

MONITORING & ANALYSIS OF ENVIRONMENTAL PARAMETERS OF RAIL WHEEL PLANT, BELA

Sampling & Analysis done by EMTRC Consultants Pvt. Ltd. (Recognized by Ministry of Environment, Forest & Climate Change, Govt. of India)

- REF:** (i) Ministry of Environment and Forest (MoEF)/GOI environmental Clearance no. J-11011/527/2010-IA.II(I) dated 12.01.2012.
 ii) Bihar State Pollution Control Board (BSPCB) Discharge Consent Order Letter No. pt 2-116/11 t-6094, dated 03.08.2016.
 (iii) BSPCB Emission Consent Order letter No. PT(NOC)-628/09 T-6095, dated 03.08.2016.

1. MONTH WISE ANALYSIS OF GROUND WATER, JUNE -2018

Ground Water sample	UNIT	Limit as per IS10500:2012		June -2018	
		Limit (Max) (mg/l) Desirable	Permissible limit in the absence of alternative source	Bore well No. 01	Bore well No. 02
1. pH	--	6.5 to 8.5	--	7.68	7.56
2. Colour	Hazen	5	15	Colorless	Colorless
3. Turbidity on NTU	NTU	1	5	<1	<1
4. Total Dissolved Solids (TDS)	mg/l.	500	2000	480	580
5. Total Alkalinity	mg/l.	200	600	170	250
6. Total Hardness as CaCO ₃	mg/l.	200	600	210	260
7. Calcium as Ca	mg/l.	75	200	56	68
8. Magnesium as Mg	mg/l.	30	100	17	21.9
9. Sulphate as SO ₄	mg/l.	200	400	20	48
10. Chloride as Cl	mg/l.	250	1000	26	38
11. Nitrate as NO ₃	mg/l.	45	---	5.8	5.2
12. Iron as Fe	mg/l.	0.3	---	0.15	0.16
13. Arsenic as As	mg/l.	0.01	0.05	<0.001	<0.001
14. Fluoride as F	mg/l.	1.0	1.5	0.76	0.75
15. Total Coliform	MPN/100 ml	0	--	0	0

2. MONTH WISE ANALYSIS OF NOISE SAMPLE, JUNE -2018

Monitoring Location	Limit (Max) Leq: dBA	Test result	
		Day time Leq: dBA	Night time Leq: dBA
1. Near Main Gate	Day time- 75 dBA Night time- 70 dBA	54.6	44.4
2. Near ADM Building		52.2	43.8

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Monitoring Location	Limit (Max) 90 dBA (as per Bihar Factories Rule, 1950)	Test Result
3. Near Final Wheel Processing Sec.	1- 105 ¾- 107	80.6 dBA
4. Near Furnace	½- 110 ¼- 115	84.2 dBA

3. **MONTH WISE ANALYSIS OF STACK EMISSION MONITORING DG SET(1); JUNE -2018**

Parameters (Stack connected to DG Set 1)	Prescribed Standard Limit	Test result June -2018
PM mg / NM ³	75	73
SO ₂ mg / NM ³	S in fuel<2%	65
NO _x mg / ppm	710	410
Gas Temp °C	---	238
Velocity m/s	----	22.2
NMHC ,mg/ NM ³	100	84
CO, mg/ NM ³	150	210

Parameters (Stack connected to Bag House attached with Electric Arc Furnace)	Prescribed Standard Limit	Test result June-2018
PM mg / NM ³	50	48
SO ₂ mg / NM ³	Not specified	< 1 (BDL)
NO _x mg / NM ³	Not specified	65
Gas Temp °C	---	62
Velocity m/s	----	12.8

4. **MONTH WISE ANALYSIS OF WASTE WATER FROM CANTEEN (BEFORE TREATMENT), TEST RESULT JUNE -2018**

S.N	Parameters	Unit	Test Method	Result	General Discharge Standard Inland Surface Water
1.	pH	-	APHA-4500	6.64	5.5 -9.0
2.	Colour	Hazen Unit	APHA-2120B	9	-
3.	Total suspended solids	Mg/l	APHA-2540D	92	100
4.	Total dissolved solids	Mg/l	APHA-2540B	860	2100
5.	BOD	Mg/l	APHA-5210B	22	30
6.	COD	Mg/l	APHA-5220D	76	250
7.	Oil and grease	Mg/l	APHA4500D	7.5	10
8.	Chloride as Cl	Mg/l	APHA-4500B	110	1000
9.	Sulphate as SO ₂	Mg/l	APHA-4500E	60	1000
10.	Ammonical N as N	Mg/l	APHA-5220D	18	50
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	32	100
12.	Dissolved Phosphate	Mg/l	APHA-4500C	2.5	5.0

5. **MONTH WISE ANALYSIS OF POND WATER, TEST RESULT -2018**

S.N	Parameters	Unit	Test Method	Result
1.	pH	-	APHA-4500	7.74
2.	Colour	Hazen Unit	APHA-2120B	5
3.	Total suspended solids	Mg/l	APHA-2540D	20
4.	Total dissolved solids	Mg/l	APHA-2540B	430
5.	BOD	Mg/l	APHA-5210B	10.2
6.	COD	Mg/l	APHA-5220D	56
7.	Oil and grease	Mg/l	APHA4500D	2.2
8.	Chloride as Cl	Mg/l	APHA-4500B	45
9.	Sulphate as SO ₂	Mg/l	APHA-4500E	40
10.	Ammonical N as N	Mg/l	APHA-5220D	4.8
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	16.5
12.	Dissolved Phosphate	Mg/l	APHA-4500C	1.2

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6. MONTH WISE MONITORING & ANALYSIS OF AMBIENT AIR QUALITY, JUNE-2018

Month	Parameters	Limit(Max)	Near Main Gate	Near East Side Boundary Wall (Store Yard)	Near Main Store 2	Near ADM Building	Near Main Gate	Near East Side Boundary Wall (Store Yard)	Near Main Store 2	Near ADM Building
24 Hrs. Average Concⁿ in µg/m³										
<u>JUNE 2018</u>	01st Monitoring					02nd Monitoring				
	PM ₁₀	100 µg/m ³ (24 hours average)	88	90	92	80	82	85	84	74
	PM _{2.5}	60 µg/m ³ (24 hours average)	45	47	50	38	40	44	42	35
	SO ₂	80 µg/m ³ (24 hours average)	8.2	8.5	8.8	7.0	7.5	8.0	7.8	6.5
	NO ₂	80 µg/m ³ (24 hours average)	19.6	19.2	20.6	15.5	16.8	17.5	17.2	14.2

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02/08/2018