

RAIL WHEEL PLANT/BELA (INDIAN RAILWAYS) GOVT. OF INDIA		OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER, ADMINISTRATIVE BUILDING, VILLAGE-BELA, BLOCK- DARIAPUR, SARAN (CHHAPRA), BIHAR.
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MONITORING & ANALYSIS OF ENVIRONMENTAL PARAMETERS OF RAIL WHEEL PLANT BELA

Sampling & Analysis done by, EMTRC Consultants Pvt. Ltd. (Recognized by Ministry of Environmental , forest & climate change , Gov 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 September 2018

Ground Water sample	UNIT	Limit as per IS10500:2012		September 2018	
		Limit (Max) (mg/l) Desirable	Permissible limit in the absence of alternative source	Borewell No. 1	Borewell No. 2
1. pH	--	6.5 to 8.5	--	7.54	7.62
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	540	550
5. Total Alkalinity as CaCO ₃	mg/l.	200	600	190	220
6. Total Hardness as CaCO ₃	mg/l.	200	600	220	240
7. Calcium as Ca	mg/l.	75	200	60	68
8. Magnesium as Mg	mg/l.	30	100	17	17
9. Sulphate as SO ₄	mg/l.	200	400	22	48
10. Chloride as Cl	mg/l.	250	1000	24	35
11. Nitrate as NO ₃	mg/l.	45	---	5.2	5.8
12. Iron as Fe	mg/l.	0.3	---	0.15	0.15
13. Arsenic as As	mg/l.	0.01	0.05	<0.001	<0.001
14. Fluoride as F	mg/l.	1.0	1.5	0.78	0.76
15. Total Coliform	MPN/100 ml	0	--	0	0

2. MONTH WISE ANALYSIS OF NOISE SAMPLE SEPTEMBER -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	52.8	43.6
2. Near ADM Building		50.6	43.4

Monitoring Location	Limit (Max)	Test result
3. Near Final Wheel Processing Sec.	Up to 90 dBA as per Bihar Factories Rules, 1950	82.4
4. Near Electric Arc Furnace		84.2


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3. MONTH WISE ANALYSIS OF STACK EMISSION MONITORING SEPTEMBER 2018

Stack connected to Electric Arc Furnace	Prescribed Standard Limit	Test result July 2018
Gas Temp °C	---	48
Velocity m/s	----	11.8
PM mg / NM ³	50	48
SO ₂ mg / NM ³	Not specified	< 1 (BDL)
NO _x mg / NM ³	Not specified	58

Stack connected to DG 1	Prescribed Standard Limit as per EP Act 1986 GSR 280E, Dated 11-04-2008	Test result July 2018
a. Gas Temp °C	---	216
b. Velocity m/s	----	21.4
c. PM mg / NM ³	75	72
d. SO ₂ mg / NM ³	S in fuel < 2 %	48
e. NO _x ppm	710	233
f. NMHC, mg/ NM ³	100	80
g. Co, mg/ NM ³	150	370

4. MONTH WISE ANALYSIS OF WASTE WATER FROM CANTEEN (BEFORE TREATMENT) SEPTEMBER - 2018

S.N	Parameters	Unit	Test Method	Result	General discharge standard Inland surface water
1.	pH	-	APHA-4500	6.88	5.5 -9.0
2.	Colour	Hazen Unit	APHA-2120B	7	-
3.	Total suspended solids	Mg/l	APHA-2540D	74	100
4.	Total dissolved solids	Mg/l	APHA-2540B	710	2100
5.	BOD	Mg/l	APHA-5210B	24	30
6.	COD	Mg/l	APHA-5220D	78	250
7.	Oil and grease	Mg/l	APHA4500D	6.8	10
8.	Chloride as Cl	Mg/l	APHA-4500B	75	1000
9.	Sulphate as SO ₂	Mg/l	APHA-4500E	40	1000
10.	Ammonical N as N	Mg/l	APHA-5220D	15.8	50
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	28.6	100
12.	Dissolved Phosphate	Mg/l	APHA-4500C	2.5	5.0

5. MONTH WISE ANALYSIS OF POUND WATER TEST RESULT AUGHUST-2018

S.N	Parameters	Unit	Test Method	Result	General discharge standard Inland surface water
1.	pH	-	APHA-4500	7.58	5.5 -9.0
2.	Colour	Hazen Unit	APHA-2120B	4	-
3.	Total suspended solids	Mg/l	APHA-2540D	26	100
4.	Total dissolved solids	Mg/l	APHA-2540B	760	2100
5.	BOD	Mg/l	APHA-5210B	7.8	30
6.	COD	Mg/l	APHA-5220D	48	250
7.	Oil and grease	Mg/l	APHA4500D	1.8	10
8.	Chloride as Cl	Mg/l	APHA-4500B	52	1000
9.	Sulphate as SO ₂	Mg/l	APHA-4500E	40	1000
10.	Ammonical N as N	Mg/l	APHA-5220D	5.8	50
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	16.28	100
12.	Dissolved Phosphate	Mg/l	APHA-4500C	1.6	5.0

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6. MONTH WISE MONITORING & ANALYSIS OF AMBIENT AIR QUALITY SEPTEMBER- 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 $\mu\text{g}/\text{m}^3$										
SEPTEMBER 2018	01st Monitoring					02nd Monitoring				
	PM ₁₀	100 $\mu\text{g}/\text{m}^3$ (24 hours average)	60	62	65	56	54	50	58	46
	PM _{2.5}	60 $\mu\text{g}/\text{m}^3$ (24 hours average)	28	30	32	25	25	24	27	20
	SO ₂	80 $\mu\text{g}/\text{m}^3$ (24 hours average)	6.5	6.8	6.8	5.5	5.2	5.2	5.5	4.5
	NO ₂	80 $\mu\text{g}/\text{m}^3$ (24 hours average)	11.8	11.5	12.2	10.8	10.2	9.8	10.8	9.2

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