



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-NG14411-190905-SA-RIPL-AMRAVATI			Date: 05.09.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. 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: Bladder: 1 X 1 No.
Date of Sampling	29.08.2019	Date of Receipt of Sample	30.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	30.08.2019	Date of Completion of Analysis	05.09.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-1		
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)		150		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	132	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	29.7	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1306789	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	43	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014411P



Report No. 14411 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	571	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	17.9	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	241	-	IS 11255 (Part 7):2005
*CO ₂	%	12.8	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Note:

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ULR- TC7487190000014411P



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Stack Emission Monitoring Report

Report No.: ME-NG14066-190826-SA-RIPL-AMRAVATI			Date: 26.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit 3	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: Bladder: 1 X 1 No.
Date of Sampling	20.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	26.08.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-3		
Stack Identity		Boiler Unit 3		
Stack attached to		ESP of Boiler U#3		
Material of construction		M.S.		
Stack height above ground level (Meter)		275		
Stack diameter at sampling point (Meter)		4.6		
Stack shape at top		Round		
Type of fuel		Coal		
Fuel Consumption (t/h)		169		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	128	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	26.32	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1169622	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	45	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014066P



Report No. 14066 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	577	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	16.2	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	243	-	IS 11255 (Part 7):2005
*CO ₂	%	12.8	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Stack Emission Monitoring Report

Report No.: ME-NG14412-190905-SA-RIPL-AMRAVATI			Date: 05.09.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. 3	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: Bladder: 1 X 1 No.
Date of Sampling	29.08.2019	Date of Receipt of Sample	30.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	30.08.2019	Date of Completion of Analysis	05.09.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-3		
Stack Identity		Boiler Unit 3		
Stack attached to		ESP of Boiler U#3		
Material of construction		M.S.		
Stack height above ground level (Meter)		275		
Stack diameter at sampling point (Meter)		4.6		
Stack shape at top		Round		
Type of fuel		Coal		
Fuel Consumption (t/h)		149		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	130	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	28.32	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1252254	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	46	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014412P



Report No. 14412 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	594	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	17.9	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	223	-	IS 11255 (Part 7):2005
*CO ₂	%	12.6	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Stack Emission Monitoring Report

Report No.: ME-NG14073-190826-SA-RIPL-AMRAVATI			Date: 26.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit 4	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: Bladder: 1 X 1 No.
Date of Sampling	20.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	26.08.2019

ULR-TC748719000014073P

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-4		
Stack Identity		Boiler Unit 4		
Stack attached to		ESP of Boiler U#4		
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)		160		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	127	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	26.2	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1167200	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	45	50	IS 11255 (Part 1):1985, RA 2003



Report No. 14073 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	577	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	16.2	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	243	-	IS 11255 (Part 7):2005
*CO ₂	%	12.8	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Stack Emission Monitoring Report

Report No.: ME-NG14413-190905-SA-RIPL-AMRAVATI			Date: 05.09.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. 4	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: Bladder: 1 X 1 No.
Date of Sampling	29.08.2019	Date of Receipt of Sample	30.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	30.08.2019	Date of Completion of Analysis	05.09.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-4		
Stack Identity		Boiler Unit 4		
Stack attached to		ESP of Boiler U#4		
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)		151		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	127	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	28	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1247390	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	40	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014413P



Report No. 14413 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	589	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	17.6	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	234	-	IS 11255 (Part 7):2005
*CO ₂	%	12.8	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Stack Emission Monitoring Report

Report No.: ME-NG14080-190826-SA-RIPL-AMRAVATI			Date: 26.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit 5	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: Bladder: 1 X 1 No.
Date of Sampling	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	26.08.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-5		
Stack Identity		Boiler Unit 5		
Stack attached to		ESP of Boiler U#5		
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)		168		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	132	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	26.74	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1176550	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	40	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014080P



Report No. 14080 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	594	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	16.8	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	247	-	IS 11255 (Part 7):2005
*CO ₂	%	12.6	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Stack Emission Monitoring Report

Report No.: ME-NG14414-190905-SA-RIPL-AMRAVATI			Date: 05.09.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Stack Emission Monitoring	Sample Collected by	Laboratory
Sampling Location	Boiler Unit No. 5	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: Bladder: 1 X 1 No.
Date of Sampling	29.08.2019	Date of Receipt of Sample	30.08.2019
Sampling Procedure	As per Method Reference.		
Date of Start of Analysis	30.08.2019	Date of Completion of Analysis	05.09.2019

Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Stack Emission)				
Stack Details		S-5		
Stack Identity		Boiler Unit 5		
Stack attached to		ESP of Boiler U#5		
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)		148		
Load (MW)		270		
Parameter	Unit	Result	#Limit	Method Reference
Flue gas Temperature	°C	128	-	IS 11255 (Part 3):2008
Flue gas Velocity	m/s	27.9	-	IS 11255 (Part 3):2008
Total gas quantity	Nm ³ /h	1239835	-	IS 11255 (Part 3):2008
Particulate Matter (PM)	mg/Nm ³	47	50	IS 11255 (Part 1):1985, RA 2003

ULR-TC748719000014414P



Report No. 14414 cont...

Parameter	Unit	Result	#Limit	Method Reference
Sulphur Dioxide (SO ₂)	mg/Nm ³	583	-	IS 11255 (Part 2):1985, RA 2003
Sulphur Dioxide (SO ₂)	t/day	17.3	52.32	IS 11255 (Part 2):1985, RA 2003
Oxides of Nitrogen(NO _x)	mg/Nm ³	232	-	IS 11255 (Part 7):2005
*CO ₂	%	12.8	-	Analyser Method
Remark: The tests marked with an * are not accredited by NABL; #: Limit as per MPCB Consent				

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Ambient Air Quality Monitoring Report

Report No.: ME-NG14063-190827-SA-RIPL-AMRAVATI		Date: 27.08.2019	
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. 3382017462 Dt.16.08.2019	
Sample Description / Type	Ambient Air Quality Monitoring	Sample Collected by	Laboratory
Sampling Location	1) Terrace of Bachelor Guest House 2) Near Site Office 3) Terrace of WTP Plant	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	20.08.2019 to 21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	As per Method reference		
Date of Start of Analysis	22.08.2019	Date of Receipt of Sample	27.08.2019

Meteorological Data/Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
		Max.	Min.	Max.	Min.
3.8 Km/h	SE	94	72	32.0	18.0

Location	1) Terrace of Bachelor Guest House	Duration of Survey : 24 hours
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Parameter	Unit	Result	#NAAQM Standard	Method Reference
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Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
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	15.2	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	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	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

Report No. 14063 Cont...

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	1.19	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)	$\mu\text{g}/\text{m}^3$	1.13	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	<3	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Location	2) Near Site Office			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	$\mu\text{g}/\text{m}^3$	13.7	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	$\mu\text{g}/\text{m}^3$	18.6	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	$\mu\text{g}/\text{m}^3$	54	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 μm) or PM _{2.5}	$\mu\text{g}/\text{m}^3$	22	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	1.05	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)	$\mu\text{g}/\text{m}^3$	1.11	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	0.55	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55

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Report No.14063 Cont...

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Nickel (as Ni)	ng/m ³	7.25	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			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	µg/m ³	10.0	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	65	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or PM _{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	1.18	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	1.09	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	0.554	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	3.84	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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Kishor C.Yeole

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Note:

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Mahabal Enviro Engineers Pvt. Ltd.

Engineers, Consultants, Environmental Monitoring Laboratory & Contractors

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

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Ambient Air Quality Monitoring Report

Report No.: ME-NG14415-190905-SA-RIPL-AMRAVATI		Date: 05.09.2019	
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. 3382017462 Dt.16.08.2019	
Sample Description / Type	Ambient Air Quality Monitoring	Sample Collected by	Laboratory
Sampling Location	1) Vill Kapustalani 2) Vill Wagholi 3) Vill. Dawargaon	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	29.08.2019 to 30.08.2019	Date of Receipt of Sample	30.08.2019
Sampling Procedure	As per Method reference		
Date of Start of Analysis	30.08.2019	Date of Receipt of Sample	05.09.2019

Meteorological Data / Environmental Conditions

Avg. Wind Velocity	Prominent Wind Direction	Relative Humidity (%)		Temperature (°C)	
4.5km/h	SE	Max.	Min.	Max.	Min.
		96	68	33.0	16.0
Location	1) Vill Kapustalani			Duration of Survey : 24 hours	
Parameter		Unit	Result	#NAAQM Standard	Method Reference
Discipline : Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)					
Sulphur Dioxide (SO ₂)		µg/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)		µg/m ³	12.4	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



Report No. 14415 Cont...

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	1.12	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)	$\mu\text{g}/\text{m}^3$	1.09	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	0.81	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) Vill. Wagholi			Duration of Survey : 24 hours
Sulphur Dioxide (SO ₂)	$\mu\text{g}/\text{m}^3$	9.1	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO ₂)	$\mu\text{g}/\text{m}^3$	11.0	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	$\mu\text{g}/\text{m}^3$	65	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5 μm) or PM _{2.5}	$\mu\text{g}/\text{m}^3$	24	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	1.19	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)	$\mu\text{g}/\text{m}^3$	1.04	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	0.89	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55

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Report No.14415 Cont...

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) Vill. 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	15.2	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	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	26	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	1.11	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	1.04	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	0.90	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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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

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Water Sample Analysis Report

Report No.: ME-NG14092-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Ground Water/Grab	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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	8.1	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	442	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
8	Total Suspended Solids	mg/L	12	-	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9	Alkalinity Total (as CaCO ₃)	mg/L	248	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14092 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	336	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	47.5	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	36.8	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	20.0	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	79.3	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	33.5	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.586	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.2	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.227	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	<0.05	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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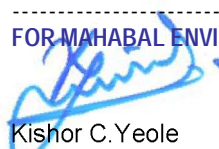
Report No.14092 cont...

28	Lead (as Pb)	mg/L	<0.1	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.029	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

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Note:

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Water Sample Analysis Report

Report No.: ME-NG14091-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Pimpalvihirgaon 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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	7.8	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	450	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 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	262	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1

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QF/5.10/1-A/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
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ULR-TC748719000014091P



Report No.14091 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	268	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	46.6	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	25.6	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	16.2	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	52.1	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	33.5	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.605	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.4	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.200	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	N.D.	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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**Report No.14091 cont...**

28	Lead (as Pb)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.025	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40
Remarks: N.D.: Not Detected						

END

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C. Yeole

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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-NG14090-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Talkhanda 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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	7.7	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	466	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
8	Total Suspended Solids	mg/L	8	-	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9	Alkalinity Total (as CaCO ₃)	mg/L	242	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14090 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	224	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	51.3	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	43.4	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	28.9	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	56.1	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	20.4	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.421	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.3	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.218	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	N.D.	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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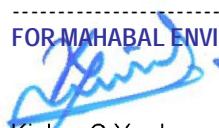
Report No.14090 cont...

28	Lead (as Pb)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.017	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

-----END-----

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Kishor C. Yeole

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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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Water Sample Analysis Report

Report No.: ME-NG14089-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	7.1	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	860	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
8	Total Suspended Solids	mg/L	9	-	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9	Alkalinity Total (as CaCO ₃)	mg/L	334	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14089 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	614	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	220	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	46.0	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	22.8	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	102	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	87.5	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.684	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.0	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.182	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	N.D.	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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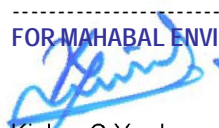
Report No.14089 cont...

28	Lead (as Pb)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.017	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


Kishor C. Yeole

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

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Water Sample Analysis Report

Report No.: ME-NG14088-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	7.8	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	586	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
8	Total Suspended Solids	mg/L	18	-	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9	Alkalinity Total (as CaCO ₃)	mg/L	312	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14088 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	358	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	76.0	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	41.4	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	36.4	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	72.9	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	42.7	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.599	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.5	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.173	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	N.D.	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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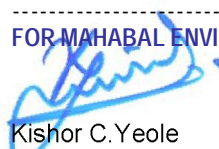
Report No.14088 cont...

28	Lead (as Pb)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.020	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

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FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.


Kishor C. Yeole

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Water Sample Analysis Report

Report No.: ME-NG14087-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	8.1	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	530	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 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	400	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14087 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	252	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	59.8	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	17.2	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	45.0	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	65.7	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	21.4	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.980	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	6.8	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.128	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	N.D.	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	N.D.	0.003Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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Report No.14087 cont...

28	Lead (as Pb)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.016	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

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Water Sample Analysis Report

Report No.: ME-NG14095-190516-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019	
Sample Description / Type	Surface Water	Sample Collected by	Laboratory
Sampling Location	Wagholi Pond	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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Method Reference
Discipline : Chemical Testing; Product Group: Water(Surface Water)				
1.	Colour	Hazen	<1	APHA 23 rd Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	APHA 23 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	8.1	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	336	IS 3025 (Part 16):1984 Reaffirmed 2006, Ed.2.1(1999-12)
8.	Total Suspended Solids	mg/L	15	APHA 23 rd Ed. 2017, 2540-D, 2-69
9.	Alkalinity Total (as CaCO ₃)	mg/L	178	IS 3025 (Part 23):1986 Reaffirmed 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	51.3	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	36.2	APHA 23 rd Ed. 2017, 4500- SO ₄ -E, 4-199
13.	Nitrate (as NO ₃)	mg/L	0.567	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
16.	Fluoride(as F)	mg/L	0.553	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



Report No.14095 Cont...

Sr. No.	Parameter	Unit	Result	Method Reference
18.	Dissolved Oxygen	mg/L	6.2	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.	*Cyanide (as CN)	mg/L	N.D.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
21.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Residues in water (Trace metal Element)				
22.	Iron (as Fe)	mg/L	0.236	APHA 23 rd Ed. 2017, 3111-B, 3-20
23.	Manganese (as Mn)	mg/L	<0.04	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24.	Aluminium (as Al)	mg/L	<0.025	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25.	Cadmium (as Cd)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Chromium Total (as Cr)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Copper (as Cu)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Lead (as Pb)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
29.	Zinc (as Zn)	mg/L	0.019	APHA 23 rd Ed. 2017, 3111-B, 3-20
29.	Arsenic (as As)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
30.	Mercury (as Hg)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3112-B, 3-25
31.	Selenium (as Se)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
Remarks: N.D. – Not Detected; The tests marked with an * are not accredited by NABL				

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Water Sample Analysis Report

Report No.: ME-NG14094-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019	
Sample Description / Type	Surface Water	Sample Collected by	Laboratory
Sampling Location	Malegaon Pond	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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Method Reference
Discipline : Chemical Testing; Product Group: Water(Surface Water)				
1.	Colour	Hazen	<1	APHA 23 rd Ed. 2017, 2120-B, 2-6
2.	Odour	-	Agreeable	IS 3025 (Part 05):1984, Reaffirmed 2006
3.	Taste	-	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4.	Turbidity	NTU	0.3	APHA 23 rd Ed. 2017, 2130-B, 2-13
5.	pH	-	8.2	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6.	Residual Free Chlorine	ppm	<0.05	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7.	Total Dissolved Solids	mg/L	200	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	112	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1
10.	Total Hardness (as CaCO ₃)	mg/L	130	APHA 23 rd Ed. 2017, 2340-C, 2-48
11.	Chloride(as Cl)	mg/L	21.8	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12.	Sulphate (as SO ₄)	mg/L	17.3	APHA 23 rd Ed. 2017, 4500- SO ₄ -E, 4-199
13.	Nitrate (as NO ₃)	mg/L	1.11	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14.	Calcium (as Ca)	mg/L	44.5	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15.	Magnesium (as Mg)	mg/L	4.62	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16.	Fluoride(as F)	mg/L	0.599	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



Report No.14094 Cont...

Sr. No.	Parameter	Unit	Result	Method Reference
18.	Dissolved Oxygen	mg/L	6.0	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.	*Cyanide (as CN)	mg/L	N.D.	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
21.	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Residues in water (Trace metal Element)				
22.	Iron (as Fe)	mg/L	0.344	APHA 23 rd Ed. 2017, 3111-B, 3-20
23.	Manganese (as Mn)	mg/L	<0.04	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24.	Aluminium (as Al)	mg/L	<0.025	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25.	Cadmium (as Cd)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
26.	Chromium Total (as Cr)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
27.	Copper (as Cu)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
28.	Lead (as Pb)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3111-B, 3-20
29.	Zinc (as Zn)	mg/L	0.031	APHA 23 rd Ed. 2017, 3111-B, 3-20
30.	Arsenic (as As)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31.	Mercury (as Hg)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3112-B, 3-25
32.	Selenium (as Se)	mg/L	N.D.	APHA 23 rd Ed. 2017, 3114-C, 3-40
Remarks: N.D. – Not Detected; The tests marked with an * are not accredited by NABL				

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Water Sample Analysis Report

Report No.: ME-NG14093-190827-SA-RIPL-AMRAVATI			Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Ground Water/Grab	Sample Collected by	Laboratory
Sampling Location	Well Water Of Mr. Narayan Lomte Farm back side of Ash Dyke Area	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	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I):1987 RA 2003; APHA 23 rd Ed. 2017, 1060-B, 1-40;		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	27.08.2019

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Discipline : Chemical Testing; Product Group: Water(Ground Water)						
1	Colour	Hazen	<1	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 2120-B, 2-6
2	Odour	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5):1984, Reaffirmed 2006
3	Taste	-	Agreeable	Agreeable	Agreeable	IS 3025 (Part 7 & 8):1984, Reaffirmed 2006
4	Turbidity	NTU	0.2	1 Max.	5 Max.	APHA 23 rd Ed. 2017, 2130-B, 2-13
5	pH	-	8.2	6.5 to 8.5	No relaxation	APHA 23 rd Ed. 2017, 4500-H ⁺ -B, 4-95
6	Residual Free Chlorine	ppm	<0.05	0.2 Min.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-Cl G, 4-72
7	Total Dissolved Solids	mg/L	453	500 Max.	2000 Max.	IS 3025 (Part 16):1984 RA 2006, Ed.2.1(1999-12)
8	Total Suspended Solids	mg/L	13	-	-	APHA 23 rd Ed. 2017, 2540-D, 2-69
9	Alkalinity Total (as CaCO ₃)	mg/L	236	200 Max.	600 Max.	IS 3025 (Part 23):1986 Reaffirmed 2009 Amds 1



Report No.14093 cont...

Sr. No.	Parameter	Unit	Result	Limit for Drinking water as per IS 10500:2012		Method Reference
				Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
10	Total Hardness (as CaCO ₃)	mg/L	336	200 Max.	600 Max.	APHA 23 rd Ed. 2017, 2340-C, 2-48
11	Chloride (as Cl)	mg/L	49.4	250 Max.	1000 Max.	APHA 23 rd Ed. 2017, 4500-Cl-B, 4-75
12	Sulphate (as SO ₄)	mg/L	44.0	200 Max.	400 Max.	APHA 23 rd Ed. 2017, 4500-SO ₄ -E, 4-199
13	Nitrate (as NO ₃)	mg/L	29.3	45 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-NO ₃ , E 4-131
14	Calcium(as Ca)	mg/L	93.8	75 Max.	200 Max.	APHA 23 rd Ed. 2017, 3500-Ca-B, 3-69
15	Magnesium (as Mg)	mg/L	24.8	30 Max.	100 Max.	APHA 23 rd Ed. 2017, 3500-Mg- B, 3-86
16	Fluoride (as F)	mg/L	0.420	1 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 4500-F, D, 4-90
17	Dissolved Oxygen	mg/L	7.0	-	-	APHA 23 rd Ed. 2017, 4500-O, B & C, 4-144, 4-146
18	*Oil and Grease	mg/L	N.D.	-	-	IS 3025 (Part 39): 1991, Reaffirmed 2009, Amds.1
19	*Phenolic Compounds (as C ₆ H ₅ OH)	mg/L	N.D.	0.001 Max.	0.002 Max.	APHA 23 rd Ed. 2017, 5530- B & C, 5-49, 5-50
Discipline : Chemical Testing; Product Group :Residues in water (Trace metal Element)						
20	Boron(as B)	mg/L	<0.1	0.5 Max.	1.0 Max.	APHA 23 rd Ed. 2017, 4500-B B, 4-27
21	*Cyanide (as CN)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 4500-CN, C & E, 4-44 & 4-46
22	Iron (as Fe)	mg/L	0.209	0.3 Max.	No relaxation.	APHA 23 rd Ed. 2017, 3111-B, 3-20
23	Manganese (as Mn)	mg/L	<0.04	0.1 Max.	0.3 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20 AAS Method
24	Aluminium (as Al)	mg/L	<0.025	0.03 Max.	0.2 Max.	APHA 23 rd Ed. 2017, 3500-Al-B, 3-63
25	Cadmium (as Cd)	mg/L	<0.05	0.003Max	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
26	Chromium Total (as Cr)	mg/L	N.D.	0.05 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
27	Copper (as Cu)	mg/L	N.D.	0.05 Max.	1.5 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20

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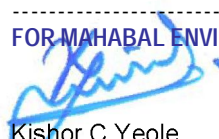
Report No.14093 cont...

28	Lead (as Pb)	mg/L	<0.1	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3111-B, 3-20
29	Zinc (as Zn)	mg/L	0.031	5 Max.	15 Max.	APHA 23 rd Ed. 2017, 3111-B, 3-20
30	Arsenic (as As)	mg/L	N.D.	0.01 Max.	0.05 Max.	APHA 23 rd Ed. 2017, 3114-C, 3-40
31	Mercury (as Hg)	mg/L	N.D.	0.001Max.	No relaxation	APHA 23 rd Ed. 2017, 3112-B, 3-25
32	Selenium (as Se)	mg/L	N.D.	0.01 Max.	No relaxation	APHA 23 rd Ed. 2017, 3114-C, 3-40

Remarks: N.D.: Not Detected

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Noise Level Monitoring Report

Report No.: ME-NG14104-190827-SA-RIPL-AMRAVATI		Date: 27.08.2019
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Noise Level Monitoring	Sample Collected by
		NA
Date of Sampling	19.08.2019 to 20.08.2019	
Sampling Procedure	IS 9876:1981 & manufacturer Manual	

Location	Unit	Result	
		Min.	Max.
Material Gate	dB(A)	69.4	65.7
Turbine Building Area	dB(A)	70.2	68.9
Wagholi Village (Behind CHP)	dB(A)	50.2	47.6
Township Area	dB(A)	50.7	46.7
Compressor House Area	dB(A)	73.8	68.9
Limit as per The Factories Act, 1948, The Maharashtra Factory Rules, 1963, Schedule XXIV			
Total time of exposure per day, in hours.		Max.Sound pressure level in dB (A)	
8		90	
6		92	
4		95	
3		97	
2		100	
1 ½		102	
1		105	
3/4		107	
1/2		110	
1/4		115	
Remark :			

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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.Nagpur-441111

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

Effluent Sample Analysis Report

Report No.: ME-NG14101-190827-SA-RIPL-AMRAVATI		Date: 27.08.2019	
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. 3382017462 Dt.16.08.2019
Sample Description / Type	Domestic Effluent	Sample Collected by	Laboratory
Sampling Location	1.STP Colony Outlet 2.STP Plant Outlet	Sample Quantity / Packing	2 L X 2 No. PVC Can 100mL X 2 No. PVC Can
Date of Sampling	21.08.2019	Date of Receipt of Sample	22.08.2019
Sampling Procedure	IS:3025(Part I): 1987 RA2003, APHA 23 rd Ed. 2017, 1060-B, 1-40		
Date of Start of Analysis	22.08.2019	Date of Completion of Analysis	26.08.2019

Sr. No.	Parameter	Unit	Result		Limit as per MPCB Consent	Method Reference
			1	2		
Discipline : Chemical Testing; Product Group: Pollution & Environment(Waste Water)						
1	Biochemical Oxygen Demand (3 days 27°C)	mg/L	11	8.2	30 Max.	IS 3025 (Part 44): 1993, Reaffirmed 2009
2	Chemical Oxygen Demand	mg/L	36	28	100 Max.	APHA 23 rd Ed. 2017, 5220-B, 5-18
Remarks:						

END

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Kishor C.Yeole

BRANCH MANAGER



Note:

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

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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

ULR- TC748719000014101F