



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

Stack Emission Monitoring Report

Report No.: ME-NG6045-190411-SA-RIPL-AMRAVATI			Date: 11.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		Order Reference:
			SO No. 3382014804
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. I	Sample Quantity / Packing	Thimble:1 X 1 No. SO ₂ :30 mL X 1 No. PVC Bottle NO _x : 25mL X 1No. PVC Bottle
Date of Sampling	05.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	11.04.2019

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)		115		
Load (MW)		190		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	⁰ C	119	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	24.6	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1121014	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	48	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	570	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO ₂)	kg/day	15335	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	170	-	IS 11255 (Part 7):2005
CO ₂	%	11.9	-	IS 13270:1992, Reaffirmed 2009
Remarks: #Limit as per MPCB Consent, *Results corrected to 6% O ₂				

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C. Yeole

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Note:

1. 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

ULR-TC748719000006045F



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Stack Emission Monitoring Report

Report No.: ME-NG6046-190411-SA-RIPL-AMRAVATI			Date: 11.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		Order Reference:
			SO No. 3382014804
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. II	Sample Quantity / Packing	Thimble:1 X 1 No. SO ₂ :30 mL X 1 No. PVC Bottle NO _x : 25mL X 1No. PVC Bottle
Date of Sampling	05.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	11.04.2019

Stack Details				
Stack Identity		Boiler Unit No. II		
Stack attached to		ESP of Boiler U#II		
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)		116		
Load (MW)		190		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	⁰ C	121	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	22.3	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1008585	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	47	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	592	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO ₂)	kg/day	14330	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	257	-	IS 11255 (Part 7):2005
CO ₂	%	12.1	-	IS 13270:1992, Reaffirmed 2009
Remarks: #Limit as per MPCB Consent, *Results corrected to 6% O ₂				

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Stack Emission Monitoring Report

Report No.: ME-NG6047-190411-SA-RIPL-AMRAVATI			Date: 11.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		Order Reference:
			SO No. 3382014804
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit #1	Sample Quantity / Packing	Thimble:1 X 1 No. SO ₂ :30 mL X 1 No. PVC Bottle NO _x : 25mL X 1No. PVC Bottle CO ₂ : Bladder: 1 X 1 No.
Date of Sampling	05.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	11.04.2019

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)		120		
Load (MW)		190		
Parameter	Unit	Result	Limit	Method Reference
Flue gas Temperature	⁰ C	120	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	22.9	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1038358	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	41	-	IS 11255 (Part 1):1985, RA 2003
Sulphur Dioxide (SO ₂)	mg/Nm ³	557	-	IS 11255 (Part 2):1985, RA 2003
*Sulphur Dioxide (SO ₂)	kg/day	13881	52230	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	156.5	-	IS 11255 (Part 7):2005
CO ₂	%	12.1	-	IS 13270:1992, Reaffirmed 2009
Remarks: #Limit as per MPCB Consent, *Results corrected to 6% O ₂				

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Ambient Air Quality Monitoring Report

Report No.: ME-NG6048-190413-SA-RIPL-AMRAVATI		Date: 13.04.2019	
Name and address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.	Order Reference:	
		SO No. 3382014804	
Sample Description / Type	Ambient Air Quality Monitoring	Sample Collected by	Laboratory
Sampling Location	1) Near Site Office 2) Terrace of Bachelor Guest House 3) Terrace of WTP Plant Building	Sample Quantity / Packing	Filter Paper (PM ₁₀): 3 X 3 No. Filter Paper (PM _{2.5}): 1 X 3 No. SO ₂ : 30mL X18 No. PVC Bottle NO ₂ : 30mL X18 No. PVC Bottle NH ₃ : 10 mL X72 No. PVC Bottle O ₃ : 10 mL X 72 No. PVC Bottle 3 X 6 No. Charcoal Tubes 3 X 3 No. Gas Bladder
Date of Sampling	04.04.2019 to 05.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	As per Method reference		
Date of Start of Analysis	08.04.2019	Date of Receipt of Sample	13.04.2019

Meteorological Data / Environmental Conditions					
Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
3.2 Km/h	SE	Max.	Min.	Max.	Min.
		38	26	42.0	26.0
Location	1) Near Site Office			Duration of Survey : 24 hours	
Parameter	Unit	Result	#NAAQM Standard	Method Reference	
Sulphur Dioxide (SO ₂)	µg/m ³	11.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	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 ₁₀	µg/m ³	69	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 _{2.5}	µg/m ³	27	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30	
Ozone (O ₃)	µg/m ³	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34	

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Parameter	Unit	Result	#NAAQM Standard	Method Reference
Lead (as Pb)	$\mu\text{g}/\text{m}^3$	<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^3	0.70	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	<1	5.0	IS 5182 (Part 11): 2006
Benzo (a) Pyrene (Particulate phase only)	ng/m^3	<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^3	<0.3	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m^3	<3	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Location	2) Terrace of Bachelor Guest House			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	$\mu\text{g}/\text{m}^3$	9.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	$\mu\text{g}/\text{m}^3$	14.0	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10 μm) or PM ₁₀	$\mu\text{g}/\text{m}^3$	73	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 μm) or PM _{2.5}	$\mu\text{g}/\text{m}^3$	29	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O ₃)	$\mu\text{g}/\text{m}^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	$\mu\text{g}/\text{m}^3$	<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^3	0.72	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	$\mu\text{g}/\text{m}^3$	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	$\mu\text{g}/\text{m}^3$	<1	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m^3	<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^3	0.32	6.0	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
Nickel (as Ni)	ng/m ³	<3	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Location	3) Terrace of WTP Plant Building			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	µg/m ³	10.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	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 ₁₀	µg/m ³	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 _{2.5}	µg/m ³	25	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O ₃)	µg/m ³	<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 ³	<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 ³	0.64	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	µg/m ³	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	µg/m ³	<1	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m ³	<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 ³	0.39	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m ³	<3	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Remarks: TWA - Time Weighted Average., #- NAAQS specified as: 24h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM ₁₀ , PM _{2.5} , 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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Ambient Air Quality Monitoring Report

Report No.: ME-NG6049-190504-SA-RIPL-AMRAVATI		Date: 04.05.2019	
Name and address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.	Order Reference:	
		SO No. 3382014804	
Sample Description /Type	Ambient Air Quality Monitoring	Sample Collected by	Laboratory
Sampling Location	1) Near Wagholi gate 2) Mr.Rahul Nakade House Village-Dawargaon 3) Ramkirshna Temple, Village-Kapustalani	Sample Quantity / Packing	Filter Paper (PM ₁₀): 3 X 3 No. Filter Paper (PM _{2.5}): 1 X 3 No. SO ₂ : 30mL X18 No. PVC Bottle NO ₂ : 30mL X18 No. PVC Bottle NH ₃ : 10 mL X72 No. PVC Bottle O ₃ : 10 mL X 72 No. PVC Bottle 3 X 12 No. Charcoal Tubes 3 X 3 No. Rubber Bladder
Date of Sampling	26.04.2019 & 27.04.2019	Date of Receipt of Sample	27.04.2019
Sampling Procedure	As per Method reference		
Date of Start of Analysis	29.04.2019	Date of Completion of Analysis	03.05.2019

Meteorological Data / Environmental Conditions					
Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
3.1 km/h	NE	Max.	Min.	Max.	Min.
		47	38	40.0	25.0
Location	1) Near Wagholi gate			Duration of Survey : 24 hours	
Parameter	Unit	Result	#NAAQM Standard	Method Reference	
Sulphur Dioxide (SO ₂)	µg/m ³	15.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6	
Nitrogen Dioxide (NO ₂)	µg/m ³	17.2	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 ₁₀	µg/m ³	70	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 _{2.5}	µg/m ³	24	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30	
Ozone (O ₃)	µg/m ³	<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 ³	<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 ³	0.92	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	µg/m ³	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	µg/m ³	1.10	5.0	IS 5182 (Part 11): 2006
Benzo (a) Pyrene (Particulate phase only)	ng/m ³	<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 ³	0.30	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m ³	4.22	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Mercury (as Hg)	µg/m ³	<0.06	-	Method of analysis of Hg & MoF Japan
Location	2) Mr.Rahul Nakade House Village-Dawargaon			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	µg/m ³	12.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	13.3	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 ₁₀	µg/m ³	60	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 _{2.5}	µg/m ³	22	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O ₃)	µg/m ³	<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 ³	<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 ³	0.82	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	µg/m ³	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	µg/m ³	1.14	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m ³	<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 ³	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 ³	4.30	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Mercury (as Hg)	µg/m ³	<0.06	-	Method of analysis of Hg & MoF Japan

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Report No.6049 Cont...

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Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	3) Ramkirshna Temple Vill- Kapustalani			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	µg/m ³	11.2	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	µg/m ³	12.3	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 ₁₀	µg/m ³	58	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 _{2.5}	µg/m ³	20	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O ₃)	µg/m ³	<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 ³	<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 ³	0.81	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH ₃)	µg/m ³	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C ₆ H ₆)	µg/m ³	1.18	5.0	IS 5182 (Part 11): 2006
Benzo(a)Pyrene (Particulate phase only)	ng/m ³	<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 ³	0.58	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m ³	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 ³	<0.06	-	Method of analysis of Hg & MoF Japan
Remarks: N.D. - Not Detected; TWA - Time Weighted Average., #- NAAQS specified as: 24h. TWA in case of Sulphur Dioxide, Nitrogen Dioxide, PM ₁₀ , PM _{2.5} , 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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1. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Water Sample Analysis Report

Report No.: ME-NG6062-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Ground Water	Sample Collected by	Laboratory
Sampling Location	Wagholi Village	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	446	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	8	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<0.05	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	296	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	238	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	58.8	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	35.4	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199

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Report No.6062 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	20.6	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	82.6	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	21.9	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.469	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.3	-	APHA 23 rd 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	0.158	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.026	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

-END-

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Water Sample Analysis Report

Report No.: ME-NG6061-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Pimpal Vihargaon Village	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.6	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	391	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	270	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	298	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	23.1	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	17.7	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199



Report No.6061 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	19.7	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	74.5	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	27.2	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.480	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	7.0	-	APHA 23 rd 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	0.184	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	0.015	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.021	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

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Water Sample Analysis Report

Report No.: ME-NG6060-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Digargaon Village	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	730	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	286	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	416	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	132	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	73.6	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199

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Report No.6060 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	52.8	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	102	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	39.4	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.481	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.9	-	APHA 23 rd 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	0.136	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	0.013	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.018	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

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Water Sample Analysis Report

Report No.: ME-NG6059-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Kapustalni Village	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.3	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	398	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	220	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	288	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	42.4	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	40.8	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199



Report No.6059 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	28.1	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	75.4	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	24.3	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.420	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.9	-	APHA 23 rd 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	0.126	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.023	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

-END-

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Water Sample Analysis Report

Report No.: ME-NG6058-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.	Order Reference:	
		SO No. 3382014804	
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Rasalpur Village	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.8	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	486	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	324	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	366	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	37.6	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	14.8	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199

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Report No.6058 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	33.5	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	76.2	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	42.8	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.442	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.7	-	APHA 23 rd 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	0.136	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.017	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

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Water Sample Analysis Report

Report No.: ME-NG6057-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901.		Order Reference:
			SO No. 3382014804
Sample Description / Type	Surface Water	Sample Collected by	Laboratory
Sampling Location	Wagholi Pond	Sample Quantity / Packing	2 L X 2 No. PVC Can 500mL X 2 No. PVC Can
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result	Method Reference
1.	Colour	Hazen	<1	APHA 23 rd Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3.	Taste	-	NA	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	APHA 23 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.9	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Total Dissolved Solids	mg/L	376	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
7.	Total Suspended Solids	mg/L	17	APHA 23 rd Ed. 2017, 2540-D, 2-70
8.	Free Chlorine (Residual)	mg/L	<0.05	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
9.	Alkalinity Total (as CaCO ₃)	mg/L	136	IS 3025 (Part 23):1986 RA 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	230	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride (as Cl)	mg/L	73.3	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	72.6	APHA 23 rd Ed. 2017, 4500- SO ₄ -E, 4-199
13.	Nitrate (as NO ₃)	mg/L	0.984	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium(as Ca)	mg/L	55.3	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	22.4	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86



Report No.6057 cont...

Sr. No.	Parameter	Unit	Result	Method Reference
16.	Fluoride (as F)	mg/L	0.380	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron (as B)	mg/L	<0.1	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.7	APHA 23 rd 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	0.155	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	APHA 23 rd Ed. 2017, 3111-B, 3-20
22.	Aluminium (as Al)	mg/L	<0.025	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3500- Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.020	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic compounds (as C ₆ H ₅ OH)	mg/L	N.D.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL				

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Water Sample Analysis Report

Report No.: ME-NG6063-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Back Side Of Ash Dyke Area Well Water of Mr. Narayan Lomte Farm	Sample Quantity / Packing	2 L X 1 No. PVC Can 500mL X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019
Water Level Depth	3.17 meter from ground level		

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23 rd 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	0.2	1 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	6.5 to 8.5	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	538	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	7	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	292	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	384	200 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	59.9	250 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	56.1	200 Max	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199



Report No.6063 Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO ₃)	mg/L	30.8	45 Max	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	114	75 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	24.3	30 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.438	1.0 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.4	-	APHA 23 rd 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	0.136	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr ⁶⁺)	mg/L	N.D.	-	APHA 23 rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	<0.1	0.01 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.018	5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	APHA 23 rd Ed. 2017, 5530-B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable The tests marked with an * are not accredited by NABL					

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Effluent Sample Analysis Report

Report No.: ME-NG6064-190413-SA-RIPL-AMRAVATI			Date: 13.04.2019
Name and Address of Customer	RATTANINDIA POWER LIMITED Plot No.D-2 & D-2 (PART) at Additional MIDC, Village-Nandgaonpeth, Tal & Dist: Amravati 444 901		Order Reference:
			SO No. 3382014804
Sample Description / Type	Domestic Effluent	Sample Collected by	Laboratory
Sampling Location	1.STP Plant Outlet 2.STP Colony Outlet	Sample Quantity / Packing	2 L X 2 No. PVC Can 100mL X 2 No. PVC Can
Date of Sampling	06.04.2019	Date of Receipt of Sample	08.04.2019
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	08.04.2019	Date of Completion of Analysis	13.04.2019

Sr. No.	Parameter	Unit	Result		Limit as per MPCB Consent	Method Reference
			1	2		
1	Biochemical Oxygen Demand (3 days 27°C)	mg/L	13	14	30 Max.	IS 3025 (Part 44): 1993, Reaffirmed 2009
2	Chemical Oxygen Demand	mg/L	44	48	100 Max.	APHA 23 rd Ed. 2017, 5220-B, 5-18
Remarks:						

END

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