

**SAIL BOKARO STEEL PLANT**  
**ENVIRONMENT CONTROL DEPARTMENT**

Compliance to the conditions laid down by MoEF for issuing Modified Environmental Clearance for the proposed Modernization / Expansion of Bokaro Steel Plant from 4.5 MT Hot metal to 5.77 MT hot metal. (4MT crude steel to 4.606 MT crude steel)

**A. COMPLIANCE TO SPECIFIC CONDITIONS**

- i. On-line stack monitoring facilities for all the stacks and sufficient air pollution control devices shall be provided to keep the emission levels below 100 mg/Nm<sup>3</sup>. In cement Plant, limit of PM emission shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system.*

**Status:**

Online Stack Monitoring system has been installed in all Coke Oven Batteries in operation. Battery No.1 &2 have been rebuilt. These are equipped with all pollution control facilities i.e. Charging emission control system, Pushing emission control system. Battery No.5 & Battery No.6 have been hot repaired. Batt#3 & Batt#4 have been cold repaired. Battery#7 is under rebuilding. Emission level in all working Coke oven Batteries are within stipulated norm of 50 mg/Nm<sup>3</sup>. Stack emission data of Batt#1&Batt#2 have been uplinked to CPCB & JSPCB server.SAIL/ Bokaro Steel is going for Refurbishing of all ESPs of RMP Kilns. Online Stack Monitoring system will be installed along with the revamping of the ESPs of RMP Kilns. Replacement of multi-cyclones in Sinter M/C by ESP's is under process. Battery cyclone # 6 has been successfully replaced by ESP # 6.

- ii. All the standards prescribed for the coke oven Plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using waste heat recovery steam generators should be ensured and no flue gases shall be discharged into the air.*

**Status:**

- PLD, PLL and PLO in all batteries are maintained below stipulated norm.
- Emission in all stacks well below 50 mg/Nm<sup>3</sup> stipulated norm.
- Fugitive Emission in all shops are within norm. .
- Coke Oven gas is being utilized fully and judiciously in BSL.
- Excess gas is being utilized in Power Plant. No quantity of gas is being flared.
- Rebuilding of Battery #7 has been started. Expected to be commissioned by June'2016.
- Batt#3 & Batt#4 have been commissioned after cold repair.
- Batt#8 has been taken under shut down for its Rebuilding.
- Dry Fog dust suppression system have been installed in Coal Handling & Coke Sorting Plant of Coke ovens.

- iii. Gaseous emission levels including secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / code of practice issued by the CPCB should be followed.*

**Status:**

Fugitive emission level in all shops of Bokaro Steel Plant is below standard norm. The fugitive emission level in different areas of the Plant is monitored regularly and its report is sent to CPCB every month, including BF & SP. Though the fugitive emission level at different sections of SMS is within norm, BSL is going for the installation of secondary

emission control system in SMS II for further reduction of dust level. The Work order is expected to be issued by July'2015.

- iv. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored.*

**Status:**

All the raw materials are transported in railway wagons and products are also transported either by rails or by road. Even the granulated BF slag is transported through conveyer belt & trucks after properly covering it with tarpaulin/ plastic sheets.

- v. Prior "Permission" for the drawal of the additional water required (3600 m<sup>3</sup>/hr) and shall be sourced from Tenughat for which BSL has permission. The entire quantity of water will be treated and recycled.*

**Status:**

The new shops that will be coming up during modernization / expansion project are designed for zero discharge. The total quantity of effluent generated will be treated and recycled in the operation.

- vi. The company shall re-assess the additional water required and submit a detailed plan to minimize water consumption. "Zero" effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises.*

**Status:**

Total quantity of waste water discharged through all three outfalls and sewage treatment plant will be treated and recycled for plant operation. SAIL/BSL is going for zero discharge from plant as well as Township. OF-1 & OF-2 plant effluent will be treated & recycled for plant operation. The project is under stage-2 approval. Technology for the treatment & Recycling of Township sewage has been freezed. The TS for the project is under preparation, However through in house efforts part recycling of Outfall-I,IIA & IIB is being done by Water Management Team of BSL. The Specific Water consumption for the period was 4.35 m<sup>3</sup>/TCS. Total treated BOD plant water is being used for coke quenching.

- vii. Continuous monitoring of Total Organic Compounds (TOC) shall be done at the outlet of ETP (BOD Plant).*

**Status:**

On-line Effluent monitoring system will be installed in OF-1, OF-2 and ETP outlet. Continuous TOC monitoring system will also be installed in BOD plant outlet. This project is under stage-2 approval

- viii. All the blast furnace(BF) slag shall be granulated and used to cement manufacture. Flue dust from pellet plant sinter plant and SMS and sludge from BF shall be reused in sinter Plant. Coke breeze from coke oven plant shall be used in sinter and pellet plant. SMS slag shall be given for metal recovery or properly utilized. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner.*

**Status:**

At present BSL is having facility of (CHSGP) on line cast house slag granulation in BF 4 and BF 5, CHSGP#3 of BF-2 & CHSGP #6 of BF-3. CHSGP #4 of BF-2 & CHSGP#5 of BF-3 are expected to be commissioned by end of July'2015. CHSGP-1 & CHSGP-2 of

BF#1 are expected to be commissioned along with the commissioning of BF#1 which is presently under capital repair. During October'2014 to March'2015 the BF Slag utilization including land filling was around 96.69% After the commissioning of all CHSGP'S in BSL 100% BF Slag granulation would be achieved. Total BF slag granulated is being used for cement making in this plant As far as SMS slag is concerned its utilization in the period from October'2014 to March'2015 was 85.67% Total quantity of all other solid wastes such as, coke breeze, BF flue dust, lime dust, mill scales are being utilized in Sinter Plant for sinter making.

- ix. A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.*

**Status:**

Total solid waste utilization during current financial year 2014-15 was 94.61% However, after completion of modernization /expansion project total solid waste utilization is expected to be around 100%.

- x. Efforts shall be made to use low grade lime, more fly ash and and solid waste in the cement manufacturing.*

**Status:**

Low grade lime and other solid wastes such as SMS slag, BF flue dust, ESP lime dust, and Mill scale are being used in Sinter Plant. BSL has developed a Fly ash + LD slag brick. Its strength is meeting IS code. BSL has Started using Fly ash LD slag Brick in its project.

- xi. Proper utilization of fly ash shall be ensured as per Fly ash Notification, 1999 and subsequent amendment in 2003.*

**Status:**

Fly Ash management at Bokaro is being done by M/S BPSCL(A joint venture power company) is under MOU with BCCL for back filling of Dhori Abandoned mines by Fly Ash. A work shop was organized jointly by M/s BPSCL & JSPCB for proper utilization of Fly Ash. As a proactive measure the use of Fly Ash Brick has been made mandatory in the construction work in both projects as well as works.

- xii. As proposed, green belt should be developed in 33% area.*

**Status:**

The existing plantations are being strengthened to increase density. Till date BSL has planted around (4191452) Forty one lakh ninety one thousand four hundred fifty two trees in and outside Bokaro Steel Plant. During 2014-15 42500 saplings were planted. At present total green cover is around 33%.

- xiii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants should be implemented.*

**Status:**

- a. Fugitive emission (PLD, PLL & PLO) from Coke Oven Batteries are within norm.
- b. Cold repair of Batt#3 and Hot repair of Batt#6 have been completed. Rebuilding of Batt #7 has been started. Battery rebuilding at Bokaro is ahead of CREP schedule.
- c. Fugitive emission in SMS of BSL are within norm.
- d. LD slag utilization in the stipulated period was more than 85.67%

- e. BF slag utilization is around 96.69% (including land filling). It is expected to be 100% after CHSGP installation in BF1, BF 2 and BF 3.
- f. CDI facility is available in BF-2, BF-3, BF- 4 and BF- 5.  
CTI facility is available in BF 1
- g. The average specific water consumption for the period is 4.35 m<sup>3</sup>/tcs which is below CREP norm.
- h. Phenol & ammonia content in BOD Plant effluent is below stipulated norm.  
All pollution control equipment are being monitored closely and compliance quarterly reports sent to CPCB as per CREP guidelines.

***xiv. The commitments made during public hearing shall be complied with. An action plan in this respect shall be submitted to the Ministry's Regional Office at Bhubaneswar.***

**Status:**

All commitments made during public hearing on 18.3.2008 are being complied with

- Continuous Ambient Air Quality Monitoring Station has been installed & commissioned. Its data signal has been uplinked to CPCB & JSPCB server.
- Seven ambient air quality monitoring stations have been installed. All twelve parameters as per new Notification are being monitored since March'2014.
- Stack emission level in all shops is below stipulated norm.
- Noise level at different locations in almost all the shops below norm.
- All the roads are regularly maintained.
- Proposal for vehicular pollution monitoring system has already been initiated.
- In SP ESP# 6 has been commissioned.
- Around 42500 new saplings have been planted during 2014-15 .
- Dry fog dust suppression system has been installed in Coal Handling and coke sorting plant of Coke Oven Department.

***xv. As proposed, Rs. 749.5 crores and Rs. 112.5 crores earmarked towards capital cost and recurring cost/annum for environment pollution control measures shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.***

**Status:**

All the funds allocated for pollution control equipment are being utilized judiciously.

- Dry fog dust suppression system has been installed in BF 1, BF 2 & the same has been installed in Coal Handling Plant and Coke Sorting Plant of Coke Oven department.
- All ESPs of RMP Kilns will be refurbished. It is under stage-2 approval.
- Multi-cyclones in Sinter Plant are being replaced by Electro Static Precipitator.
- CHSGP in BF1, BF-2 and BF-3 are to be installed by July'2015.
- Zero discharge of plant effluent as well as sewage effluent is to be maintained.
- New shops that will come up after modernization will have zero discharge facility. Construction of ETP in CRM# 3 has been commissioned. A new tertiary treatment plant is being installed in CRM#3 for complete Zero discharge from the plant. Work order has been issued for the project.

***xvi. Provision shall be made for the housing of construction labour within the site with all the necessary infrastructure and facilities such as fuel for cooking, mobile, toilets, mobile STP, Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.***

**Status:**

All the facilities have been provided to the construction workers.  
Housing, Drinking water, toilets medical and other basic amenities are being provided.  
A Crèche has been commissioned for the children of female contract labourer.

**B. COMPLIANCE OF GENERAL CONDITIONS.**

- i. The project authorities must strictly adhere to the stipulations made by the Jharkhand State Pollution Control Board (JSPCB) and the State Government.*

**Status:**

Stipulations made by Jharkhand State Pollution Control Board are being complied and Progress report is regularly being sent to JSPCB.

- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.*

**Status:**

BSL is committed to its expansion plan from 4 MT crude steel per annum to 4.606 MT crude steel per annum, for which Modified Environmental Clearance has been obtained. This environmental compliance report is pertaining to that Environmental Clearance. No expansion or modification will be carried out without ministry's prior approval.

- iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19<sup>th</sup> May, 1993 and standards prescribed from time to time. The Jharkhand Pollution Control Board (JPCB)) may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.*

**Status:**

Gaseous emissions from various process units are conforming to the norm stipulated by Ministry and JSPCB. It is monitored regularly and its report is sent regularly to CPCB & JSPCB.

- iv. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the JPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the JPCB / CPCB once in six months.*

**Status:**

Seven Ambient Air Quality Monitoring Stations have been set up at different locations surrounding the Plant. It is monitored regularly for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, NH<sub>3</sub>, B(a)P, CO, Pb, As & Ni since March'2014. This report is being sent to CPCB every month. Ambient Air Quality monitoring report of stipulated period has been enclosed. A Continuous Ambient Air Quality Station has been installed at the Main gate of the Plant & uplinked to CPCB & JSPCB server. 2<sup>nd</sup> CAAQMS is being installed at Town administration building. Expected to be commissioned by Sept'2015.

- v. In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.*

**Status:**

Fugitive emissions from Coke Oven Batteries are monitored regularly. PLD, PLL and PLO level in all Coke Oven Batteries are well within stipulated norm. Its report is also regularly sent to CPCB every month. Water is regularly sprinkled to suppress fugitive emission at different dusty areas including coal stock piles. Work order is to be issued for installation of secondary dust emission control system at SMS-2. Dry fog dust suppression system has been commissioned in BF # 1, 2 and coke shorting & Coal handling plant in coke ovens. ESP based de dusting system has been installed in cast house of BF#2.

- vi. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.*

**Status:**

Industrial waste water from Coke Oven & By Product Plant is collected and treated in ETP (BOD) Plant. All the pollutant level after treatment are well within stipulated norm. This water is being used for quenching of coke. The effluents from all other plants are being treated prior to disposal.

- vii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA(day time) and 70 dBA (night time).*

**Status:**

Noise level in various areas are being monitored regularly. Noise level in almost all areas are below stipulated norm. The provision of snort valve in BF & acoustic enclosures in Oxygen plant are there the control the noise at source. Noise level is monitored regularly and reported to CPCB every month. Day and night time ambient noise level is also monitored at different locations. It is also reported to CPCB on monthly basis.

- viii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*

**Status:**

Health status of all the workers including contract labourer is regularly monitored by Occupational Health Service Centre inside the Plant. The health status record is regularly maintained by them.

- ix. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.*

**Status:**

A project for Rain Water Harvesting has been taken up in CRM#2 complex. Consultancy job for this project has been completed by M/S IIT Kharagpur.FR/TS has been prepared by Design Bureau. The project is expected to be commissioned by December'2015. The project division has been instructed for the inclusion of Rain Water Harvesting facility in all new upcoming building & structures.

- x. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like*

*community development programmes. Educational programmes, drinking water supply and health care etc. Suggestions made during the public hearing shall be implemented.*

**Status:**

All the Environmental protection measures and safe guards recommended in EIA/EMP report are being complied.

- Bokaro Steel has adopted Seven villages near its plant under CSR.
- All connecting roads have been constructed by BSL.
- School buildings have been constructed in each village.
- Health camps are arranged in each village adopted by BSL, However there is a Sarva Swasthya Kendra for free treatment of Non-entitled people..
- Drinking water facility such as hand pumps have been installed.
- Community center building has been built by BSL. Sarva Swasthya kendra to take care the free medical facilities for under privileged class.
- Provision of kalayan vidyalaya with mid- day meals for poor children from in and around the town ship.

*xi. The Regional Office of the Ministry at Bhubaneswar CPCB/JSPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.*

**Status:**

BSL is committed to send six monthly compliance reports are regularly sent to CPCB/JSPC regularly monitors the compliance of EC.

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*xii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the JPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter. At least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office at Bhubaneswar.*

**Status:**

Project Deptt. had informed the public by giving advertisement in two local daily within seven days of getting the Environment Clearance from MoEF.

*Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.*

**Status:**

Regional office of Jharkhand State Pollution Control Board is being updated as and when required about the financial closure and final approval.

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**ENCLOSURES:**

## STACK EMISSION

OCT'2014

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
								Particulate matter (PM) (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	HC	CO Kg/TDCP
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-				
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	27.10.14	7252T	250362	73.81	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber							-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	07.10.14	5982T	252672	80.15	-	-		
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber							-	-
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	30.10.14	3177T	139182	29.14	38.89	33.57	-	-
Standards : Charging side chimney- PM - 100 (Units: mg/Nm <sup>3</sup> )      BF Stoves – PM- 50 mg/Nm <sup>3</sup> , SO <sub>2</sub> - 250 mg/Nm <sup>3</sup> , NO <sub>x</sub> - 150 mg/Nm <sup>3</sup>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	31.10.14	10.54 T/hr	162578	155.62	108.57	-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's						-	-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	14.10.14	10.0 T/hr	169621	138.69	71.26	-		-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	25.10.14	10.21 T/hr	158624	148.86	90.17	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	22.10.14	10.75 T/hr	164774	135.55	65.23	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	01.10.14	10.12 T/hr	153282	146.12	87.11	-	-	-

Standards : PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - , CO - (Units: mg/Nm<sup>3</sup>)

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.



<b>SMS – 1</b>												
<b>(Process)</b>												
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	-	-	-	-	-	-	-	-
Conv. – 2 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	-	-	-	-	-	-	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	16.10.14	-	203228	241.83	75.74	83.49	-	-
Conv. – 4 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	15.10.14	-	110216	18.26	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	15.10.14	-	234651	238.81	69.14	61.23	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	04.10.14	-	240231	216.40	93.27	79.45	-	-
SMS-1/CCS	LF-2	80m	1.25m	Bag filter	28.10.14	-	112763	22.71	-	-	-	-

**Standards : PM - 300, SO2 - , NOx - , CO -** \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup>  
**(Units: mg/Nm<sup>3</sup>)** All ducts are connected to a common stack

<b>Coke Oven</b>												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	02.10.14	-	144556	32.86	262.82	43.72	-	2.14
Batt. # 2	Stack – 2	100 m.	3.5mtrs		23.10.14	-	140229	26.11	192.32	61.09	-	2.08
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair							
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	13.10.14	-	136229	43.08	210.01	73.13	-	2.41
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	09.10.14	-	133632	47.45	172.59	39.42	-	2.71
Batt # 6	Stack - 6	100 m.	3.5 mts	Under Hot Repair								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	Under Rebuilding								
Batt. # 8	Stack – 8	100 m.	3.5mtrs	-	27.10.14	-	138078	48.36	111.08	56.81	-	2.83

**Standards : PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC -** **(Units: mg/Nm<sup>3</sup>)**

<b>Sinter Plant</b>												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	06.10.14	-	401321	170.32	105.73	70.44	-	-
	Duct-B		3.5mtrs	Batt. cyclone	06.10.14	-	395373	162.55	-	-	-	-
SM-2	Duct-A		3.5mtrs	Batt. cyclone	18.10.14	-	387233	161.86	120.34	56.74	-	-
	Duct-B		3.5mtrs	Batt. cyclone	18.10.14	-	371629	156.62	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	23.10.14	-	391361	165.92	131.46	52.73	-	-
	Duct-B		3.5mtrs	ESP-6	23.10.14	-	337263	40.62	-	-	-	-

**Standards : PM - 150 , SO2 - , NOx - (Units: mg/Nm<sup>3</sup>)** \* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

**NOV'2014**

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
<b>Blast Furnace</b> (Space dedusting) & Stoves								Particulate matter (PM) (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	HC	CO Kg/TDCP
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	Under Capital Repair							
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	-		-	-	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	26.11.14	6249	223482	62.48			-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	-		-	-	-	-		
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	04.11.14	5657	201634	78.24			-	-
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	20.11.14	3675	112367	24.32	36.48	28.26	-	-
<b>Standards : Charging side chimney- PM - 100 (Units: mg/Nm<sup>3</sup>)</b>												
<b>BF Stoves – PM- 50 mg/Nm3, SO2- 250 mg/Nm3, NOX- 150 mg/Nm3</b>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	-	-	-	-		-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's	28.11.14	10.42 T/hr.	161321	138.62	86.34		-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	02.11.14	10.63 T/hr	158242	142.86	90.26		-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	05.11.14	11.06 T/hr.	156457	156.44	81.74		-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	-	-	-	-	-		-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	14.11.14	11.11 T/hr	162526	158.26	89.36		-	-

**Standards: PM - 150 ,SO2 - , NOx - ,CO - (Units: mg/Nm<sup>3</sup>)**

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.

<b>SMS – 1</b> (Process)													
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	03.11.14	-	271799	145.91	109.19	-	-	-	-
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	03.11.14	-	121427	22.32	-	-	-	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	15.11.14	-	239264	209.42	92.14	-	-	-	-
Conv. – 3 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	-	-	-	-	-	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	-	-	-	-	-	-	-	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	18.11.14	-	252242	236.46	88.46	-	-	-	-
SMS-2/CCS	LF-1	80m	1.25m	Bag filter	29.11.14	-	111242	22.18	-	-	-	-	-

**Standards : PM - 300, SO2 - , NOx - , CO -** \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup> (Units: mg/Nm<sup>3</sup>) All ducts are connected to a common stack

<b>Coke Oven</b>													
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	07.11.14	-	153876	26.81	287.26	56.26	-	-	1.82
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	01.11.14	-	154684	18.66	194.77	64.73	-	-	1.96
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair								
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	19.11.14	-	156236	24.24	184.34	62.46	-	-	2.02
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	27.11.14	-	149133	43.77	214.24	80.75	-	-	2.48
Batt # 6	Stack - 6	100 m.	3.5 mts	COMMISSIONED ON 24.11.14									
Batt. # 7	Stack – 7	100 m.	3.5mtrs	Under Rebuilding									
Batt. # 8	Stack – 8	100 m.	3.5mtrs	-	10.11.14	-	154382	44.81	365.55	49.30	-	-	2.52

**Standards : PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC -** (Units: mg/Nm<sup>3</sup>)

<b>Sinter Plant</b>													
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	25.11.14	-	420456	168.42	92.36	36.28	-	-	-
	Duct-B		3.5mtrs	Batt. cyclone	25.11.14	-	421274	167.84	-	-	-	-	-
SM-2	Duct-A		3.5mtrs	Batt. cyclone	08.11.14	-	413262	158.26	90.66	38.16	-	-	-
	Duct-B		3.5mtrs	Batt. cyclone	08.11.14	-	415324	156.36	-	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	13.11.14	-	409309	162.72	88.45	42.16	-	-	-
	Duct-B		3.5mtrs	ESP-6	13.11.14	-	328613	32.45	-	-	-	-	-

**Standards : PM - 150 , SO2 - , NOx -** (Units: mg/Nm<sup>3</sup>)

\* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

**DEC'2014**

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
								Particulate matter (PM)	SO <sub>2</sub>	NO <sub>x</sub>	HC	CO
								(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )		Kg/TDCP
Blast Furnace (Space dedusting) & Stoves												
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	Under Capital Repair							
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	03/12/14	4340	216264	64.26	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-			-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	23/12/14	5944	209624	74.56	-	-		
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	--	-	-	-	-
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	17/12/14	2722	109486	21.26	48.32	27.38	-	-
Standards : Charging side chimney- PM - 100 (Units: mg/Nm <sup>3</sup> ) BF Stoves – PM- 50 mg/Nm <sup>3</sup> , SO <sub>2</sub> - 250 mg/Nm <sup>3</sup> , NO <sub>x</sub> - 150 mg/Nm <sup>3</sup>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	-	-	-	-		-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's	18/12/14	10.63	160317	154.30	119.03	-	-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	04/12/14	10.94	139520	151.23	81.33	-		-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	-	-	-	--	-		-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	26/12/14	11.25	183416	148.64	205.59	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	15/12/14	10.93	154236	158.26	147.36	-	-	-

Standards: PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - , CO - (Units: mg/Nm<sup>3</sup>)

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.

<b>SMS – 1</b> (Process)												
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	02/12/14	-	271524	172.66	82.94	-	-	-
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	02/12/14	-	158634	38.33	-	-	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	19/12/14	-	258246	189.94	78.42	-	-	-
Conv. – 3 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	-	-	-	-	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	29/12/14	-	262432	205.26	84.36	-	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	-	---	-	-	-	-	-	-
SMS-2/CCS	LF-2	80m	1.25m	Bag filter	06/12/14	-	112348	19.26	-	-	-	-

**Standards : PM - 300, SO2 - , NOx - , CO -** \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup> (Units: mg/Nm<sup>3</sup>) All ducts are connected to a common stack

<b>Coke Oven</b>													
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	01/12/14	-	152346	28.46	262.98	60.48	-	1.76	
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	22/12/14	-	151563	31.42	218.26	54.98	-	1.86	
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair								
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	10/12/14	-	154396	26.48	196.42	56.24	-	1.92	
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	24/12/14	-	149236	41.36	286.22	66.48	-	2.06	
Batt # 6	Stack - 6	100 m.	3.5 mts	-	13/12/14		152794	42.38	352.38	64.65		2.12	
Batt. # 7	Stack – 7	100 m.	3.5mtrs	Under Rebuilding									
Batt. # 8	Stack – 8	100 m.	3.5mtrs	-	27/12/14	-	156486	43.96	292.46	62.48	-	2.38	

**Standards : PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC -** (Units: mg/Nm<sup>3</sup>)

<b>Sinter Plant</b>												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	UNDER CAPITAL REPAIR							
	Duct-B		3.5mtrs	Batt. cyclone								
SM-2	Duct-A		3.5mtrs	Batt. cyclone	09/12/14	-	417967	155.29	167.89	54.6	-	-
	Duct-B		3.5mtrs	Batt. cyclone	09/12/14	-	418461	162.41	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	30/12/14	-	405862	168.46	92.26	38.55	-	-
	Duct-B		3.5mtrs	ESP-6	30/12/14	-	318414	38.12	-	-	-	-

**Standards : PM - 150 , SO2 - , NOx -** (Units: mg/Nm<sup>3</sup>)

\* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

**JAN'2015**

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (Nm <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
<b>Blast Furnace</b> (Space dedusting) & Stoves								<b>Particulate matter (PM)</b> (mg/Nm <sup>3</sup> )	<b>SO<sub>2</sub></b> (mg/Nm <sup>3</sup> )	<b>NO<sub>x</sub></b> (mg/Nm <sup>3</sup> )	<b>HC</b>	<b>CO</b> Kg/TDCP
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	Under Capital Repair							
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	17.01.15	6656T	214316	74.25	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-	-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	02.01.15	5037T	207923	79.81	-	-		
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-	-	-	-	-
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	29.01.15	3220T	105561	26.52	36.35	38.16	-	-
Standards : Charging side chimney- PM - 100 (Units: mg/Nm <sup>3</sup> )												
BF Stoves – PM- 50 mg/Nm <sup>3</sup> , SO <sub>2</sub> - 250 mg/Nm <sup>3</sup> , NO <sub>x</sub> - 150 mg/Nm <sup>3</sup>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	28.01.15	10.81 T/hr	158412	142.62	129.32	-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's	03.01.15	10.50 T/hr	156735	148.94	109.61	-	-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	16.01.15	11.04 T/hr	160302	154.12	96.23	-		-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	21.01.15	10.87 T/hr	159053	165.35	121.36	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	14.01.15	10.92 T/hr	148211	137.30	108.20	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	10.01.15	11.03 T/hr	152307	153.63	102.75	-	-	-

Standards: PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - , CO - (Units: mg/Nm<sup>3</sup>)

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.

SMS – 1 (Process)					Date		Flow rate (NM <sup>3</sup> /Hr)	PM (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	HC	CO
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	05.01.15	-	240553	209.57	78.12	-	-	-
Conv. – 2 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	13.01.15	-	209773	229.62	67.31	-	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	23.01.15	-	196379	216.62	92.32	-	-	-
Conv. – 4 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	19.01.15	-	168234	31.31	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	19.01.15	-	216338	223.30	53.92	-	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber		---	-	-	-	-	-	-
SMS-2/CCS	LF-1	80m	1.25m	Bag filter	26.01.15	-	108269	18.24	-	-	-	-

Standards : PM - 300, SO<sub>2</sub> - , NO<sub>x</sub> - , CO - \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup> (Units: mg/Nm<sup>3</sup>) All ducts are connected to a common stack

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	24.01.15	-	149295	41.50	215.0	77.45	-	1.96
Batt. # 2	Stack – 2	100 m.	3.5mtrs		01.01.15	-	142039	25.76	129.85	82.39	-	1.83
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair							
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	08.01.15	-	138992	32.51	152.52	66.75	-	2.05
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	15.01.15	-	151133	46.92	189.60	71.05	-	2.26
Batt # 6	Stack - 6	100 m.	3.5 mts	-	05.01.15	-	141623	43.44	179.32	72.81	-	2.09
Batt. # 7	Stack – 7	100 m.	3.5mtrs		Under Rebuilding							
Batt. # 8	Stack – 8	100 m.	3.5mtrs	-	27.01.15	-	148555	44.51	258.65	83.44	-	2.37

Standards : PM - 50, SO<sub>2</sub> - 800, NO<sub>x</sub> - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm<sup>3</sup>)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	31.01.15	-	409832	166.39	136.11	62.54	-	-
	Duct-B		3.5mtrs	Batt. cyclone	31.01.15	-	413121	158.57	-	-	-	-
SM-2	Duct-A		3.5mtrs	Batt. cyclone	06.01.15	-	416329	159.19	109.72	76.21	-	-
	Duct-B		3.5mtrs	Batt. cyclone	06.01.15	-	421020	165.11	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	22.01.15	-	389960	171.17	129.41	87.45	-	-
	Duct-B		3.5mtrs	ESP-6	22.01.15	-	299623	36.19	-	-	-	-

Standards : PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - (Units: mg/Nm<sup>3</sup>)

\* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

**FEB'2015**

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
<b>Blast Furnace</b> (Space dedusting) & Stoves								<b>Particulate matter (PM)</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>HC</b>	<b>CO</b>
								(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )		Kg/TDCP
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	Under Capital Repair							
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	16.02.15	6966T	209148	68.72	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-	-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	06.02.15	5775T	216723	71.87	-	-	-	-
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	-	-	-	-	-	-	-	-
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	28.02.15	3040T	109590	30.74	39.62	27.18	-	-
<b>Standards : Charging side chimney- PM - 100 (Units: mg/Nm<sup>3</sup>) BF Stoves – PM- 50 mg/Nm<sup>3</sup>, SO<sub>2</sub>- 250 mg/Nm<sup>3</sup>, NO<sub>x</sub>- 150 mg/Nm<sup>3</sup></b>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	19.02.15	10.88 T/hr	149623	151.71	86.12	-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's	04.02.15	10.43 T/hr	156231	146.36	96.13	-	-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	10.02.15	11.21 T/hr	163915	139.83	53.88	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	21.02.15	9.58 T/hr	150149	153.35	82.23	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	-	-	-	-	-	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	23.02.15	10.8 T/hr	148237	155.14	65.11	-	-	-

**Standards: PM - 150 ,SO<sub>2</sub> - , NO<sub>x</sub> - , CO - (Units: mg/Nm<sup>3</sup>)**

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.



SMS – 1 (Process)					Date		Flow rate (NM <sup>3</sup> /Hr)	PM (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	HC	CO
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	05.02.15	-	242162	196.22	90.15	48.23	-	-
Conv. – 2 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	24.02.15	-	239621	218.23	116.25	36.12	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	07.02.15	-	240935	253.88	108.57	77.45	-	-
Conv. – 3 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	07.02.15	-	150626	36.25	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	11.02.15	-	236987	241.32	97.86	46.81	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber		---	-	-	-	-	-	-
SMS-2/CCS	LF-2	80m	1.25m	Bag filter	26.02.15	-	113057	17.51	-	-	-	-

**Standards : PM - 300, SO<sub>2</sub> - , NO<sub>x</sub> - , CO -** \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup> (Units: mg/Nm<sup>3</sup>) All ducts are connected to a common stack

Coke Oven													
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	12.02.15	-	150627	30.78	201.72	51.06	-	1.38	
Batt. # 2	Stack – 2	100 m.	3.5mtrs		02.02.15	-	148351	41.52	161.44	49.50	-	1.66	
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair								
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	27.02.15	-	153278	27.72	165.36	70.36	-	1.84	
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	09.02.15	-	146279	48.14	204.76	52.70	-	2.52	
Batt # 6	Stack - 6	100 m.	3.5 mts	-	17.02.15	-	145241	49.12	194.77	67.55	-	2.73	
Batt. # 7	Stack – 7	100 m.	3.5mtrs		Under Rebuilding								
Batt. # 8	Stack – 8	100 m.	3.5mtrs	-	20.02.15	-	153609	46.75	188.71	60.32	-	2.66	

**Standards : PM - 50, SO<sub>2</sub> - 800, NO<sub>x</sub> - 500, CO – 3.00 Kg/TDCP, HC -** (Units: mg/Nm<sup>3</sup>)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	03.02.15	-	399627	161.26	109.61	62.61	-	-
	Duct-B		3.5mtrs	Batt. cyclone	03.02.15	-	398170	160.39	-	-	-	-
SM-2	Duct-A		3.5mtrs	Batt. cyclone	13.02.15	-	389960	163.62	118.32	70.11	-	-
	Duct-B		3.5mtrs	Batt. cyclone	13.02.15	-	391262	158.14	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	18.02.15	-	401525	164.16	102.42	68.86	-	-
	Duct-B		3.5mtrs	ESP-6	18.02.15	-	336162	35.36	-	-	-	-

**Standards : PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> -** (Units: mg/Nm<sup>3</sup>)

\* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

**MAR'2015**

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (Nm <sup>3</sup> /Hr)	Parameters (whichever are applicable)				
								1	2	3	4	5
<b>Blast Furnace</b> (Space dedusting) & Stoves								<b>Particulate matter (PM)</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>HC</b>	<b>CO</b>
								(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )	(mg/Nm <sup>3</sup> )		Kg/TDCP
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scruber	Under Capital Repair							
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber	14.03.15	6550	275652	72.16	-	-	-	-
BF-3	Chimney-2	50 mtr.	8.2mtrs.	Wet scruber							-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber	27.03.15	6015	268963	76.82	-	-		
BF-5	Chimney-3	50 mtr.	8.2mtrs.	Wet scruber							-	-
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	21.03.15	3876	102361	28.95	34.48	39.25	-	-
Standards : Charging side chimney- PM - 100 (Units: mg/Nm <sup>3</sup> ) BF Stoves – PM- 50 mg/Nm <sup>3</sup> , SO <sub>2</sub> - 250 mg/Nm <sup>3</sup> , NO <sub>x</sub> - 150 mg/Nm <sup>3</sup>												
<b>Refractory Material plant</b>												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP's	06.03.15	10.8T/Hr	168342	156.54	90.25	-	-	-
Kiln-2	Stack – 1	80 mtr.	3.3mtrs	ESP's	13.06.15	10.92T/Hr	148954	143.11	82.64	-	-	-
Kiln-3	Stack – 2	80 mtr.	3.3mtrs	ESP's	09.03.15	10.79T/Hr	155632	158.86	90.85	-		-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP;s	-	-	-	-	-	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3mtrs	ESP's	02.03.15	10.72T/Hr	158745	145.75	84.10	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3mtrs	ESP's	24.03.15	10.65T/Hr	165495	156.17	78.42	-	-	-

Standards: PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - , CO - (Units: mg/Nm<sup>3</sup>)

Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

- BF#1 is connected to chimney no-1 , BF#2&BF#3 are connected to chimney no-2 and BF#4&BF#5 are connected to chimney no-3  
Each BF stove is connected to corresponding chimney No.

SMS – 1 (Process)					Date		Flow rate (NM <sup>3</sup> /Hr)	PM (mg/Nm <sup>3</sup> )	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	HC	CO
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	30.03.15		231562	232.66	88.64	30.16	-	-
Conv. – 2 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	16.03.15		240167	240.16	75.81	44.17	-	-
Conv. – 3(BL)	Stack – 1	100m	4.3mtrs	Wet scruber			-	-	-	-	-	-
Conv. – 4 (NB)	Stack – 1	100 m	4.3mtrs	Wet scruber	05.03.15		105776	34.77	-	-	-	-
Conv. – 4 (BL)	Stack – 1	100 m	4.3mtrs	Wet scruber	05.03.15		241627	238.96	103.96	34.89	-	-
Conv. – 5(BL)	Stack – 1	100m	4.3mtrs	Wet scruber	23.03.15		242428	208.35	97.52	36.45	-	-
SMS-2/CCS	LF-1	80m	1.25m	Bag filter	28.03.15		112553	22.64	-	-	-	-

Standards : PM - 300, SO<sub>2</sub> - , NO<sub>x</sub> - , CO - \* Monitored in individual ducts(of dia 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM  
#50mg/Nm<sup>3</sup> (Units: mg/Nm<sup>3</sup>) All ducts are connected to a common stack

Coke Oven													
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	04.03.15		141562	34.91	195.04	54.62	-	1.83	
Batt. # 2	Stack – 2	100 m.	3.5mtrs		18.03.15		149261	24.80	205.26	72.65		1.95	
Batt. # 3	Stack – 3	100 m.	3.5mtrs	-	Under Cold Repair								
Batt. # 4	Stack – 4	100 m.	3.5 mtrs	-	16.03.15		145553	33.52	215.00	63.50		1.77	
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	31.03.15		148231	44.06	190.33	53.35		1.96	
Batt # 6	Stack - 6	100 m.	3.5 mts	-	20.03.15		152647	48.10	188.36	42.17		2.16	
Batt. # 7	Stack – 7	100 m.	3.5mtrs	Under Rebuilding									
Batt. # 8	Stack – 8	100 m.	3.5mtrs		11.03.15		154358	47.32	183.83	55.65		2.11	

Standards : PM - 50, SO<sub>2</sub> - 800, NO<sub>x</sub> - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm<sup>3</sup>)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	10.03.15		412625	171.66	78.79	38.32	-	-
	Duct-B		3.5mtrs	Batt. cyclone	10.03.15		408221	162.09	-	-	-	-
SM-2	Duct-A		3.5mtrs	Batt. cyclone	25.03.15		421620	158.00	69.03	41.25	-	-
	Duct-B		3.5mtrs	Batt. cyclone	25.03.15		415163	161.86	-	-	-	-
SM-3	Duct-A		3.5mtrs	Batt. cyclone	19.03.15		399625	165.86	86.33	49.75	-	-
	Duct-B		3.5mtrs	ESP-6	19.03.15		352456	41.14	-	-	-	-

Standards : PM - 150 , SO<sub>2</sub> - , NO<sub>x</sub> - (Units: mg/Nm<sup>3</sup>)

\* All three Sinter M/c Exhaust are connected to a common single stack of 100m height

## Ambient Air Quality and fugitive emissions

### Ambient Air Quality (AAQ)

(All Ambient Air Quality Station)

Standards : PM<sub>10</sub> - 100, PM<sub>2.5</sub>-60, SO<sub>2</sub> - 80, NO<sub>2</sub> – 80, NH<sub>3</sub> - 400 , O<sub>3</sub>-100, Pb -1.0 , C<sub>6</sub>H<sub>6</sub>– 5.0 , (Units: micro gram/meter<sup>3</sup>) As - 6.0 , BaP - 1.0 , Ni – 20.0 (units – nano gram/meter<sup>3</sup> ) , CO – 2.0 mg/m<sup>3</sup>

### OCT'2014

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	16.10.14	76.36	45.30	8.61	46.54	31.08	27.32	0.12	1.48	0.75	0.24	6.18	1.024
2	Garga Dam	16.10.14	65.03	42.76	8.06	44.42	31.39	29.38	0.10	1.38	0.68	0.22	5.96	0.942
3	Sector-12	17.10.14	58.45	38.53	7.37	41.29	34.41	27.81	0.09	1.42	0.58	0.21	4.54	0.874
4	Sector-9	18.10.14	54.14	38.95	7.83	45.40	26.64	28.29	0.07	1.36	0.53	0.22	4.72	0.738
5	Bokaro Hotel	17.10.14	68.36	99.96	7.70	39.43	31.64	27.33	0.09	1.34	0.71	0.20	5.39	0.756
6	CISF (SGP)	18.10.14	77.18	44.45	8.19	45.43	27.43	30.84	0.08	1.32	0.73	0.24	6.02	0.867
7	Air Strip	19.10.14	72.86	45.72	8.67	46.87	28.86	29.94	0.07	1.42	0.67	0.26	5.87	0.928
8	CAAQMS at Main gate	29.10.14	82.5	40.4	33.1	21.5	31.2	17.7	-	4.50	-	-	-	0.800

### NOV'2014

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	19.11.14	87.86	56.26	10.37	48.53	35.52	26.83	0.12	1.52	0.62	0.25	6.12	0.968
2	Garga Dam	19.11.14	65.42	38.26	20.26	47.98	33.72	28.77	0.10	1.42	0.69	0.24	7.45	0.884
3	Sector-12	21.11.14	78.24	42.16	10.83	28.14	31.63	30.84	0.10	1.48	0.73	0.26	8.34	0.948
4	Sector-9	18.11.14	91.26	55.26	18.06	32.10	34.41	28.29	0.15	1.56	0.78	0.26	8.23	0.946
5	Bokaro Hotel	17.11.14	81.26	48.26	12.39	27.55	33.72	31.93	0.12	1.58	0.69	0.26	6.77	0.882
6	CISF (SGP)	20.11.14	86.46	54.26	9.68	18.34	28.86	29.27	0.10	1.52	0.61	0.24	5.51	0.984
7	Air Strip	21.11.14	56.86	38.26	11.74	19.09	31.08	32.25	0.09	1.52	0.7	0.24	6.72	1.022
8	CAAQMS at Main gate	22.11.14	95.28	58.12	22.40	15.0	41.1	29.8	-	3.0	-	-	-	1.2

**DEC'2014**

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	10/12/14	81.42	64.03	16.76	53.91	34.41	44.15	0.13	1.46	0.76	0.24	7.98	1.024
2	Garga Dam	10/12/14	80.69	48.25	18.56	49.95	33.72	48.54	0.10	1.42	0.67	0.26	6.56	0.948
3	Sector-12	11/12/14	82.48	43.44	14.51	29.26	28.56	32.58	0.12	1.52	0.64	0.25	7.37	0.882
4	Sector-9	12/12/14	82.26	55.48	19.26	33.72	44.41	38.48	0.14	1.50	0.67	0.24	7.38	0.934
5	Bokaro Hotel	12/12/14	71.45	43.34	16.42	26.22	41.27	42.36	0.11	1.06	0.54	0.22	6.22	0.848
6	CISF (SGP)	13/12/14	88.36	61.26	14.93	28.72	38.22	36.42	0.10	1.28	0.62	0.21	5.82	0.926
7	Air Strip	11/12/14	76.74	46.26	12.48	18.62	26.55	31.51	0.08	1.41	0.66	0.23	6.42	1.038
8	CAAQMS at Main gate	14/12/14	95.44	59.7	30.10	17.26	48.12	18.9	-	0.60	-	-	-	1.400

**JAN'2015**

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	10.01.15	93.94	59.45	14.20	49.18	31.08	41.95	0.09	1.52	0.62	0.22	7.23	0.864
2	Garga Dam	09.01.15	80.95	50.30	13.17	46.04	30.52	42.93	0.09	1.42	0.68	0.18	6.66	0.894
3	Sector-12	09.01.15	85.15	54.83	12.91	48.96	28.28	47.46	0.11	1.68	0.85	0.26	9.50	0.968
4	Sector-9	08.01.15	86.38	58.22	12.76	53.91	32.19	45.85	0.09	1.48	0.70	0.20	5.96	0.852
5	Bokaro Hotel	08.01.15	88.02	46.37	14.93	52.05	29.65	47.52	0.10	1.54	0.63	0.24	6.48	0.846
6	CISF (SGP)	10.01.15	91.30	35.71	13.17	50.36	31.63	47.22	0.10	1.56	0.65	0.24	8.41	0.878
7	Air Strip	11.01.15	84.49	54.46	12.51	49.35	33.30	45.87	0.10	1.44	0.55	0.22	5.35	0.884
8	CAAQMS at Main gate	20.01.15	67.20	53.40	40.50	22.20	44.90	24.70	-	0.40	-	-	-	1.300

**FEB'2015**

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	05.02.15	92.62	43.40	14.76	52.52	31.08	40.49	0.11	1.64	0.64	0.32	9.66	1.022
2	Garga Dam	07.02.15	75.85	42.75	12.22	49.26	28.30	43.46	0.10	1.42	0.60	0.22	7.39	0.792
3	Sector-12	06.02.15	78.32	43.21	14.55	48.21	26.64	40.48	0.08	1.32	0.51	0.20	4.77	0.856
4	Sector-9	04.02.15	94.68	45.22	13.51	51.40	28.86	37.36	0.09	1.28	0.67	0.18	6.66	0.882
5	Bokaro Hotel	04.02.15	93.72	48.17	13.03	49.08	26.74	41.39	0.11	1.46	0.59	0.22	7.60	0.864
6	CISF (SGP)	05.02.15	84.08	41.13	14.05	51.83	31.54	40.27	0.07	1.48	0.58	0.26	4.99	0.947
7	Air Strip	06.02.15	81.06	43.05	15.80	50.27	29.97	40.49	0.12	1.60	0.66	0.30	8.41	0.978
8	CAAQMS at Main gate	27.02.15	68.1	51.8	5.70	21.8	29.8	48.4	-	4.00	-	-	-	0.800

**MAR'2015**

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub>	Pb	C <sub>6</sub> H <sub>6</sub>	As	BaP	Ni	CO
1	B.S. City Rly. Stn.	16.03.15	93.61	41.25	22.81	47.17	33.46	45.11	0.13	1.51	0.55	0.31	8.26	1.102
2	Garga Dam	16.03.15	79.26	38.62	11.79	40.16	26.52	40.61	0.09	1.34	0.48	0.24	7.61	0.823
3	Sector-12	17.03.15	86.23	37.11	13.86	50.36	25.71	37.58	0.08	1.28	0.52	0.16	5.82	0.811
4	Sector-9	18.03.15	90.12	38.14	14.51	48.11	30.62	39.55	0.10	1.39	0.62	0.20	7.34	0.787
5	Bokaro Hotel	18.03.15	85.72	40.16	14.05	47.11	26.77	36.71	0.10	1.41	0.58	0.25	6.52	0.826
6	CISF (SGP)	19.03.15	89.86	42.46	18.18	40.73	28.33	34.52	0.08	1.53	0.49	0.32	5.14	0.926
7	Air Strip	17.03.15	62.65	39.52	16.52	48.75	34.16	41.77	0.12	1.43	0.51	0.36	7.47	0.987
8	CAAQMS at Main gate	15.03.15	67.5	34.0	11.5	19.8	27.9	42.5	-	3.9	-	-	-	0.500

## Water Pollution Status

Water consumption 4.52m<sup>3</sup> / tonne of Crude Steel produced

Effluent discharged to : (Name of the river / drain / land etc.): Damodar River

Quality of various effluent streams at the Boundary line of the plant

Standards : Temp.- Upto 40°C, pH -6.0-8.50, TSS- 100, Phenol- 1.0, Cyanide- 0.20, BOD- 30, COD- 250, Amm. Nitrogen- 50, O&G- 5.0

Note:- Outfall-1 (COBPP, Sinter Plant, TPP, BF, RMP), Outfall-2:(SMS-1, SMS-2 &CCS, Rolling Mills)

Outfall-3 (OG, HRCF, Project Sites, BGH )

### OCT'2014

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
18.10.14	OF- 1	25.6	7.50	31	0.036	0.042	11.63	44	1.46	0.40	450m3/hr
	OF- 2	27.2	6.32	36	0.009	0.06	8.22	34	1.26	0.42	200m3/hr
	OF- 3	26.8	6.92	29	0.015	0.012	10.35	51	1.09	0.39	100m3/hr

### NOV'2014

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
18.11.14	OF- 1	24.3	7.78	26	0.088	0.023	8.75	76	1.89	0.34	450m3/hr
	OF- 2	23.5	7.32	22	0.022	0.008	6.70	52	1.92	0.46	200m3/hr
	OF- 3	23.9	7.47	28	0.016	0.009	5.95	49	1.47	0.21	100m3/hr

### DEC'2014

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
23/12/14	OF- 1	18.9	7.05	29	0.042	0.018	11.21	51	2.26	0.34	450m3/hr
	OF- 2	22.1	7.22	26	0.011	0.022	7.65	43	1.62	0.93	200m3/hr
	OF- 3	20.8	7.40	19	0.016	0.006	9.20	45	1.87	0.46	100m3/hr

**JAN'2015**

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
16.01.15	OF- 1	20.8	7.30	32	0.036	0.018	8.05	41	1.32	0.28	450m3/hr
	OF- 2	20.1	6.45	26	0.028	0.016	7.90	62	2.14	0.32	200m3/hr
	OF- 3	19.9	7.10	28	0.026	0.024	7.55	71	1.98	0.34	100m3/hr

**FEB'2015**

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
11.02.15	OF- 1	23.0	7.8	27	0.090	0.011	14.3	49	1.79	0.25	450m3/hr
	OF- 2	23.4	7.63	34	0.005	0.007	10.3	65	0.783	0.58	200m3/hr
	OF- 3	22.3	7.23	21	0.007	0.005	11.6	32	1.27	0.27	100m3/hr

**MAR'2015**

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. °C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
10.03.15	OF- 1	24.0	7.8	37	0.090	0.011	10.5	89	1.79	0.25	450m3/hr
	OF- 2	25.3	6.3	32	0.012	0.002	8.85	43	0.775	0.28	200m3/hr
	OF- 3	24.2	7.7	28	0.010	0.003	7.54	32	0.986	0.40	100m3/hr



## Status of Sewage Treatment Plant (STP)

Standards : Temp.- Upto 40°C, pH -6.0-8.5, TSS- 30, Phenol- 1.0, Cyanide- 0.20, BOD- 20, COD- 250.

### OCT'2014

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
15.10.14	11.30.00	BGH	-	23.7	6.97	12	9.45	58	
	11.00.00	Dhandabra	-	24.5	7.55	14	10.50	65	
	10.30.00	Sector -6	-	23.4	7.52	20	12.50	72	
	10.00.00	Camp-2	-	24.9	7.39	14	14.50	94	
	09.30.00	Sector-12	-	24.1	7.65	16	12.15	78	

### NOV'2014

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
14.11.14	12.30.00	BGH	-	24.4	7.50	14	10.9	52	
	11.40.00	Dhandabra	-	24.6	7.55	16	13.5	63	
	11.20.00	Sector -6	-	24.9	7.47	19	10.5	58	
	10.45.00	Camp-2	-	25.4	7.20	16	15.8	89	
	10.20.00	Sector-12	-	23.7	7.35	15	13.3	76	

### DEC'2014

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
17/12/14	12.20 pm	BGH	-	20.5	6.60	16	11.2	69	
	11.30 am	Dhandabra	-	20.7	6.90	14	12.6	66	
	11.00 am	Sector -6	-	21.2	6.80	13	11.8	59	
	10.35 am	Camp-2	-	20.9	6.89	19	16.1	73	
	10.15 am	Sector-12	-	20.3	7.00	18	13.2	64	

**JAN'2015**

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
13.01.15	12.20 pm	BGH	-	19.5	6.82	12	10.85	65	
	11.30 am	Dhandabra	-	19.4	6.79	15	12.85	64	
	11.00 am	Sector -6	-	20.1	7.05	16	11.95	83	
	10.35 am	Camp-2	-	19.9	6.52	15	14.05	115	
	10.15 am	Sector-12	-	20.7	7.45	14	12.95	92	

**FEB'2015**

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
14.02.15	12.20 pm	BGH	-	22.1	7.23	18	12.7	72	
	11.30 am	Dhandabra	-	20.8	6.80	17	15.34	83	
	11.00 am	Sector -6	-	21.6	7.10	18	12.86	75	
	10.35 am	Camp-2	-	19.9	6.54	21	14.7	97	
	10.15 am	Sector-12	-	20.9	7.22	18	13.11	83	

**MAR'2015**

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. °C	pH	TSS	BOD	COD	Remarks
20.03.15	12.20 pm	BGH	-	28.7	7.93	14	10.7	58	
	11.30 am	Dhandabra	-	27.1	7.14	15	9.5	74	
	11.00 am	Sector -6	-	28.5	8.32	18	11.3	65	
	10.35 am	Camp-2	-	27.6	7.24	19	12.9	92	
	10.15 am	Sector-12	-	28.3	7.75	18	13.8	84	