



# 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](mailto:nagpur@mahabal.com)

## Ambient Air Quality Monitoring Report

<b>Report No.</b>	ME-NS0493-121222-SA-INDIABUL-NASHIK		<b>Date:</b> 22.12.2012
<b>Name and Address of Customer</b>	<b>INDIABULLS REALTECH LTD.</b> (SEZ Co-Developer) Indiabulls Industrial Infrastructure Ltd. (Multiproduct SEZ) Village – Musalgaon & Gulvanch, Tal- Sinnar, Nashik.		<b>Order Reference</b>
<b>Sample Description /Type</b>	Ambient Air	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Near Weigh Bridge	<b>Sample Quantity/Packing</b>	PM <sub>10</sub> , Bap, Ni, As, Pb: Filter Paper: 1 X 3 no. PM <sub>2.5</sub> : Filter Paper: 1 X 1 no. SO <sub>2</sub> : 30 mL X 6 no. Plastic Bottle NO <sub>2</sub> : 30 mL X 6 no. Plastic Bottle NH <sub>3</sub> : 30 mL X 6 no. Plastic Bottle CO: Plastic bulb 1 X 3 no. O <sub>3</sub> : 10 mL X 6 no. Plastic Bottle Benzene: Charcoal tubes: 1 X 12 no. Mercury: 30 mL X 6 no. Amber colour bottle
<b>Date of Sampling</b>	15.12.2012 to 16.12.2012	<b>Date of Receipt of Sample</b>	17.12.2012
<b>Sampling Procedure</b>	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		
<b>Date of Start of Analysis</b>	18.12.2012	<b>Date of Completion of Analysis</b>	22.12.2012

Meteorological Data				
<b>Average Wind velocity</b> 1.8 km/h		<b>Relative Humidity</b> (Max./min.) : 87/75 %		<b>Temperature</b> (Max./min.) : 30/10°C
<b>Location :</b> Near Weigh Bridge			<b>Duration of Survey :</b> 24 hours	
<b>Parameter</b>	<b>Result</b>	<b>Unit</b>	<b># National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)</b>	<b>Method Reference</b>
Sulphur Dioxide (SO <sub>2</sub> )	5.25	µg/m <sup>3</sup>	80	IS 5182 ( Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines
Nitrogen Dioxide (NO <sub>2</sub> )	6.25	µg/m <sup>3</sup>	80	IS 5182 (Part 6): 2006 & CPCB Guidelines
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	37	µg/m <sup>3</sup>	100	IS 5182 ( Part 23): 2006 & CPCB Guidelines
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	BDL (DL: 10)	µg/m <sup>3</sup>	60	CPCB Guidelines

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Parameter	Result	Unit	# National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)	Method Reference
Ozone (O <sub>3</sub> )	60	µg/m <sup>3</sup>	180	APHA, Method No. 820, Page No. 836
Lead (Pb)	BDL (DL: 0.02)	µg/m <sup>3</sup>	01	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
*Carbon Monoxide (CO)	ND	mg/m <sup>3</sup>	02	APHA method no.130, Page 359
Ammonia (NH <sub>3</sub> )	BDL (DL: 20)	µg/m <sup>3</sup>	400	APHA Method no. 401, Page 511
Benzene (C <sub>6</sub> H <sub>6</sub> )	BDL (DL: 1)	µg/m <sup>3</sup>	05	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (BaP) (Particulate phase only)	BDL (DL: 0.5)	ng/m <sup>3</sup>	01	IS 5182 (Part 12): 2004
Arsenic (As)	BDL (DL: 0.3)	ng/m <sup>3</sup>	06	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Nickel (Ni)	BDL (DL: 3)	ng/m <sup>3</sup>	20	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Mercury	ND	ng/m <sup>3</sup>	-	APHA, Method No. 318, Page no. 492
<b>Remarks:</b> ND – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average. *- Denotes Grab Sampling #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM <sub>10</sub> , PM <sub>2.5</sub> , Lead and Ammonia, 8 h. TWA in case of Carbon Monoxide, 1 h. 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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<b>Report No.</b>	ME-NS0492-121222-SA-INDIABUL-NASHIK		<b>Date:</b> 22.12.2012
<b>Name and Address of Customer</b>	<b>INDIABULLS REALTECH LTD.</b> (SEZ Co-Developer) Indiabulls Industrial Infrastructure Ltd. (Multiproduct SEZ) Village – Musalgaon & Gulvanch, Tal- Sinnar, Nashik.		<b>Order Reference</b>
			Work order under process
<b>Sample Description /Type</b>	Ambient Air	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Near IRL Office	<b>Sample Quantity/Packing</b>	PM <sub>10</sub> , Bap, Ni, As, Pb: Filter Paper: 1 X 3 no. PM <sub>2.5</sub> : Filter Paper: 1 X 1 no. SO <sub>2</sub> : 30 mL X 6 no. Plastic Bottle NO <sub>2</sub> : 30 mL X 6 no. Plastic Bottle NH <sub>3</sub> : 30 mL X 6 no. Plastic Bottle CO: Plastic bulb 1 X 3 no. O <sub>3</sub> : 10 mL X 6 no. Plastic Bottle Benzene: Charcoal tubes: 1 X 12 no. Mercury: 30 mL X 6 no. Amber colour bottle
<b>Date of Sampling</b>	15.12.2012 to 16.12.2012	<b>Date of Receipt of Sample</b>	17.12.2012
<b>Sampling Procedure</b>	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		
<b>Date of Start of Analysis</b>	18.12.2012	<b>Date of Completion of Analysis</b>	22.12.2012

Meteorological Data				
<b>Average Wind velocity</b> 1.8 km/h		<b>Relative Humidity</b> (Max./min.) : 87/75 %		<b>Temperature</b> (Max./min.) : 30/10°C
<b>Location :</b> Near IRL Office			<b>Duration of Survey :</b> 24 hours	
<b>Parameter</b>	<b>Result</b>	<b>Unit</b>	<b># National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)</b>	<b>Method Reference</b>
Sulphur Dioxide (SO <sub>2</sub> )	BDL (DL: 4)	µg/m <sup>3</sup>	80	IS 5182 ( Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines
Nitrogen Dioxide (NO <sub>2</sub> )	4.35	µg/m <sup>3</sup>	80	IS 5182 (Part 6): 2006 & CPCB Guidelines
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	35	µg/m <sup>3</sup>	100	IS 5182 ( Part 23): 2006 & CPCB Guidelines
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	BDL (DL: 10)	µg/m <sup>3</sup>	60	CPCB Guidelines

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Parameter	Result	Unit	# National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)	Method Reference
Ozone (O <sub>3</sub> )	67	µg/m <sup>3</sup>	180	APHA, Method No. 820, Page No. 836
Lead (Pb)	BDL (DL: 0.02)	µg/m <sup>3</sup>	01	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
*Carbon Monoxide (CO)	ND	mg/m <sup>3</sup>	02	APHA method no.130, Page 359
Ammonia (NH <sub>3</sub> )	BDL (DL: 20)	µg/m <sup>3</sup>	400	APHA Method no. 401, Page 511
Benzene (C <sub>6</sub> H <sub>6</sub> )	BDL (DL: 1)	µg/m <sup>3</sup>	05	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (BaP) (Particulate phase only)	BDL (DL: 0.5)	ng/m <sup>3</sup>	01	IS 5182 (Part 12): 2004
Arsenic (As)	BDL (DL: 0.3)	ng/m <sup>3</sup>	06	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Nickel (Ni)	BDL (DL: 3)	ng/m <sup>3</sup>	20	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Mercury	ND	ng/m <sup>3</sup>	-	APHA, Method No. 318, Page no. 492
<b>Remarks:</b> ND – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average. *- Denotes Grab Sampling #- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM <sub>10</sub> , PM <sub>2.5</sub> , Lead and Ammonia, 8 h. TWA in case of Carbon Monoxide, 1 h. TWA in case of Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.				

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<b>Average Wind velocity</b> 1.8 km/h		<b>Relative Humidity</b> (Max./min.) : 87/75 %		<b>Temperature</b> (Max./min.) : 30/10°C
<b>Location :</b> Near Weigh Bridge			<b>Duration of Survey :</b> 24 hours	
<b>Parameter</b>	<b>Result</b>	<b>Unit</b>	<b># National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)</b>	<b>Method Reference</b>
Sulphur Dioxide (SO <sub>2</sub> )	5.25	µg/m <sup>3</sup>	80	IS 5182 ( Part 2): 2001, Reaffirmed 2006 & CPCB Guidelines
Nitrogen Dioxide (NO <sub>2</sub> )	6.25	µg/m <sup>3</sup>	80	IS 5182 (Part 6): 2006 & CPCB Guidelines
Particulate Matter (size less than 10 µm) or PM <sub>10</sub>	37	µg/m <sup>3</sup>	100	IS 5182 ( Part 23): 2006 & CPCB Guidelines
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	BDL (DL: 10)	µg/m <sup>3</sup>	60	CPCB Guidelines

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Report No. 0493 cont...

Parameter	Result	Unit	# National Ambient Air Quality Standards (NAAQS) (Industrial, Residential, Rural and other Area)	Method Reference
Ozone (O <sub>3</sub> )	60	µg/m <sup>3</sup>	180	APHA, Method No. 820, Page No. 836
Lead (Pb)	BDL (DL: 0.02)	µg/m <sup>3</sup>	01	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
*Carbon Monoxide (CO)	ND	mg/m <sup>3</sup>	02	APHA method no.130, Page 359
Ammonia (NH <sub>3</sub> )	BDL (DL: 20)	µg/m <sup>3</sup>	400	APHA Method no. 401, Page 511
Benzene (C <sub>6</sub> H <sub>6</sub> )	BDL (DL: 1)	µg/m <sup>3</sup>	05	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (BaP) (Particulate phase only)	BDL (DL: 0.5)	ng/m <sup>3</sup>	01	IS 5182 (Part 12): 2004
Arsenic (As)	BDL (DL: 0.3)	ng/m <sup>3</sup>	06	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Nickel (Ni)	BDL (DL: 3)	ng/m <sup>3</sup>	20	US EPA Method: EPA/ 625/R-96/0109/IO-3.1, 3.2
Mercury	ND	ng/m <sup>3</sup>	-	APHA, Method No. 318, Page no. 492

**Remarks:**

ND – Not Detected, BDL- Below Detection Limit, DL- Detection Limit, TWA - Time Weighted Average.

\*- Denotes Grab Sampling

#- NAAQS specified as: 24 h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM<sub>10</sub>, PM<sub>2.5</sub>, Lead and Ammonia, 8 h. TWA in case of Carbon Monoxide, 1 h. TWA in case of Ozone, Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.

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