



# Mahabal Enviro Engineers Pvt. Ltd.

Engineers, Consultants, Environmental Monitoring Laboratory & Contractors

Plot Nos. 13,14,17,18, Grampanchayat Bokhara, 8 km from Nagpur City,

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)

## Stack Emission Monitoring Report

<b>Report No.:</b> ME-NG4477-190318-SA-RIPL-AMRAVATI		<b>Date:</b> 18.03.2019	
<b>Name and Address of Customer</b>	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Stack Emission Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Boiler Unit 3	<b>Sample Quantity/Packing</b>	Thimble:1 X 1 No. SO <sub>2</sub> :30 mL X 1 No. PVC Bottle NO <sub>x</sub> : 25mL X 1No. PVC Bottle CO <sub>2</sub> : Bladder: 1 X 1 No.
<b>Date of Sampling</b>	11.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	As per Method Reference.		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	18.03.2019

ULR-TC748719000004477F

Stack Details				
Stack Identity		Boiler Unit 3		
Stack attached to		ESP of Boiler U#3		
Material of construction		M.S.		
Stack height above ground level (Meter)		275		
Stack diameter at sampling point (Meter)		4.6		
Stack shape at top		Round		
Type of fuel		Coal		
Fuel Consumption (t/h)		138		
Load (MW)		270		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	°C	128	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	28.8	-	IS 11255 (Part 3):2008
Total gas quantity	Nm <sup>3</sup> /h	1279830	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm <sup>3</sup>	48	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	578	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO <sub>2</sub> )	kg/day	18516	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen( NO <sub>x</sub> )	mg/Nm <sup>3</sup>	163	-	IS 11255 (Part 7):2005
CO <sub>2</sub>	%	12.4	-	IS 13270:1992, Reaffirmed 2009

**Remarks:** #Limit as per MPCB Consent, \*Results corrected to 6% O<sub>2</sub>

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole

**BRANCH MANAGER**



Note:1. The result listed refers only to the tested sample(s) and applicable parameter(s).

2. This report is not to be reproduced except in full, without written approval of the laboratory.

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QF/5.10/1-C/Issue No.01, Dt.01.02.2009, Amd.01Dt.25.05.2018

**Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra**  
(600 m from Hotel Rukhmini Palace Turn Opp Toyota Show Room. Next to Ashida Electrical - near J B Sawant Bus Stop)  
**Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 [thane@mahabal.com](mailto:thane@mahabal.com)**



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## Stack Emission Monitoring Report

<b>Report No.:</b> ME-NG5296-190404-SA-RIPL-AMRAVATI		<b>Date:</b> 04.04.2019	
<b>Name and Address of Customer</b>	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Stack Emission Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Boiler Unit #1	<b>Sample Quantity/Packing</b>	Thimble:1 X 1 No. SO <sub>2</sub> :30 mL X 1 No. PVC Bottle NO <sub>x</sub> : 25mL X 1No. PVC Bottle CO <sub>2</sub> : Bladder: 1 X 1 No.
<b>Date of Sampling</b>	28.03.2019	<b>Date of Receipt of Sample</b>	30.03.2019
<b>Sampling Procedure</b>	As per Method Reference.		
<b>Date of Start of Analysis</b>	30.03.2019	<b>Date of Completion of Analysis</b>	03.04.2019

ULR-TC748719000005296F

Stack Details				
Stack Identity		Boiler Unit 1		
Stack attached to		ESP of Boiler U#1		
Material of construction		M.S.		
Stack height above ground level (Meter)		275		
Stack diameter at sampling point (Meter)		4.6		
Stack shape at top		Round		
Type of fuel		Coal		
Fuel Consumption (t/h)		138		
Load (MW)		270		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	°C	121	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.5	-	IS 11255 (Part 3):2008
Total gas quantity	Nm <sup>3</sup> /h	1279830	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm <sup>3</sup>	48	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	583	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO <sub>2</sub> )	kg/day	18669	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen( NO <sub>x</sub> )	mg/Nm <sup>3</sup>	194	-	IS 11255 (Part 7):2005
CO <sub>2</sub>	%	12.1	-	IS 13270:1992, Reaffirmed 2009
<b>Remarks:</b> #Limit as per MPCB Consent, *Results corrected to 6% O <sub>2</sub>				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


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## Stack Emission Monitoring Report

<b>Report No.:</b> ME-NG5295-190404-SA-RIPL-AMRAVATI		<b>Date:</b> 04.04.2019	
<b>Name and Address of Customer</b>	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Stack Emission Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Boiler Unit 3	<b>Sample Quantity/Packing</b>	Thimble:1 X 1 No. SO <sub>2</sub> :30 mL X 1 No. PVC Bottle NO <sub>x</sub> : 25mL X 1No. PVC Bottle CO <sub>2</sub> : Bladder: 1 X 1 No.
<b>Date of Sampling</b>	28.03.2019	<b>Date of Receipt of Sample</b>	30.03.2019
<b>Sampling Procedure</b>	As per Method Reference.		
<b>Date of Start of Analysis</b>	30.03.2019	<b>Date of Completion of Analysis</b>	03.04.2019

ULR-TC748719000005295F

Stack Details				
Stack Identity		Boiler Unit 3		
Stack attached to		ESP of Boiler U#3		
Material of construction		M.S.		
Stack height above ground level (Meter)		275		
Stack diameter at sampling point (Meter)		4.6		
Stack shape at top		Round		
Type of fuel		Coal		
Fuel Consumption (t/h)		138		
Load (MW)		270		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	°C	123	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.1	-	IS 11255 (Part 3):2008
Total gas quantity	Nm <sup>3</sup> /h	1309489	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm <sup>3</sup>	46	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	586	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO <sub>2</sub> )	kg/day	18417	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen( NO <sub>x</sub> )	mg/Nm <sup>3</sup>	188	-	IS 11255 (Part 7):2005
CO <sub>2</sub>	%	11.9	-	IS 13270:1992, Reaffirmed 2009

**Remarks:** #Limit as per MPCB Consent, \*Results corrected to 6% O<sub>2</sub>

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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## Ambient Air Quality Monitoring Report

<b>Report No.:</b> ME-NG4474-190318-SA-RIPL-AMRAVATI		<b>Date:</b> 18.03.2019	
<b>Name and address of Customer</b>	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901	<b>Order Reference:</b>	
		SO No. 3382014804	
<b>Sample Description/Type</b>	Ambient Air Quality Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	1) Near Site Office 2) Terrace of Bachelor Guest House 3) Terrace of WTP Plant Building	<b>Sample Quantity/Packing</b>	Filter Paper (PM <sub>10</sub> ): 3 X 3 No. Filter Paper (PM <sub>2.5</sub> ): 1 X 3 No. SO <sub>2</sub> : 30mL X18 No. PVC Bottle NO <sub>2</sub> : 30mL X18 No. PVC Bottle NH <sub>3</sub> : 10 mL X72 No. PVC Bottle O <sub>3</sub> : 10 mL X 72 No. PVC Bottle 3 X 6 No. Charcoal Tubes 3 X 3 No. Gas Bladder Hg: 30mL X 18 No. PVC Bottle
<b>Date of Sampling</b>	11.03.2019 to 12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	As per Method reference		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Receipt of Sample</b>	18.03.2019

### Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
		Max.	Min.	Max.	Min.
2.8 km/h	SE	37	30	39.0	22.0
<b>Location</b>	1) Near Site Office			<b>Duration of Survey : 24 hours</b>	
Parameter	Unit	Result	#NAAQM Standard	Method Reference	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	14.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	15.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	71	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	25	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30	
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	20.5	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34	

ULR-TC748719000004474P

*Report No.4474 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.80	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.15	5.0	IS 5182 (Part 11): 2006
Benzo (a) Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.54	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m <sup>3</sup>	3.65	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan
<b>Location</b>	2) Terrace of Bachelor Guest House			<b>Duration of Survey</b> : 24 hours
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	16.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	17.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	65	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	22	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.71	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.17	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.57	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55

ULR-TC748719000004474P

*Report No.4474 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Nickel (as Ni)	ng/m <sup>3</sup>	<3	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan
<b>Location</b>	3) Terrace of WTP Plant Building			<b>Duration of Survey</b> : 24 hours
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	13.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	18.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	66	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	23	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	21.3	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.75	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.22	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.35	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m <sup>3</sup>	3.68	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan
<b>Remarks:</b> TWA - Time Weighted Average., #- NAAQS specified as: 24h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM <sub>10</sub> , PM <sub>2.5</sub> , Lead and Ammonia; 1h. TWA in case of Carbon Monoxide and Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel. <b>The tests marked with an * are not accredited by NABL</b>				

ULR-TC748719000004474P

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## Ambient Air Quality Monitoring Report

<b>Report No.:</b> ME-NG5292-190304-SA-RIPL-AMRAVATI		<b>Date:</b> 04.03.2019	
<b>Name and address of Customer</b>	<b>RATTANINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ambient Air Quality Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	1) Near Wagholi gate 2) Mr.Rahul Nakade House Village-Dawargaon 3) Ramkirshna Temple, Village-Kapustalani	<b>Sample Quantity/Packing</b>	Filter Paper (PM <sub>10</sub> ): 3 X 3 No. Filter Paper (PM <sub>2.5</sub> ): 1 X 3 No. SO <sub>2</sub> : 30mL X18 No. PVC Bottle NO <sub>2</sub> : 30mL X18 No. PVC Bottle NH <sub>3</sub> : 10 mL X72 No. PVC Bottle O <sub>3</sub> : 10 mL X 72 No. PVC Bottle 3 X 12 No. Charcoal Tubes 3 X 3 No. Rubber Bladder
<b>Date of Sampling</b>	28.03.2019 & 29.03.2019	<b>Date of Receipt of Sample</b>	30.03.2019
<b>Sampling Procedure</b>	As per Method reference		
<b>Date of Start of Analysis</b>	30.03.2019	<b>Date of Completion of Analysis</b>	03.04.2019

### Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
		Max.	Min.	Max.	Min.
3.1 km/h	NE	47	38	40.0	25.0
<b>Location</b>	1) Near Wagholi gate			<b>Duration of Survey</b> : 24 hours	
Parameter	Unit	Result	#NAAQM Standard	Method Reference	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	16.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	15.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10	
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	68	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14	
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	26	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30	
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34	
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55	

ULR-TC748719000005292F

*Report No.5292 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.88	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.15	5.0	IS 5182 (Part 11): 2006
Benzo (a) Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.32	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m <sup>3</sup>	4.19	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan
<b>Location</b>	2) Mr.Rahul Nakade House Village-Dawargaon			<b>Duration of Survey : 24 hours</b>
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	13.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	15.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	64	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	24	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.80	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.12	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.52	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m <sup>3</sup>	4.28	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan

ULR-TC748719000005292F



*Report No.5292 Cont...*

ULR-TC748719000005292F

Parameter	Unit	Result	#NAAQM Standard	Method Reference
<b>Location</b>	3) Ramkirshna Temple Vill- Kapustalani			<b>Duration of Survey</b> : 24 hours
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	13.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	17.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM <sub>10</sub>	µg/m <sup>3</sup>	62	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub>	µg/m <sup>3</sup>	22	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	µg/m <sup>3</sup>	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.86	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	1.12	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m <sup>3</sup>	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m <sup>3</sup>	0.55	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m <sup>3</sup>	3.70	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Mercury (as Hg)	µg/m <sup>3</sup>	<0.06	-	Method of analysis of Hg & MoF Japan
<b>Remarks:</b> N.D. - Not Detected; TWA - Time Weighted Average., #- NAAQS specified as: 24h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM <sub>10</sub> , PM <sub>2.5</sub> , Lead and Ammonia; 1h. TWA in case of Carbon Monoxide and Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel.				

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**FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.**
  
 Kishor C. Yeole  
**BRANCH MANAGER**


Note:

1. The result listed refers only to the tested sample(s) and applicable parameter(s).
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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4471-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANIINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Back Side Of Ash Dyke Area Well Water Of Mr. Narayan Lomte Farm	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019
<b>Water Level Depth</b>	4.12 meter from ground level		

ULR-TC748719000004471P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.4	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.3	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	521	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	6.0	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	280	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	388	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	60.7	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	42.9	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.4471 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	33.7	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	120	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	21.4	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.307	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.8	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.237	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.030	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50

**Remarks: The tests marked with an \* are not accredited by NABL; N.D. – Not Detected**

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


 Kishor C. Yeole

**BRANCH MANAGER**


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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4470-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANIINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ground Water	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Wagholi Village	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

ULR-TC748719000004470P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.3	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	461	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	268	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	298	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	51.8	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	32.3	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.4470 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	15.1	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	86.6	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	19.9	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.420	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.8	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.272	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.039	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50
<b>Remarks: The tests marked with an * are not accredited by NABL; N.D. – Not Detected</b>					

ULR-TC748719000004470P

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


 Kishor C. Yeole

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4469-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANIINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Well Water of Shri P.Patil Vill. Rasalpur	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

ULR-TC748719000004469P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.4	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.9	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	510	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	320	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	384	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	41.1	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	12.3	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.4469 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	41.2	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	81.8	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	43.7	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.472	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.9	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.229	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.25	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.032	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50

**Remarks: The tests marked with an \* are not accredited by NABL; N.D. – Not Detected**

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


 Kishor C. Yeole

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4468-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANIINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Well Water Gram Panchayat Pimpal Vihargaon	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

ULR-TC748719000004468P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.3	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	388	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	276	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	290	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	15.6	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	19.0	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199



*Report No.4468 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	18.0	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	73.7	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	25.8	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.417	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.7	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.280	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.035	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50

**Remarks: The tests marked with an \* are not accredited by NABL; N.D. – Not Detected**

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


 Kishor C. Yeole

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4467-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	RATTANIINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Well Water of Shri Madhukarrao Dhote field, Vill.-Kapustalni	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

ULR-TC748719000004467P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.6	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	447	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	240	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	332	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	48	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	42.8	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.4467 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	26.3	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	89	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	26.7	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.346	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.9	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.289	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.043	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50

**Remarks: The tests marked with an \* are not accredited by NABL; N.D. – Not Detected**

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4466-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	RATTANIINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.	<b>Order Reference:</b>	
		SO No. 3382014804	
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Borewell- Gram Panchayat Dawargoan Village	<b>Sample Quantity/Packing</b>	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

ULR-TC7487190000004466P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.4	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.3	6.5 to 8.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
7.	Total Dissolved Solids	mg/L	649	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	242	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	482	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	151	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	70	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.4466 Cont...*

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	56	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	123	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	42.7	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.216	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	<0.1	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.8	-	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.315	0.3 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-AI-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	-	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.035	5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	0.001 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 5530-B & C, 5-49, 5-50

**Remarks: The tests marked with an \* are not accredited by NABL; N.D. – Not Detected**

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Engineers, Consultants, Environmental Monitoring Laboratory & Contractors

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Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist.Nagpur-441111

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## Noise Level Monitoring Report

<b>Report No.:</b> ME-NG4478-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Noise Level Monitoring	<b>Sample Collected by</b>	NA
<b>Date of Sampling</b>	12.03.2019		
<b>Sampling Procedure</b>	IS 9876:1981 & manufacturer Manual		

Location	Unit	Result		Norms as per factory Act.	
		Min.	Max.	Maximum Exposure duration per Day	Limit
Green Point gate	dB(A)	73.1	75.4	8 h	90 Max.
Wagholi gate	dB(A)	72.1	77.4		
Near Material gate	dB(A)	75.1	77.6		
Near Labour Colony	dB(A)	63.8	67.6		
Near Bachelor Colony Building	dB(A)	67.6	68.4		
<b>Remark:</b> : Limit from The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV Page No. 283-284					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

  
Kishor C. Yeole

**BRANCH MANAGER**



Note:

1. The result listed refers only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.



# Mahabal Enviro Engineers Pvt. Ltd.

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG4465-190319-SA-RIPL-AMRAVATI		<b>Date:</b> 19.03.2019	
<b>Name and Address of Customer</b>	<b>RATTANINDIA POWER LIMITED</b> Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		<b>Order Reference:</b>
			SO No. 3382014804
<b>Sample Description/Type</b>	Surface Water	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Wagholi Pond	<b>Sample Quantity/Packing</b>	2 L X 2 No. PVC Can 500mL X 2 No. PVC Can
<b>Date of Sampling</b>	12.03.2019	<b>Date of Receipt of Sample</b>	12.03.2019
<b>Sampling Procedure</b>	IS: 3025(Part I):1987 RA 2003; APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	12.03.2019	<b>Date of Completion of Analysis</b>	19.03.2019

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Sr. No.	Parameter	Unit	Result	Method Reference
1.	Colour	Hazen	<1	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3.	Taste	-	N.A.	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.4	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	8.1	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Total Dissolved Solids	mg/L	398	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
7.	Total Suspended Solids	mg/L	16	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-70
8.	Free Chlorine (Residual)	mg/L	<0.05	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI G, 4-72
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	142	IS 3025 (Part 23):1986 RA 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	234	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride (as Cl)	mg/L	68.5	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	88.0	APHA 23 <sup>rd</sup> Ed. 2017, 4500- SO <sub>4</sub> -E, 4-199
13.	Nitrate (as NO <sub>3</sub> )	mg/L	0.890	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium(as Ca)	mg/L	52.9	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	24.8	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86

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Sr. No.	Parameter	Unit	Result	Method Reference
16.	Fluoride (as F)	mg/L	0.481	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron (as B)	mg/L	<0.1	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.9	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	0.430	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
22.	Aluminium (as Al)	mg/L	<0.025	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr <sup>6+</sup> )	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3500- Cr-B, 3-71
25.	Copper (as Cu)	mg/L	<0.04	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.032	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 5530- B & C, 5-49, 5-50
<b>Remarks:</b> N.D. – Not Detected; NA – Not Applicable				

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 Kishor C. Yeole

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