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Engineers, Consultants, Environmental Monitoring Laboratory & Contractors
Plot Nos. 13,14,17,18, Grampanchayat Bokhara, 8 km from Nagpur City,
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Stack Emission Monitoring Report

Report No.: ME-NG4905-181119-SA-RIPL-AMRAVATI			**Date:** 19.11.2018
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. 3382012035 Dt.21.09.2015Amnd 1 Dt. 18.04.2017
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Boiler Unit 2	**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	12.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	14.11.2018	**Date of Completion of Analysis**	19.11.2018

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)	120
Load (MW)	195

Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	^0C	121	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.3	-	IS 11255 (Part 3):2008
Total gas quantity	Nm^3/h	1325182	-	IS 11255 (Part 3):2008
*Particulate Matter (PM)	mg/Nm^3	43	50	IS 11255 (Part 1):1985, RA 2003
*Sulphur Dioxide (SO_2)	mg/Nm^3	566	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO_2)	kg/day	18001	52230	IS 11255 (Part 7):2005
*Oxides of Nitrogen(NO_X)	mg/Nm^3	166	-	IS 11255 (Part 7):2005
Carbon Dioxide (CO_2)	%	11.6	-	IS 13270:1992, RA 2009

Remarks:#Limit as per MPCB Consent, *Results corrected to 6% O2

ULR-TC748718000237 4F

END

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole
BRANCH MANAGER

Note:1. The result listed refers only to the tested sample(s) and applicable parameter(s).
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Plot No. F-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra
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Stack Emission Monitoring Report

Report No.: ME-NG6014-181205-SA-RIPL-AMRAVATI			**Date:** 05.12.2018
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. 3382012035 Dt.21.09.2015Amnd 1 Dt. 18.04.2017
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
Date of Sampling	28.11.2018	**Date of Receipt of Sample**	28.11.2018
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	29.11.2018	**Date of Completion of Analysis**	05.12.2018

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)	121
Load (MW)	190

Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	^0C	112	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.1	-	IS 11255 (Part 3):2008
Total gas quantity	Nm^3/h	1346903	-	IS 11255 (Part 3):2008
*Particulate Matter (PM)	mg/Nm^3	37	50	IS 11255 (Part 1):1985, RA 2003
*Sulphur Dioxide (SO_2)	mg/Nm^3	576	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO_2)	kg/day	18620	52230	IS 11255 (Part 7):2005
*Oxides of Nitrogen(NO_X)	mg/Nm^3	217	-	IS 11255 (Part 7):2005
Carbon Dioxide (CO_2)	%	11.8	-	IS 13270:1992, RA 2009

Remarks:#Limit as per MPCB Consent, *Results corrected to 6% O2

END

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BRANCH MANAGER

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Stack Emission Monitoring Report

Report No.: ME-NG6013-181205-SA-RIPL-AMRAVATI			**Date:** 05.12.2018
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. 3382012035 Dt.21.09.2015Amnd 1 Dt. 18.04.2017
Sample Description/Type	Stack Emission Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Boiler Unit #2	**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	28.11.2018	**Date of Receipt of Sample**	29.11.2018
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	29.11.2018	**Date of Completion of Analysis**	05.12.2018

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)	120
Load (MW)	195

Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	^0C	122	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	28.8	-	IS 11255 (Part 3):2008
Total gas quantity	Nm^3/h	1299270	-	IS 11255 (Part 3):2008
*Particulate Matter (PM)	mg/Nm^3	39	50	IS 11255 (Part 1):1985, RA 2003
*Sulphur Dioxide (SO_2)	mg/Nm^3	580	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO_2)	kg/day	18086	52230	IS 11255 (Part 7):2005
*Oxides of Nitrogen(NO_X)	mg/Nm^3	194	-	IS 11255 (Part 7):2005
Carbon Dioxide (CO_2)	%	12.1	-	IS 13270:1992, RA 2009

Remarks:#Limit as per MPCB Consent, *Results corrected to 6% O2

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Kishor C.Yeole
BRANCH MANAGER

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Ambient Air Quality Monitoring Report

Report No.: ME-NG4902-181126-SA- RIPL-AMRAVATI			**Date:** 26.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	1) Terrace of Bachelor Guest House 2) Terrace of WTP Plant Building 3) Near Site Office	**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. Rubber Bladder Hg: 30mL X 6 No. PVC Bottle
Date of Sampling	12.11.2018 & 13.11.2018	**Date of Receipt of Sample**	13.11.2018
Sampling Procedure	As per Method reference		
Date of Start of Analysis	14.11.2018	**Date of Completion of Analysis**	22.11.2018

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
2.8 km/h	NE	54	42	38.0	18.0
Location	1) Terrace of Bachelor Guest House			**Duration of Survey :** 24 hours	

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	11.0	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	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 10µm) or PM_{10}	$\mu g/m^3$	54	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 $PM_{2.5}$	$\mu g/m^3$	18	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30
Ozone (O_3)	$\mu g/m^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.31-34
Lead (as Pb)	$\mu g/m^3$	<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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Report No.4902 Cont…

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)	$\mu g/m^3$	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	1.62	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	0.69	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	4.9	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	$\mu g/m^3$	<0.06	-	Method of analysis of Hg & MoF Japan
Location 2) Terrace of WTP Plant Building				**Duration of Survey :** 24 hours
Sulphur Dioxide (SO_2)	$\mu g/m^3$	10.8	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	14.2	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}	$\mu g/m^3$	54	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 $PM_{2.5}$	$\mu g/m^3$	20	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30
Ozone (O_3)	$\mu g/m^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.31-34
Lead (as Pb)	$\mu g/m^3$	<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	1.12	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH_3)	$\mu g/m^3$	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	1.86	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	0.79	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	4.87	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	$\mu g/m^3$	<0.06	-	Method of analysis of Hg & MoF Japan

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Report No.4902 Cont…

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location 3) Near Site Office				**Duration of Survey :** 24 hours
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	12.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	µg/m^3	64	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	µg/m^3	21	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	0.97	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_6H_6)	µg/m^3	1.35	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	0.76	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	4.80	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
*Mercury (as Hg)	µg/m^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.
The tests marked with an * are not accredited by NABL

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole
BRANCH MANAGER

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Ambient Air Quality Monitoring Report

Report No.: ME-NG6010-181204-SA-RIPL-AMRAVATI			**Date:** 04.12.2018
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. 3382012035 dtd. 21.09.2015.
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	26.10.2018 & 27.10.2018	**Date of Receipt of Sample**	29.10.2018
Sampling Procedure	As per Method reference		
Date of Start of Analysis	29.10.2018	**Date of Completion of Analysis**	01.11.2018

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (^{0}C)	
		Max.	Min.	Max.	Min.
2.7 km/h	NE	64	38	38.0	16.0
Location	1) Near Wagholi gate			**Duration of Survey :** 24 hours	

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Sulphur Dioxide (SO_2)	$\mu g/m^3$	8.3	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	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}	$\mu g/m^3$	74	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 $PM_{2.5}$	$\mu g/m^3$	38	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30
Ozone (O_3)	$\mu g/m^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.31-34
Lead (as Pb)	$\mu g/m^3$	<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	0.89	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH_3)	$\mu g/m^3$	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	<1.0	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
Mercury (as Hg)	$\mu g/m^3$	<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)	$\mu g/m^3$	12.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	17.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	68	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	$\mu g/m^3$	34	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30
Ozone (O_3)	$\mu g/m^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.31-34
Lead (as Pb)	$\mu g/m^3$	<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	0.96	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH_3)	$\mu g/m^3$	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	<1.0	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
Mercury (as Hg)	$\mu g/m^3$	<0.06	-	Method of analysis of Hg & MoF Japan

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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

Report No.6010 Cont…

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Location	3) Ramkirshna Temple Vill- Kapustalani			**Duration of Survey :** 24 hours
Sulphur Dioxide (SO_2)	$\mu g/m^3$	6.4	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	$\mu g/m^3$	12.6	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	$\mu g/m^3$	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 $PM_{2.5}$	$\mu g/m^3$	32	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.15-30
Ozone (O_3)	$\mu g/m^3$	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13,Page No.31-34
Lead (as Pb)	$\mu g/m^3$	<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	0.99	4.0	IS 5182 (Part 10):1999 RA 2003
Ammonia (NH_3)	$\mu g/m^3$	<20.0	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	<1.0	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
Mercury (as Hg)	$\mu g/m^3$	<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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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole
BRANCH MANAGER

MAHABAL ENVIRO ENGINEERS PVT LTD

Note:
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ULR-TC748718000003479F

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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.Nagapur-441111

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

Water Sample Analysis Report

Report No.: ME-NG4917-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Borewell- Gram Panchayat Digargoan	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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	2.7	1 Max.	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.5	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	0.066	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	726	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	340	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	544	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	150	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	93.1	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

ULR-TC748718000002386P

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

Continuation Sheet

Report No.4917 Cont…

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	18.6	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	139	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	55.4	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.789	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	0.112	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	5.8	-	APHA 23rd 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	0.556	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	0.025	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.080	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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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Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist.Nagapur-441111

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Water Sample Analysis Report

Report No.: ME-NG4916-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Well Water Gram Panchayat Pimpal Vihargaon	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	14.11.2018	**Date of Completion of Analysis**	26.11.2018
Water Level Depth	3.20 meter from ground level		

ULR-TC748718000002385P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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	3.3	1 Max.	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.6	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	0.06	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	364	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	290	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	278	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	12.3	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	23.9	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

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Report No.4916 Cont…

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	10.6	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	65.7	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	27.7	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.433	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.6	-	APHA 23rd 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	0.433	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	0.023	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.038	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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

Report No.: ME-NG4915-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Well Water of Shri Madhukarrao Dhote field, Vill.-Kapustalni	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018

ULR-TC748718000002384P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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	0.7	1 Max.	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.6	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	552	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	304	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	320	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	74.0	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	58.0	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

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Report No.4915 Cont…

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	7.97	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	97.8	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	18.5	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.555	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	N.D.	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.7	-	APHA 23rd 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	0.433	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.046	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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

Report No.: ME-NG4914-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Dugwell of Field of Mr. Bhaskar Harde Wagholi Village	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018

ULR-TC748718000002383P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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	2.0	1 Max.	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.8	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	466	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	230	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	340	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	53.2	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	73.0	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

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)

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Continuation Sheet

Report No.4914Cont...

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	13.7	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	96.2	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	26.2	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.388	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.6	-	APHA 23rd 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	0.578	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	0.026	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	<0.05	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.042	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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

MAHABAL ENVIRO ENGINEERS P. LTD.

Note:
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Plot Nos. 13,14,17,18, Grampanchayat Bokhara, 8 km from Nagpur City,
Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist.Nagapur-441111

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

Water Sample Analysis Report

Report No.: ME-NG4913-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Well Water of Shri Shyamroaji Zode House Village-Talkhanda	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018
Water Level Depth	4.38 meter from ground level		

ULR-TC748718000002382P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	8.3	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	554	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	262	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	438	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	57.0	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	96.0	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

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)

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Continuation Sheet

Report No.4913 Cont…

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	8.8	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	115	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	36.4	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.405	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	<0.1	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.6	-	APHA 23rd 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	0.771	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	<0.01	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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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Engineers, Consultants, Environmental Monitoring Laboratory & Contractors

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

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Water Sample Analysis Report

Report No.: ME-NG4912-181130-SA-RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Ground Water/Grab	**Sample Collected by**	Laboratory
Sampling Location	Well Water of Shri Arun Ghathode Vill. Rasalpur	**Sample Quantity/Packing**	3 L X 1 No. PVC Can 500mL X 1 No. Glass Bottle
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018
Water Level Depth	7.30 meter from ground level		

ULR-TC748718000002381P

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
1.	Colour	Hazen	<1	5 Max.	APHA 23rd 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	2.7	1 Max.	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	8.0	6.5 to 8.5	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	0.2 Min.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	704	500 Max.	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	<5	-	APHA 23rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as $CaCO_3$)	mg/L	410	200 Max	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	476	200 Max.	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	68.4	250 Max.	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	89.6	200 Max	APHA 23rd Ed. 2017, 4500-SO_4-E, 4-199

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(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

Report No.4912 Cont…

Sr. No.	Parameter	Unit	Result	Acceptable Limit for Drinking water (IS 10500:2012)	Method Reference
13.	Nitrate (as NO_3)	mg/L	43.4	45 Max	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium (as Ca)	mg/L	128	75 Max.	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	37.9	30 Max.	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.55	1.0 Max.	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron(as B)	mg/L	0.127	0.5 Max.	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	6.7	-	APHA 23rd 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	0.105	0.3 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20 AAS Method
22.	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	0.003 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	-	APHA 23rd Ed. 2017, 3500-Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.021	5 Max.	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	0.001 Max.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	0.01 Max.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic Compounds (as C_6H_5OH)	mg/L	N.D.	0.001 Max.	APHA 23rd 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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END

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole

BRANCH MANAGER

MAHABAL ENVIRO ENGINEERS P. LTD.

Note:

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

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Water Sample Analysis Report

Report No.: ME-NG4918-181130-SA- RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 Dt.21.09.2015 Amnd 1 Dt. 18.04.2017
Sample Description/Type	Surface Water	**Sample Collected by**	Laboratory
Sampling Location	1. Wagholi Pond 2. Malegaon Pond	**Sample Quantity/Packing**	2 L X 2 No. PVC Can 500mL X 2 No. PVC Can
Date of Sampling	13.11.2018	**Date of Receipt of Sample**	14.11.2018
Sampling Procedure	IS:3025 (Part I) 1987 RA2003, APHA 23rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	15.11.2018	**Date of Completion of Analysis**	26.11.2018

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
1.	Colour	Hazen	<1	<1	APHA 23rd 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	4.5	4.3	APHA 23rd Ed. 2017, 2130-B, 2-13
5.	pH	-	7.8	8.0	APHA 23rd Ed. 2017, 4500-H^+-B, 4-95
6.	Total Dissolved Solids	mg/L	482	409	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
7.	Total Suspended Solids	mg/L	10	8.0	APHA 23rd Ed. 2017, 2540-D, 2-70
8.	Free Chlorine (Residual)	mg/L	<0.05	N.D.	APHA 23rd Ed. 2017, 4500-Cl G, 4-72
9.	Alkalinity Total (as $CaCO_3$)	mg/L	156	130	IS 3025 (Part 23):1986 RA 2009 Amds 1
10.	Total Hardness (as $CaCO_3$)	mg/L	368	288	APHA 23rd Ed. 2017, 2340-C, 2-48
11.	Chloride (as Cl)	mg/L	58.9	60.2	APHA 23rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO_4)	mg/L	147	116	APHA 23rd Ed. 2017, 4500- SO_4-E, 4-199
13.	Nitrate (as NO_3)	mg/L	1.7	0.538	APHA 23rd Ed. 2017, 4500-NO_3 , E 4-131
14.	Calcium(as Ca)	mg/L	101	81.8	APHA 23rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	28.2	20.4	APHA 23rd Ed. 2017, 3500-Mg- B, 3-86

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Continuation Sheet

Report No.4918 cont...

Sr. No.	Parameter	Unit	Result		Method Reference
			1	2	
16.	Fluoride (as F)	mg/L	0.417	0.639	APHA 23rd Ed. 2017, 4500-F, D, 4-90
17.	Boron (as B)	mg/L	<0.1	<0.1	APHA 23rd Ed. 2017, 4500-B B, 4-27
18.	Dissolved Oxygen	mg/L	5.2	6.3	APHA 23rd 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	0.702	1.118	APHA 23rd Ed. 2017, 3111-B, 3-20
21.	Manganese (as Mn)	mg/L	N.D.	0.030	APHA 23rd Ed. 2017, 3111-B, 3-20
22.	Aluminium (as Al)	mg/L	N.D.	0.027	APHA 23rd Ed. 2017, 3500-Al-B, 3-63
23.	Cadmium (as Cd)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3111-B, 3-20
24.	Chromium Hexa (as Cr^{6+})	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3500- Cr-B, 3-71
25.	Copper (as Cu)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3111-B, 3-20
26.	Lead (as Pb)	mg/L	N.D.	<0.1	APHA 23rd Ed. 2017, 3111-B, 3-20
27.	Zinc (as Zn)	mg/L	0.069	0.073	APHA 23rd Ed. 2017, 3111-B, 3-20
28.	Arsenic (as As)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3114-C, 3-40
29.	Mercury (as Hg)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3112-B, 3-25
30.	Selenium (as Se)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 3114-C, 3-40
31.	*Cyanide (as CN)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
32.	*Phenolic compounds (as C_6H_5OH)	mg/L	N.D.	N.D.	APHA 23rd Ed. 2017, 5530- B & C, 5-49, 5-50
Remarks: N.D. – Not Detected; NA – Not Applicable					

ULR-TC748718000002387P

----------END----------

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole

BRANCH MANAGER

MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Noise Level Monitoring Report

Report No.: ME-NG4903-181130-SA- RIPL-AMRAVATI			**Date:** 30.11.2018
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. 3382012035 dtd. 21.09.2015.
Sample Description / Type	Noise Level Monitoring	**Sample Collected by**	NA
Date of Sampling	13.11.2018		
Sampling Procedure	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)	70.2	76.9	8 h	90 Max.
Wagholi gate	dB(A)	68.7	77.2		
Near Material gate	dB(A)	68.4	74.6		
Near Labour Colony	dB(A)	65.2	69.4		
Near Bachelor Colony Building	dB(A)	65.2	70.6		
Remark: : Limit from The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV Page No. 283-284					

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole
BRANCH MANAGER

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

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)
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