



Mahabal Enviro Engineers Pvt. Ltd.

Plot 13/14, Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist. Nagpur – 441111

Phone: 91-712-2612162 T/Fax: 91-712-2612212 Email: nagpur@mahabal.com

Ambient Air Quality Monitoring Report

| | | | |
|-------------------------------------|--|---------------------------------------|--|
| Report No. | ME-NS0292-120828-SA-INDIABUL-NASHIK | | Date: 28.08.2012 |
| Name and Address of Customer | INDIABULLS REALTECH LTD. (SEZ Co-Developer) Indiabulls Industrial Infrastructure Ltd. (Multiproduct SEZ), Village – Musalgaon & Gulvanch, Tal- Sinnar, Nashik. | | Order Reference |
| | | | Your work order No. 3320001083 Date: 18.11.2011 |
| Sample Description /Type | Ambient Air | Sample Collected by | Laboratory |
| Sampling Location | Near weigh bridge | Sample Quantity/Packing | PM ₁₀ , BaP, Metals: Filter Paper: 1 X 3 No. PM _{2.5} : Filter Paper: 1 X 1 No. SO ₂ : 30 mL X 6 No. Plastic Bottle NO ₂ : 30 mL X 6 No. Plastic Bottle NH ₃ : 30 mL X 6 No. Plastic Bottle CO: Plastic bulb: 1 X 3 No. O ₃ : 30 mL X 6 No. Plastic Bottle Benzene: Charcoal tubes: 1 X 12 No. Mercury: 30 mL X 6 No. Amber Colour Bottle |
| Date of Sampling | 13.08.2012 to 14.08.2012 | Date of Receipt of Sample | 15.08.2012 |
| Sampling Procedure | CPCB Guidelines and IS 5182 (Part 2):2001, RA 2006; (Part 6):2006; (Part 23):2006; (Part 10):1999, RA-2003; (Part 11):2006; (Part 12):2004 & USEPA/625/R-96/010 | | |
| Date of Start of Analysis | 18.08.2012 | Date of Completion of Analysis | 23.08.2012 |

| Meteorological Data | | | | |
|--|---------------|--|---|--|
| Average Wind velocity 3.8 km/h | | Relative Humidity (Max./min.) : 76/75 % | | Temperature (Max./min.) : 25/22 °C |
| Location : Near weigh bridge | | | Duration of Survey : 24 hrs. | |
| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
| Sulphur Dioxide (SO ₂) | BDL (DL: 4) | µg/m ³ | 80 | IS 5182 (Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines |
| Nitrogen Dioxide (NO ₂) | 3.42 | µg/m ³ | 80 | IS 5182 (Part 6): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 10 µm) or PM ₁₀ | 14 | µg/m ³ | 100 | IS 5182 (Part 23): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 2.5µm) or PM _{2.5} | BDL (DL: 10) | µg/m ³ | 60 | Fine Particulate air sampler |

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| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
|---|-------------------|-------------------|--|---|
| Ozone (O ₃) | 79 | µg/m ³ | 180 | APHA Method No. 820, Page No. 836 |
| Lead (Pb) | BDL (DL: 0.02) | µg/m ³ | 1 | US EPA Method: EPA/625/R-96/0109/IO-3.1, 3.2 |
| *Carbon Monoxide (CO) | N.D. | mg/m ³ | 2 | IS: 5182 (Part 10):1999 RA 2003 |
| Ammonia (NH ₃) | BDL (DL: 20) | µg/m ³ | 400 | APHA method No. 401, Page No. 511 |
| Benzene (C ₆ H ₆) | BDL (DL: 1) | µg/m ³ | 5 | IS 5182 (Part 11):2006 |
| Benzo (a) Pyrene (BaP) – particulate phase only | BDL (DL: 0.5) | ng/m ³ | 1 | IS 5182 (Part 12):2004 |
| Arsenic (As) | BDL (DL: 0.3) | ng/m ³ | 6 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Nickel (Ni) | BDL (DL: 3.0) | ng/m ³ | 20 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Mercury | N.D. | ng/m ³ | - | APHA Method No. 318, Page no. 492 |
| Remark: N.D. – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average., *- Denotes Grab Sampling, #- NAAQS specified as: 24 hours TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM ₁₀ , PM _{2.5} , Lead and Ammonia, 8 hours TWA in case of Carbon Monoxide, 1 hour TWA in case of Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel. | | | | |

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi

TECHNICAL MANAGER



Note:

- The result listed refers only to the tested sample(s) and applicable parameter(s).
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Ambient Air Quality Monitoring Report

| | | | |
|-------------------------------------|--|---------------------------------------|---|
| Report No. | ME-NS0291-120828-SA-INDIABUL-NASHIK | | Date: 28.08.2012 |
| Name and Address of Customer | INDIABULLS REALTECH LTD. (SEZ Co-Developer) Indiabulls Industrial Infrastructure Ltd. (Multiproduct SEZ), Village – Musalgaon & Gulvanch, Tal- Sinnar, Nashik. | | Order Reference |
| | | | Your work order No. 3320001083 Date: 18.11.2011 |
| Sample Description /Type | Ambient Air | Sample Collected by | Laboratory |
| Sampling Location | Near IRL Office | Sample Quantity/Packing | PM ₁₀ , BaP, Metals: Filter Paper: 1 X 3 No. PM _{2.5} : Filter Paper: 1 X 1 No. SO ₂ : 30 mL X 6 No. Plastic Bottle NO ₂ : 30 mL X 6 No. Plastic bottle NH ₃ : 30 mL X 6 No. Plastic Bottle CO: Plastic Bulb 1 X 3 No. O ₃ : 10 mL X 6 No. Plastic Bottle Benzene: Charcoal tubes: 1 X 12 No. Mercury: 30 mL X 6 No. Amber Colour Bottle |
| Date of Sampling | 13.08.2012 to 14.08.2012 | Date of Receipt of Sample | 15.08.2012 |
| Sampling Procedure | CPCB Guidelines and IS 5182 (Part 2): 2001, RA 2006; (Part 6): 2006; (Part 23): 2006; (Part 10): 1999, RA-2003; (Part 11): 2006; (Part 12): 2004 & USEPA/625/R-96/010 | | |
| Date of Start of Analysis | 17.08.2012 | Date of Completion of Analysis | 20.08.2012 |

| Meteorological Data | | | | |
|--|---------------|--|---|---|
| Average Wind velocity 3.4 km/h | | Relative Humidity (Max./min.) : 83/75 % | | Temperature (Max./min.) : 24/22 °C |
| Location : Near IRL Office | | | Duration of Survey : 24 hrs. | |
| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
| Sulphur Dioxide (SO ₂) | BDL (DL: 4) | µg/m ³ | 80 | IS 5182 (Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines |
| Nitrogen Dioxide (NO ₂) | BDL (DL: 3) | µg/m ³ | 80 | IS 5182 (Part 6): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 10 µm) or PM ₁₀ | 14 | µg/m ³ | 100 | IS 5182 (Part 23): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 2.5µm) or PM _{2.5} | BDL (DL: 10) | µg/m ³ | 60 | Fine Particulate air sampler |



Report No.0291 cont...

| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
|---|-------------------|-------------------|--|---|
| Ozone (O ₃) | 59 | µg/m ³ | 100 | APHA, Method No. 820, Page No. 836 |
| Lead (Pb) | BDL (DL: 0.02) | µg/m ³ | 1 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| *Carbon Monoxide (CO) | N.D. | mg/m ³ | 2 | IS: 5182 (Part 10):1999 RA 2003 |
| Ammonia (NH ₃) | BDL (DL: 20) | µg/m ³ | 400 | APHA method no. 401, Page No. 511 |
| Benzene (C ₆ H ₆) | BDL (DL: 1) | µg/m ³ | 5 | IS 5182 (Part 11):2006 |
| Benzo (a) Pyrene (BaP) – particulate phase only | BDL (DL: 0.5) | ng/m ³ | 1 | IS 5182 (Part 12):2004 |
| Arsenic (As) | 0.32 | ng/m ³ | 6 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Nickel (Ni) | BDL (DL: 3) | ng/m ³ | 20 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Mercury | N.D. | ng/m ³ | - | APHA Method No. 318, Page No. 492 |
| Remark: N.D. – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average, *- Denotes Grab Sampling, #- NAAQS specified as: 24 hours TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM ₁₀ , PM _{2.5} , Lead and Ammonia, 8 hours TWA in case of Carbon Monoxide and Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel. | | | | |

END

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| | | | Your work order No. 3320001083 Date: 18.11.2011 |
| Sample Description /Type | Ambient Air | Sample Collected by | Laboratory |
| Sampling Location | Near Boiler Turbine area | Sample Quantity/Packing | PM ₁₀ , BaP, Metals: Filter Paper: 1 X 3 No. PM _{2.5} : Filter Paper: 1 X 1 No. SO ₂ : 30 mL X 6 No. Plastic Bottle NO ₂ : 30 mL X 6 No. Plastic Bottle NH ₃ : 30 mL X 6 No. Plastic Bottle CO: Plastic bulb 1 X 3 No. O ₃ : 10 mL X 6 No. Plastic Bottle Benzene: Charcoal tubes 1 X 12 No. Mercury: 30 mL X 6 No. Amber Colour Bottle |
| Date of Sampling | 13.08.2012 to 14.08.2012 | Date of Receipt of Sample | 15.08.2012 |
| Sampling Procedure | CPCB Guidelines and IS 5182 (Part 2): 2001, RA 2006; (Part 6): 2006; (Part 23): 2006; (Part 10): 1999, RA-2003; (Part 11): 2006; (Part 12): 2004 & USEPA/625/R-96/010 | | |
| Date of Start of Analysis | 17.08.2012 | Date of Completion of Analysis | 23.08.2012 |

| Meteorological Data | | | | |
|--|---------------|--|---|---|
| Average Wind velocity 3.4 km/h | | Relative Humidity (Max./min.) : 83/77 % | | Temperature (Max./min.) : 24/22 °C |
| Location : Near Boiler Turbine area | | | Duration of Survey : 24 hrs. | |
| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
| Sulphur Dioxide (SO ₂) | BDL (DL: 4) | µg/m ³ | 80 | IS 5182 (Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines |
| Nitrogen Dioxide (NO ₂) | 11.2 | µg/m ³ | 80 | IS 5182 (Part 6): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 10 µm) or PM ₁₀ | 15 | µg/m ³ | 100 | IS 5182 (Part 23): 2006 & CPCB Guidelines |
| Particulate Matter (size less than 2.5µm) Or PM _{2.5} | BDL (DL: 10) | µg/m ³ | 60 | Fine Particulate air sampler |



Report No.0290 cont...

| Parameter | Result | Unit | # National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area) | Method Reference |
|--|-------------------|-------------------|--|---|
| Ozone (O ₃) | 81 | µg/m ³ | 100 | APHA Method No. 820, Page No. 836 |
| Lead (Pb) | BDL (DL: 0.02) | µg/m ³ | 1 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| *Carbon Monoxide (CO) | N.D. | mg/m ³ | 2 | IS: 5182 (Part 10):1999 RA 2003 |
| Ammonia (NH ₃) | BDL (DL: 20) | µg/m ³ | 400 | APHA method No. 401, Page 511 |
| Benzene (C ₆ H ₆) | BDL (DL: 1) | µg/m ³ | 05 | IS 5182 (Part 11):2006 |
| Benzo (a) Pyrene (BaP) – particulate phase only | BDL (DL: 0.5) | ng/m ³ | 01 | IS 5182 (Part 12):2004 |
| Arsenic (As) | 0.44 | ng/m ³ | 06 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Nickel (Ni) | BDL (DL: 3) | ng/m ³ | 20 | US EPA Method: EPA/625/R-96/0109/ IO-3.1, 3.2 |
| Mercury | N.D. | ng/m ³ | - | APHA Method No. 318, Page No. 492 |
| Remark: N.D. – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average., *- Denotes Grab Sampling, #- NAAQS specified as: 24 hours TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM ₁₀ , PM _{2.5} , Lead and Ammonia, 8 hours TWA in case of Carbon Monoxide and Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel. | | | | |

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