



<b>RAIL WHEEL PLANT/BELA (INDIAN RAILWAYS) GOVT. OF INDIA</b>		<b>OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER, ADMINISTRATIVE BUILDING, VILLAGE-BELA, BLOCK- DARIAPUR, SARAN (CHHAPRA), BIHAR.</b>
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**MONTH WISE ANALYSIS OF GROUND WATER DECEMBER - 2017**

- 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.

**(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, EMTRC Consultants Pvt. Ltd. )**

<i>Ground Water sample</i>	UNIT	Limit as per IS10500:2012		December -2017	
		Limit (Max) (mg/l) Desirable	Permissible limit in the absence of alternative source	<i>Borewell No. 01</i>	<i>Borewell No. 2</i>
1. pH	--	6.5 to 8.5	--	7.48	7.50
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	450	510
5. Total Alkalinity as CaCO <sub>3</sub>	mg/l.	200	600	180	210
6. Total Hardness as CaCO <sub>3</sub>	mg/l.	200	600	220	230
7. Calcium as Ca	mg/l.	75	200	60	56
8. Magnesium as Mg	mg/l.	30	100	17	21.9
9. Sulphate as SO <sub>4</sub>	mg/l.	200	400	22	45
10. Chloride as Cl	mg/l.	250	1000	35	30
11. Nitrate as NO <sub>3</sub>	mg/l.	45	---	5.2	5.8
12. Iron as Fe	mg/l.	0.3	---	0.14	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	0.76	0.75
15. Total Coliform	MPN/100 ml	0	--	8	6

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**MONTH WISE ANALYSIS OF NOISE SAMPLE DECEMBER -2017**

- (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.

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Monitoring Location	Limit (Max) Leq: dBA	Test result	
		Day time Leq: dBA	Night time Leq: dBA
1. Near Main Gate	<b>Day time- 75 dBA Night time- 70 dBA</b>	<b>53.2</b>	<b>43.8</b>
2. Near ADM Building		<b>50.4</b>	<b>42.6</b>

Monitoring Location	Limit (Max) <b>90 dBA</b> (as per Bihar Factories Rule, 1950)	Daytime dB	Night time dB
3. Near Final Wheel Processing Sec.	1- 105 ¾- 107	<b>74.2</b>	<b>67.8</b>
4. Near Furnace	½- 110 ¼- 115	<b>95.8</b>	<b>89.2</b>

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### MONTH WISE ANALYSIS OF STACK EMISSION MONITORING DECEMBER -2017

- (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.

**(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, EMTRC Consultants Pvt. Ltd. )**

### STACK EMISSION MONITORING REPORT DECEMBER -2017

Stack connected to Bag House attached with Electric Arc Furnace	Prescribed Standard Limit	Test result December 2017
PM mg / NM <sup>3</sup>	50	45
SO <sub>2</sub> mg / NM <sup>3</sup>	Not specified	< 1 (BDL)
NO <sub>x</sub> mg / NM <sup>3</sup>	Not specified	60
Gas Temp °C	---	52
Velocity m/s	----	11.2

Stack connected to Draw Furnace	Prescribed Standard Limit	Test result December 2017
PM mg / NM <sup>3</sup>	50	26
SO <sub>2</sub> mg / NM <sup>3</sup>	Not specified	< 1 (BDL)
NO <sub>x</sub> mg / NM <sup>3</sup>	Not specified	18
Gas Temp °C	---	42
Velocity m/s	----	7.5

Stack connected to Normalizing Furnace	Prescribed Standard Limit	Test result December 2017
PM mg / NM <sup>3</sup>	50	40
SO <sub>2</sub> mg / NM <sup>3</sup>	Not specified	< 1 (BDL)
NO <sub>x</sub> mg / NM <sup>3</sup>	Not specified	28
Gas Temp °C	---	318
Velocity m/s	----	12.5

Stack connected to DG SET(1)	Prescribed Standard Limit	Test result December 2017
PM mg / NM <sup>3</sup>	75	72
SO <sub>2</sub> mg / NM <sup>3</sup>	S in fuel<2%	80
NO <sub>x</sub> mg / ppm	710	320
Gas Temp °C	---	182
Velocity m/s	----	19.2
NMHC ,mg/ NM <sup>3</sup>	100	90
CO, mg/ NM <sup>3</sup>	150	260


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**MONTH WISE ANALYSIS OF WASTE WATER FROM CANTEEN (BEFORE TREATMENT) DECEMBER  
2017**

- 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.

**(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, EMTRC Consultants Pvt. Ltd.,)**

S.N	Parameters	Unit	Test Method	Result	CPCB Direction on STP dated 21-4-2015
1.	pH	-	APHA-4500	6.85	5.5 -9.0
2.	Colour	Hazen Unit	APHA-2120B	6	-
3.	Total suspended solids	Mg/l	APHA-2540D	88	20
4.	Total dissolved solids	Mg/l	APHA-2540B	610	2100
5.	BOD	Mg/l	APHA-5210B	24	10
6.	COD	Mg/l	APHA-5220D	95	50
7.	Oil and grease	Mg/l	APHA4500D	8.2	10
8.	Chloride as Cl	Mg/l	APHA-4500B	60	-
9.	Sulphate as SO <sub>2</sub>	Mg/l	APHA-4500E	52	-
10.	Ammonical N as N	Mg/l	APHA-5220D	14	5
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	28	10
12.	Dissolved Phosphate	Mg/l	APHA-4500C	2.5	-

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**MONTH WISE ANALYSIS OF POND WATER, DECEMBER 2017**

- 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.

**(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, EMTRC Consultants Pvt. Ltd. )**

S.N	Parameters	Unit	Test Method	Result
1.	pH	-	APHA-4500	7.74
2.	Colour	Hazen Unit	APHA-2120B	6
3.	Total suspended solids	Mg/l	APHA-2540D	30
4.	Total dissolved solids	Mg/l	APHA-2540B	540
5.	BOD	Mg/l	APHA-5210B	15
6.	COD	Mg/l	APHA-5220D	54
7.	Oil and grease	Mg/l	APHA4500D	4.2
8.	Chloride as Cl	Mg/l	APHA-4500B	55
9.	Sulphate as SO <sub>2</sub>	Mg/l	APHA-4500E	48
10.	Ammonical N as N	Mg/l	APHA-5220D	5.5
11.	Total Kjeldahl Nitrogen as N	Mg/l	APHA-4500B	18
12.	Dissolved Phosphate	Mg/l	APHA-4500C	1.24

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**MONTH WISE MONITORING & ANALYSIS OF AMBIENT AIR QUALITY DECEMBER 2017**

- (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.  
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**(Sampling & Analysis done by MoEF Recognized Environmental Laboratory, EMTRC Consultants Pvt. Ltd. )**

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
<b>24 Hrs. Average Conc<sup>n</sup>. in µg/m<sup>3</sup></b>										
<b>DECEMBER 2017</b>	<b>01<sup>st</sup> Monitoring</b>					<b>02<sup>nd</sup> Monitoring</b>				
	PM <sub>10</sub>	100 µg/m <sup>3</sup> (24 hours average)	74	82	86	74	78	86	82	<b>70</b>
	PM <sub>2.5</sub>	60 µg/m <sup>3</sup> (24 hours average)	35	39	42	35	38	42	39	<b>32</b>
	SO <sub>2</sub>	80 µg/m <sup>3</sup> (24 hours average)	5.8	6.5	7.2	5.8	6.5	6.8	6.8	<b>5.4</b>
	NO <sub>2</sub>	80 µg/m <sup>3</sup> (24 hours average)	14.2	13.8	14.6	12.8	14.8	14.6	13.8	<b>12.5</b>