Bottle<br>Charcoal Tubes: 1 X 6 No.<br>CO:2L X 3No. Gas Bladder |
| Date of Sampling | 14.02.2025 to 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)** | | | | |
| 1 | Sulphur Dioxide ($SO_2$) | µg/m³ | 11.3 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6 |
| 2 | Nitrogen Dioxide ($NO_2$) | µg/m³ | 14.6 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10 |
| 3 | Particulate Matter (size less than 10µm) or $PM_{10}$ | µg/m³ | 54 | 100 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14 |
| 4 | Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ | µg/m³ | 20 | 60 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30 |
| 5 | Ozone ($O_3$) | µg/m³ | 21.6 | 180 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34 |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1176250215

| | | |
|---|---|---|
| Report No.: | ME-1176250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003309F | |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| 6 | Lead (as Pb) | µg/m³ | BQL (LOQ:0.02) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 7 | Carbon Monoxide (CO) | mg/m³ | 0.79 | 04 | CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method) |
| 8 | Ammonia ($NH_3$) | µg/m³ | BQL (LOQ:20) | 400 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39 |
| 9 | Benzene ($C_6H_6$) | µg/m³ | BQL (LOQ:1) | 05 | IS 5182 (Part 11): 2006 |
| 10 | Benzo(a)Pyrene (Particulate phase only) | ng/m³ | BQL (LOQ:0.5) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47 |
| 11 | Arsenic (as As) | ng/m³ | BQL (LOQ:0.3) | 06 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 12 | Nickel (as Ni) | ng/m³ | BQL (LOQ:3) | 20 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. TWA: Time Weighted Average
4. Duration of Sampling: 24 h
5. NAAQS: National Ambient Air Quality Standard
6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, $PM_{10}$, $PM_{2.5}$, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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MEEPL

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1177250215

| | | |
|---|---|---|
| Report No.: | ME-1177250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003310F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ambient Air | Sampling Done by | Laboratory |
| Sampling Location | Terrace of Bachelor Guest House | Sample Quantity / Packing | $PM_{10}$, B(a), Ni, As, Pb: Filter Paper 1 X 3 No.<br>$PM_{2.5}$: Filter Paper 1 X 1 No.<br>$SO_2$:30 mL X 6 No. PVC Bottle<br>$NO_2$:30 mL X 6 No. PVC Bottle<br>$NH_3$:10 mL X 24 No. PVC Bottle<br>$O_3$:10 mL X 24 No. PVC Bottle<br>Charcoal Tubes: 1 X 6 No.<br>CO:2L X 3No. Gas Bladder |
| Date of Sampling | 14.02.2025 to 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | As per method reference | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)** | | | | |
| 1 | Sulphur Dioxide ($SO_2$) | µg/m³ | 14.6 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6 |
| 2 | Nitrogen Dioxide ($NO_2$) | µg/m³ | 15.5 | 80 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10 |
| 3 | Particulate Matter (size less than 10µm) or $PM_{10}$ | µg/m³ | 47 | 100 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14 |
| 4 | Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ | µg/m³ | 18 | 60 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30 |
| 5 | Ozone ($O_3$) | µg/m³ | 20.4 | 180 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34 |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

AA-1177250215

| | | |
|---|---|---|
| Report No.: | ME-1177250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003310F | |

| Sr. No. | Parameter | Unit | Result | #NAAQS | Method Reference |
|---|---|---|---|---|---|
| 6 | Lead (as Pb) | µg/m³ | BQL (LOQ:0.02) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 7 | Carbon Monoxide (CO) | mg/m³ | 0.85 | 04 | CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method) |
| 8 | Ammonia ($NH_3$) | µg/m³ | 20.4 | 400 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39 |
| 9 | Benzene ($C_6H_6$) | µg/m³ | BQL (LOQ:1) | 05 | IS 5182 (Part 11): 2006 |
| 10 | Benzo(a)Pyrene (Particulate phase only) | ng/m³ | BQL (LOQ:0.5) | 01 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47 |
| 11 | Arsenic (as As) | ng/m³ | BQL (LOQ:0.3) | 06 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |
| 12 | Nickel (as Ni) | ng/m³ | BQL (LOQ:3) | 20 | CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. TWA: Time Weighted Average
4. Duration of Sampling: 24 h
5. NAAQS: National Ambient Air Quality Standard
6. #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, $PM_{10}$, $PM_{2.5}$, Lead and Ammonia; 1 h. TWA in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.
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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

WNA-1182250215

| | | |
|---|---|---|
| Report No.: | ME-1182250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003315F | |

| | | |
|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Workroom Noise | |
| Date of Sampling | 15.02.2025 | |
| Sampling Procedure | CPCB Protocol for Ambient level Noise Monitoring 2015 | |

| Sr. No. | Location | Time in h | Sound Level $L_{eq}$ dB (A) | |
|---|---|---|---|---|
| | | | $L_{min}$ | $L_{max}$ |
| | **Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Workroom Noise)** | | | |
| 1. | Turbine Area No.3 & 4 | 10:00 to 10:05 | 63.9 | 67.8 |
| 2. | Near CHP Crusher House | 10:30 to 10:35 | 62.4 | 65.9 |
| 3. | Near Compressor Room | 11:00 to 11:05 | 62.4 | 64.9 |
| 4. | Near Main Gate | 11:30 to 11:35 | 60.9 | 63.5 |
| 5. | Near Colony | 11:40 to 11:45 | 57.2 | 59.6 |

**END OF REPORT**

| **Limit as per The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV** | |
|---|---|
| **Total time of exposure per day, in hours.** | **Max. Sound pressure level in dB (A)** |
| 8 | 90 |
| 6 | 92 |
| 4 | 95 |
| 3 | 97 |
| 2 | 100 |
| 1 ½ | 102 |
| 1 | 105 |
| ¾ | 107 |
| ½ | 110 |
| ¼ | 115 |

**END OF REPORT**

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

WNA-1182250215

| | | |
|---|---|---|
| Report No.: | ME-1182250215 | Date: 21.02.2025 |
| ULR No.: | TC748725000003315F | |

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TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

DE-1168250215

| | | |
|---|---|---|
| Report No.: | ME-1168250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003301F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Domestic Effluent | Sampling Done by | Laboratory |
| Sampling Location | Colony STP Outlet | Sample Quantity / Packing | 2 L X 1 No. PVC Can<br>100mL X 1 No. PVC Can |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | # Limit | Method Reference |
|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Pollution & Environment (Waste Water)** | | | | |
| 1. | pH | - | 8.4 | 6.5 to 8.5 | APHA 24th Ed. 2023, 4500-$H^+$-B |
| 2. | Biochemical Oxygen Demand (3 days 27°C) | mg/L | 14 | 30 Max. | IS 3025 (Part 44):2023 |
| 3. | Chemical Oxygen Demand | mg/L | 47 | 250 Max. | APHA 24th Ed. 2023, 5220-B |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. #: Limit as per MPCB Consent.
4. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TC-7487

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PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1157250215

| | | |
|---|---|---|
| Report No.: | ME-1157250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003290F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Well Water Backside of Ash Dyke Area Mr.N. Lomte Farm | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.6 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 7.6 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 546 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 318 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 404 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 30.0 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 51.9 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 44.3 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 137 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

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TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1157250215

| | | |
|---|---|---|
| Report No.: | ME-1157250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003290F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 15.1 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.69 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.3 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | 0.395 | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.235 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | BQL (LOQ:0.01) | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
4. $ Permissible Limit in the Absence of Alternate Source as per IS 10500:2012 RA 2018
5. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Chemical Testing

MAHABAL ENVIRO ENGINEERS PVT. LTD. Laboratory Division

TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1158250215

| | | |
|---|---|---|
| Report No.: | ME-1158250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003291F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Wagholi Village Mr.Zebulal chavhan | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 3.3 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 7.8 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 800 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | 7 | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 218 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 556 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 119 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 280 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 12.7 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 168 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1158250215

| | | |
|---|---|---|
| Report No.: | ME-1158250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003291F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 33.0 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.22 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.5 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | 0.102 | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.473 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | 0.072 | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | 0.021 | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
4. $ Permissible Limit in the Absence of Alternate Source as per IS 10500:2012 RA 2018
5. The result listed refers only to the tested sample(s) and applicable parameter(s).
6. This report is not to be reproduced except in full, without the written approval of the laboratory.
7. Any complaint pertaining to the report can be addressed to mahabalreports@gmail.com

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing

MAHABAL ENVIRO ENGINEERS PVT. LTD. Laboratory Division

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# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1159250215

| | | |
|---|---|---|
| Report No.: | ME-1159250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003292F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Village Talkhanda | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.5 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 7.7 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 647 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 242 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 428 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 70.5 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 149 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 42.7 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 147 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1159250215

| | | |
|---|---|---|
| Report No.: | ME-1159250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003292F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 15.1 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.54 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.8 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | 0.048 | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.182 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | BQL (LOQ:0.01) | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | 0.028 | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
4. $ Permissible Limit in the Absence of Alternate Source as per IS 10500:2012 RA 2018
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**Sagar Yeul**
Dy.Technical Manager
Chemical Testing

MAHABAL ENVIRO ENGINEERS PVT. LTD. Laboratory Division

TC-7487


QF/SALE/02
Issue No 03
Date 05.12.2019.
Amd 03 Date 18.07.2023

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1160250215

| | | |
|---|---|---|
| Report No.: | ME-1160250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003293F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Village Digargaon | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.4 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 8.1 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 305 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 194 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 214 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 34.5 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 21.7 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 7.86 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 56.1 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

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PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1160250215

| | | |
|---|---|---|
| Report No.: | ME-1160250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003293F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 18.0 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.47 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 7.1 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | 0.047 | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.528 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | BQL (LOQ:0.01) | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
4. $ Permissible Limit in the Absence of Alternate Source as per IS 10500:2012 RA 2018
5. The result listed refers only to the tested sample(s) and applicable parameter(s).
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TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1161250215

| | | |
|---|---|---|
| Report No.: | ME-1161250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003294F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Village Kapustalni | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.9 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 7.8 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 596 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 240 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 370 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 71.5 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 128 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 40.9 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 120 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

Reviewed and authorised by

**Sagar Yeul**
Dy.Technical Manager
Chemical Testing



TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1161250215

| | | |
|---|---|---|
| Report No.: | ME-1161250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003294F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 17.0 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.53 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.4 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | BQL (LOQ:0.02) | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.095 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | BQL (LOQ:0.01) | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
4. $ Permissible Limit in the Absence of Alternate Source as per IS 10500:2012 RA 2018
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7. Any complaint pertaining to the report can be addressed to mahabalreports@gmail.com

Reviewed and authorised by

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Dy.Technical Manager
Chemical Testing

MEEPL

MAHABAL ENVIRO ENGINEERS PVT. LTD. Laboratory Division

TC-7487

# Mahabal Enviro Engineers Pvt. Ltd.

PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1162250215

| | | |
|---|---|---|
| Report No.: | ME-1162250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003295F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED<br>Plot No. D-2 & D-2 (PART)<br>at Additional MIDC, Village-Nandgaonpeth,<br>Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Ground water | Sampling Done by | Laboratory |
| Sampling Location | Village Pimpalvihirgaon | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Ground Water)** | | | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | 5 Max. | 15 Max. | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | Agreeable | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.4 | 1 Max. | 5 Max. | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 8.2 | 6.5 to 8.5 | No relaxation | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | 0.2 Min. | 1.0 Max. | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 286 | 500 Max. | 2000 Max. | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | - | - | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 186 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 214 | 200 Max. | 600 Max. | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 34.5 | 250 Max. | 1000 Max. | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 22.1 | 200 Max. | 400 Max. | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 8.35 | 45 Max. | No relaxation | APHA 24th Ed. 2023,4500-$NO_3$, B |
| 13. | Calcium (as Ca) | mg/L | 56.1 | 75 Max. | 200 Max. | APHA 24th Ed. 2023, 3500-Ca-B |

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

GW-1162250215

| | | |
|---|---|---|
| Report No.: | ME-1162250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003295F | |

| Sr. No. | Parameter | Unit | Result | #Limit | $Limit | Method Reference |
|---|---|---|---|---|---|---|
| 14. | Magnesium (as Mg) | mg/L | 18.0 | 30 Max. | 100 Max. | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.54 | 1 Max. | 1.5 Max. | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.6 | - | - | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | - | - | IS 3025 (Part 39): 2021 |
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | 0.05 Max. | No relaxation | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | 0.001 Max. | 0.002 Max. | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | | | |
| 20. | Boron (as B) | mg/L | 0.039 | 0.5 Max. | 2.4 Max. | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.062 | 1.0 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | BQL (LOQ:0.01) | 0.1 Max. | 0.3 Max. | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | 0.03 Max. | 0.2 Max. | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | 0.003Max | No relaxation | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | 0.05 Max. | 1.5 Max. | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | 5 Max. | 15 Max. | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | 0.001Max | No relaxation | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | 0.01 Max. | No relaxation | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
1. BQL: Below Quantification Limit.
2. LOQ: Limit of Quantification.
3. # Acceptable Limit as per IS 10500:2012 RA 2018
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TC-7487

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PLOT NOS. 13,14,17,18, GRAMPANCHAYAT BOKHARA, CHHINDWARA ROAD, KORADI, NAGPUR, MAHARASHTRA, INDIA
Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SW-1155250215

| | | |
|---|---|---|
| Report No.: | ME-1155250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003288F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Surface water | Sampling Done by | Laboratory |
| Sampling Location | Malegaon Pond | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | Method Reference |
|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Surface Water)** | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.5 | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 8.0 | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 287 | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | BQL (LOQ:5) | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 168 | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 180 | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 23.5 | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 37.8 | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 6.25 | APHA 24th Ed. 2023,4500-$NO_3$, E |
| 13. | Calcium (as Ca) | mg/L | 48.9 | APHA 24th Ed. 2023, 3500-Ca-B |
| 14. | Magnesium (as Mg) | mg/L | 14.1 | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.69 | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 5.2 | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | IS 3025 (Part 39): 2021 |

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SW-1155250215

| | | |
|---|---|---|
| Report No.: | ME-1155250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003288F | |

| Sr. No. | Parameter | Unit | Result | Method Reference |
|---|---|---|---|---|
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | |
| 20. | Boron (as B) | mg/L | 0.044 | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.677 | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | 0.041 | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | 0.010 | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | IS 3025 (Part 2) 2019 |

**END OF REPORT**

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SW-1156250215

| | | |
|---|---|---|
| Report No.: | ME-1156250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003289F | |

| | | | |
|---|---|---|---|
| Name and Address of Customer | **RATTANINDIA POWER LIMITED Plot No. D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901** | | SO No.: 3382022890<br>SO Date: 29.05.2023 |
| Sample Description / Type | Surface water | Sampling Done by | Laboratory |
| Sampling Location | Wagholi Pond | Sample Quantity / Packing | 2L X 1 No. PVC Can<br>500 mL X 1 No. PVC Can<br>1 L X 1 No. Glass Bottle |
| Date of Sampling | 15.02.2025 | Date of Receipt of Sample | 15.02.2025 |
| Sampling Procedure | IS:3025(Part I); APHA 24th Ed. 2023, 1060-B | | |
| Date of Start of Analysis | 15.02.2025 | Date of Completion of Analysis | 24.02.2025 |

| Sr. No. | Parameter | Unit | Result | Method Reference |
|---|---|---|---|---|
| | **Discipline: Chemical Testing; Product Group: Water (Surface Water)** | | | |
| 1. | Colour | Hazen | BQL (LOQ:1) | APHA 24th Ed. 2023, 2120-B |
| 2. | Odour | - | Agreeable | IS 3025 (Part 05):2018 |
| 3. | Turbidity | NTU | 0.4 | APHA 24th Ed. 2023, 2130-B |
| 4. | pH | - | 7.2 | APHA 24th Ed. 2023, 4500-H+-B |
| 5. | Free Chlorine (Residual) | mg/L | BQL (LOQ:0.05) | APHA 24th Ed. 2023, 4500-Cl G |
| 6. | Total Dissolved Solids | mg/L | 547 | IS 3025 (Part 16):2023 |
| 7. | Total Suspended Solids | mg/L | 5 | APHA 24th Ed. 2023, 2540-D |
| 8. | Alkalinity Total (as $CaCO_3$) | mg/L | 148 | APHA 24th Ed. 2023, 2320-B |
| 9. | Total Hardness (as $CaCO_3$) | mg/L | 408 | APHA 24th Ed. 2023, 2340-C |
| 10. | Chloride (as Cl) | mg/L | 100 | APHA 24th Ed. 2023, 4500-Cl-B |
| 11. | Sulphate (as $SO_4$) | mg/L | 154 | APHA 24th Ed. 2023, 4500-$SO_4$-E |
| 12. | Nitrate (as $NO_3$) | mg/L | 5.78 | APHA 24th Ed. 2023,4500-$NO_3$, E |
| 13. | Calcium (as Ca) | mg/L | 115 | APHA 24th Ed. 2023, 3500-Ca-B |
| 14. | Magnesium (as Mg) | mg/L | 29.6 | APHA 24th Ed. 2023, 3500-Mg-B |
| 15. | Fluoride (as F) | mg/L | 0.84 | APHA 24th Ed. 2023, 4500-F, D |
| 16. | Dissolved Oxygen | mg/L | 6.2 | APHA 24th Ed. 2023, 4500-O, B & C |
| 17. | Oil and Grease | mg/L | BQL (LOQ:1) | IS 3025 (Part 39): 2021 |

Reviewed and authorised by

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Chemical Testing



TC-7487

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Phone: **0712-2612162/2612212** email: **nagpur@mahabal.com**


## TEST REPORT

SW-1156250215

| | | |
|---|---|---|
| Report No.: | ME-1156250215 | Date: 24.02.2025 |
| ULR No.: | TC748725000003289F | |

| Sr. No. | Parameter | Unit | Result | Method Reference |
|---|---|---|---|---|
| 18. | Cyanide (as CN) | mg/L | BQL (LOQ:0.001) | APHA 24th Ed. 2023, 4500-CN, C & E |
| 19. | Phenolic Compounds (as $C_6H_5OH$) | mg/L | BQL (LOQ:0.001) | APHA 24th Ed. 2023, 5530- B & C |
| | **Product Group: Residues in water** | | | |
| 20. | Boron (as B) | mg/L | 0.075 | IS 3025 (Part 2) 2019 |
| 21. | Iron (as Fe) | mg/L | 0.038 | IS 3025 (Part 2) 2019 |
| 22. | Manganese (as Mn) | mg/L | 0.014 | IS 3025 (Part 2) 2019 |
| 23. | Aluminium (as Al) | mg/L | BQL (LOQ:0.025) | APHA 24th Ed. 2023, 3500-Al-B |
| 24. | Cadmium (as Cd) | mg/L | BQL (LOQ:0.0027) | IS 3025 (Part 2) 2019 |
| 25. | Chromium Total (as Cr) | mg/L | BQL (LOQ:0.01) | IS 3025 (Part 2) 2019 |
| 26. | Copper (as Cu) | mg/L | BQL (LOQ:0.01) | IS 3025 (Part 2) 2019 |
| 27. | Lead (as Pb) | mg/L | BQL (LOQ:0.008) | IS 3025 (Part 2) 2019 |
| 28. | Zinc (as Zn) | mg/L | BQL (LOQ:0.02) | IS 3025 (Part 2) 2019 |
| 29. | Arsenic (as As) | mg/L | BQL (LOQ:0.007) | IS 3025 (Part 2) 2019 |
| 30. | Mercury (as Hg) | mg/L | BQL (LOQ:0.0005) | APHA 24th Ed. 2023, 3112-B |
| 31. | Selenium (as Se) | mg/L | BQL (LOQ:0.01) | IS 3025 (Part 2) 2019 |

**END OF REPORT**

**Note:**
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