



# 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-NG2981-181013-SA-RIPL-AMRAVATI		<b>Date:</b> 13.10.2018	
<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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<b>Sample Description/Type</b>	Stack Emission Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Boiler Unit 2	<b>Sample Quantity/Packing</b>	Thimble:1 X 1 No. SO <sub>2</sub> :30 mL X 1 No. PVC Bottle
<b>Date of Sampling</b>	09.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<b>Sampling Procedure</b>	As per Method Reference.		
<b>Date of Start of Analysis</b>	11.10.2018	<b>Date of Completion of Analysis</b>	12.10.2018

Stack Details				
Stack Identity		Boiler Unit 2		
Stack attached to		ESP of Boiler U#2		
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)		140		
Load (MW)		268		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	°C	128	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.15	-	IS 11255 (Part 3):2008
Total gas quantity	Nm <sup>3</sup> /h	1295383	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm <sup>3</sup>	50	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	589	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	kg/day	18312	52230	IS 11255 (Part 2):1985 RA 2003
Oxides of Nitrogen( NO <sub>x</sub> )	mg/Nm <sup>3</sup>	238	-	IS 11255 (Part 7):2005
Carbon Dioxide (CO <sub>2</sub> )	%	12.1	-	IS 13270:1992, RA 2009
<b>Remarks:</b>				

END

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C. Yeole

BRANCH MANAGER



Note:

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

ULR-TC7487180000445F



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## Stack Emission Monitoring Report

<b>Report No.:</b> ME-NG4041-181031-SA-RIPL-AMRAVATI		<b>Date:</b> 31.10.2018	
<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. 3382012035 Dt.21.09.2015Amnd 1 Dt. 18.04.2017
<b>Sample Description/Type</b>	Stack Emission Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Boiler Unit 2	<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 Can
<b>Date of Sampling</b>	26.10.2018	<b>Date of Receipt of Sample</b>	29.10.2018
<b>Sampling Procedure</b>	As per Method Reference.		
<b>Date of Start of Analysis</b>	11.10.2018	<b>Date of Completion of Analysis</b>	12.10.2018

Stack Details				
Stack Identity	Boiler Unit 2			
Stack attached to	ESP of Boiler U#2			
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)	139			
Load (MW)	270			
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	°C	125	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.8	-	IS 11255 (Part 3):2008
Total gas quantity	Nm <sup>3</sup> /h	1334250	-	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>	570	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO <sub>2</sub> )	kg/day	18253	52230	IS 11255 (Part 2):1985 RA 2003
Oxides of Nitrogen( NO <sub>x</sub> )	mg/Nm <sup>3</sup>	195	-	IS 11255 (Part 7):2005
Carbon Dioxide (CO <sub>2</sub> )	%	12.3	-	IS 13270:1992, RA 2009
<b>Remarks:</b>				

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C. Yeole

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

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ULR-TC7487180001511F



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## Ambient Air Quality Monitoring Report

<b>Report No.:</b> ME-NG4037-181101-SA-RIPL-AMRAVATI		<b>Date:</b> 01.11.2018	
<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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017	
<b>Sample Description/Type</b>	Ambient Air Quality Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	1) Village Dawargaon 2) Village Kapustalani 3) Village Wagholi	<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. Rubber Bladder Hg: 30mL X 6 No. PVC Bottle
<b>Date of Sampling</b>	26.10.2018 & 27.10.2018	<b>Date of Receipt of Sample</b>	29.10.2018
<b>Sampling Procedure</b>	As per Method reference		
<b>Date of Start of Analysis</b>	29.10.2018	<b>Date of Completion of Analysis</b>	01.11.2018

### Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
		Max.	Min.	Max.	Min.
3.1 km/h	NE	48	28	40.0	22.0
<b>Location</b>	1) Village Dawargaon			<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>	15.6	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>	21.2	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>	63	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>	<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	

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*Report No.4037 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.78	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	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>	0.65	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>	3.20	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) Village Kapustalani			<b>Duration of Survey : 24 hours</b>
Sulphur Dioxide (SO <sub>2</sub> )	μg/m <sup>3</sup>	11.9	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>	20.5	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>	61	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>	<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>	1.03	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	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>	3.78	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

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*Report No.4037 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
<b>Location</b>	3) Village Wagholi			<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>	19.1	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>	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>	27	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>	0.97	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	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>	0.42	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>	4.12	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. <b>The tests marked with an * are not accredited by NABL</b>				

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**FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.**

 Kishor C. Yeole

**BRANCH MANAGER**


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## Ambient Air Quality Monitoring Report

<b>Report No.:</b> ME-NG2978-181016-SA- RIPL-AMRAVATI		<b>Date:</b> 16.10.2018	
<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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017	
<b>Sample Description/Type</b>	Ambient Air Quality Monitoring	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	1) Terrace of Bachelor Guest House 2) Terrace of WTP Plant Building 3) Near Site Office	<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. Rubber Bladder Hg: 30mL X 6 No. PVC Bottle
<b>Date of Sampling</b>	09.10.2018 & 10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<b>Sampling Procedure</b>	As per Method reference		
<b>Date of Start of Analysis</b>	11.10.2018	<b>Date of Completion of Analysis</b>	16.10.2018

### Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
		Max.	Min.	Max.	Min.
3.2 km/h	SE	58	32	44.0	26.0
<b>Location</b>	1) Terrace of Bachelor Guest House			<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>	5.8	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>	15.3	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>	47	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>	20	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	

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Parameter	Unit	Result	#NAAQM Standard	Method Reference
Carbon Monoxide(CO)	mg/m <sup>3</sup>	0.95	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>	1.62	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>	0.86	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>	4.0	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 WTP Plant Building			<b>Duration of Survey : 24 hours</b>
Sulphur Dioxide (SO <sub>2</sub> )	μg/m <sup>3</sup>	5.9	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>	14.8	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>	50	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>	0.71	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>	1.86	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	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

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*Report No.2978 Cont...*

Parameter	Unit	Result	#NAAQM Standard	Method Reference
<b>Location</b>	3) Near Site Office			<b>Duration of Survey</b> : 24 hours
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	17.5	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>	14.1	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>	59	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>	<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>	0.89	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>	1.35	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>	0.71	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>	4.80	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. <b>The tests marked with an * are not accredited by NABL</b>				

ULR-TC7487180000442P

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**FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.**

 Kishor C. Yeole

**BRANCH MANAGER**


Note:

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG2997-181017-SA- RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<b>Sample Description/Type</b>	Surface Water	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	1. Wagholi Pond 2. Malegaon Pond	<b>Sample Quantity/Packing</b>	2 L X 2 No. PVC Can 500mL X 2 No. PVC Can
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<b>Sampling Procedure</b>	IS: 3025 (Part I) 1987 RA2003, APHA 23 <sup>rd</sup> Ed. 2017, 1060-B, 1-40;		
<b>Date of Start of Analysis</b>	11.10.2018	<b>Date of Completion of Analysis</b>	15.10.2018

ULR-TC7487180000461P

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1.	Colour	Hazen	<1	<1	APHA 23 <sup>rd</sup> Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3.	Taste	-	NA	NA	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	2.5	11.5	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.6	7.2	APHA 23 <sup>rd</sup> Ed. 2017, 4500-H <sup>+</sup> -B, 4-95
6.	Total Dissolved Solids	mg/L	439	390	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
7.	Total Suspended Solids	mg/L	10	12	APHA 23 <sup>rd</sup> Ed. 2017, 2540-D, 2-70
8.	Free Chlorine (Residual)	mg/L	<0.05	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-Cl G, 4-72
9.	Alkalinity Total (as CaCO <sub>3</sub> )	mg/L	156	144	IS 3025 (Part 23):1986 RA 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	260	268	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride (as Cl)	mg/L	99.5	60.1	APHA 23 <sup>rd</sup> Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	75.8	80.0	APHA 23 <sup>rd</sup> Ed. 2017, 4500- SO <sub>4</sub> -E, 4-199
13.	Nitrate (as NO <sub>3</sub> )	mg/L	2.27	3.89	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium(as Ca)	mg/L	60.1	77.0	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	26.7	18.5	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86

*Report No.2997 cont...*

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
16.	Fluoride (as F)	mg/L	0.575	0.592	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron (as B)	mg/L	<0.1	<0.1	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	5.2	6.3	APHA 23 <sup>rd</sup> Ed. 2017, 4500-O, B & C, 4-144, 4-146
19.	Oil and Grease	mg/L	N.D.	N.D.	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
20.	Iron (as Fe)	mg/L	1.43	0.193	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	0.31	0.060	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
22.	Aluminium (as Al)	mg/L	0.026	0.027	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	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.	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3500- Cr-B, 3-71
25.	Copper (as Cu)	mg/L	0.070	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	<0.1	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.030	0.020	APHA 23 <sup>rd</sup> Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	N.D.	APHA 23 <sup>rd</sup> Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	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.	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					

ULR-TC7487180000461P

-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-NG2993-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	<b>RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Well Water of Shri Arun Ghathode Vill. Rasalpur	<b>Sample Quantity/Packing</b>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018
<b>Water Level Depth</b>	7.28 meter from ground level		

ULR-TC7487180000457P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	6.0	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	686	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	424	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	452	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	47.3	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	53.0	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.2993 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	31.7	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	84.2	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	58.8	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.508	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	0.127	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.1	-	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	0.503	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	N.D.	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	0.021	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-NG2992-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017	
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Borewell- Gram Panchayat Diwargoan	<b>Sample Quantity/Packing</b>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018

ULR-TC7487180000456P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	5.1	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	797	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	360	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	576	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	175	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	70.0	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199



Report No.2992 Cont...

ULR-TC7487180000456P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	11.6	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	139	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	55.4	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.581	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	0.112	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	5.8	-	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	0.149	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	N.D.	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	0.585	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-NG2991-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017	
<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>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018

ULR-TC7487180000455P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	3.8	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	508	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	284	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	326	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	75.9	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	30.5	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.2991 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	11.6	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	105	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	15.6	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.592	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	6.5	-	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	0.258	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	N.D.	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	<0.01	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

**BRANCH MANAGER**


Note:

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG2990-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017	
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Dugwell of Field of Mr. Bhaskar Harde Wagholi Village	<b>Sample Quantity/Packing</b>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018

ULR-TC7487180000454P

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	4.8	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	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	480	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	246	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	376	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	56.2	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	63.0	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

*Report No.2990 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	17.4	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	82.6	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	41.3	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.575	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	5.5	-	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	0.192	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	0.026	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	N.D.	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	N.D.	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

**BRANCH MANAGER**



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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG2989-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	<b>RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<b>Sample Description/Type</b>	Ground Water/Grab	<b>Sample Collected by</b>	Laboratory
<b>Sampling Location</b>	Well Water of Shri Shyamroaji Zode House Village-Talkhanda	<b>Sample Quantity/Packing</b>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018
<b>Water Level Depth</b>	4.52 meter from ground level		

ULR-TC7487180000453P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	1.3	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	6.9	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	474	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	248	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	374	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	42.4	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	80.5	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

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**Phone: 2582 0658/ 3139/ 1663/ 3154 Fax: 91-22-25823543 [thane@mahabal.com](mailto:thane@mahabal.com)**

*Report No.2989 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	9.50	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	118	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	19.4	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.525	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	5.6	-	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	0.084	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	N.D.	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	<0.01	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-NG2988-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	<b>RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<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>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018
<b>Water Level Depth</b>	3.17 meter from ground level		

ULR-TC7487180000452P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	5.0	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.2	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	356	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	272	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO <sub>3</sub> )	mg/L	284	200 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2340-C, 2-48
11.	Chloride( as Cl)	mg/L	10.8	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-CI-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	14.0	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199



Report No.2988 Cont...

ULR-TC7487180000452P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO <sub>3</sub> )	mg/L	9.80	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	72.1	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	25.3	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.514	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	5.6	-	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	0.127	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	0.026	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	N.D.	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	0.013	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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# Mahabal Enviro Engineers Pvt. Ltd.

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

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## Water Sample Analysis Report

<b>Report No.:</b> ME-NG2987-181017-SA-RIPL-AMRAVATI		<b>Date:</b> 17.10.2018	
<b>Name and Address of Customer</b>	<b>RATTANI INDIA 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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
<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>	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
<b>Date of Sampling</b>	10.10.2018	<b>Date of Receipt of Sample</b>	11.10.2018
<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>	11.10.2018	<b>Date of Completion of Analysis</b>	17.10.2018
<b>Water Level Depth</b>	3.17 meter from ground level		

ULR-TC7487180000451P

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	-	NA	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	3.2	1 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	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-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	501	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	280	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	49.3	250 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO <sub>4</sub> )	mg/L	25.8	200 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-SO <sub>4</sub> -E, 4-199

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**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)**

*Report No.2987 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	34.1	45 Max	APHA 23 <sup>rd</sup> Ed. 2017, 4500-NO <sub>3</sub> , E 4-131
14.	Calcium (as Ca)	mg/L	80.2	75 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	32.1	30 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride( as F)	mg/L	0.503	1.0 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-F, D, 4-90
17.	Boron( as B)	mg/L	0.127	0.5 Max.	APHA 23 <sup>rd</sup> Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	5.3	-	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	0.116	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	0.026	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	N.D.	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	0.010	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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## Noise Level Monitoring Report

<b>Report No.:</b> ME-NG2982-181016-SA- RIPL-AMRAVATI		<b>Date:</b> 16.10.2018	
<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. 3382012035 dtd. 21.09.2015.
<b>Sample Description/Type</b>	Noise Level Monitoring	<b>Sample Collected by</b>	NA
<b>Date of Sampling</b>	11.10.2018		
<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)	69.6	75.2	8 h	90 Max.
Wagholi gate	dB(A)	71.6	76.7		
Near Material gate	dB(A)	70.9	79.1		
Near Labour Colony	dB(A)	64.7	68.7		
Near Bachelor Colony Building	dB(A)	64.8	73.4		
<b>Remark:</b> : Limit from The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV Page No. 283-284					

ULR-TC7487180000446F

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