

स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड

(भारत सरकार का उपक्रम)

इस्को स्टील प्लांट

बर्नपुर - 713 325 पश्चिम बंगाल

टेलिफोन नं० : 0341-2240441

फैक्स नं० : 0341-2240018, 2240032
: 0341-2240704 (Works)



ओ एवं एम/सा०/33 O & M /Genl/33

STEEL AUTHORITY OF INDIA LIMITED

(A Govt. of India Enterprise)

IISCO STEEL PLANT

BURNPUR - 713 325, WEST BENGAL

Phone No. : 0341-2240441

FAX No. : 0341-2240018, 2240032

: 0341-2240704 (Works)

संदर्भ सं०/Ref. No. : EMD/MOEF&CC/2024/21

दिनांक / Date : 30.11.2024

The IGF & Incharge,
GOI, MOEF&CC
Integrated Regional Office, Kolkata
1B-198, Salt Lake City, Sector III
Kolkata- 700106

Sub: Expansion of IISCO Steel Plant (ISP) (0.55 MTPA to 2.50 MTPA, Rebuilding Battery No. 10 of Coke Oven and setting up of captive Power Plant (87.5 MW) and other Facilities at Burnpur, Asansol, Burdwan, West Bengal by M/s Steel Authority of India Limited (SAIL) – Environment Clearance

Ref.: F. No. J-11011/348/2005-IAII (I), dated 7th August, 2007 & F. No. J-11011/348/2006-IAII (I) dated 22nd November, 2007 Ministry of Environment & Forests, Govt. of India, Paryavaran Bhawan, CGO Complex, Lodi Road, New Delhi-110003 & F. No. J-11011/348/2005-IAII (I) dated 14th November, 2013

Sir,

We are enclosing herewith a status report of Compliance to the conditions stipulated in the above mentioned environmental clearance for the period April to September 2024.

Thanking you,

Yours faithfully,


(P. K. Paul)

GM (Safety & Environment)

Encl : as stated

Steel Authority of India Limited
IISCO Steel Plant

Sub: Expansion of IISCO Steel Plant (ISP) (0.55 MTPA to 2.50 MTPA), Rebuilding of Coke Oven Battery No. 10 and setting up of a Captive Power Plant (87.5 MW) and other facilities at Burnpur, Asansol, Burdwan, West Bengal by M/s Steel Authority of India Limited (SAIL) – Environmental Clearance

Ref: F. No. J-11011/348/2005 – IA II (I), dated 7th August, 2007 & F. No. J-11011/348/2006 – IA II (I) dated 22nd November, 2007 & F. No. J-11011/348/2005-IA II (I) dated 14th November, 2013 of Ministry of Environment & Forests, Government of India, Paryavaran Bhawan, C.G.O. Complex, Lodi Road, New Delhi – 110003

Status report of the compliance to the conditions: April to September 2024

Condition of MoEFCC	Status / Compliance
A. Specific Conditions :	
i) The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19 th May, 1993 and standards prescribed from time to time. The West Bengal Pollution Control Board (WBPCB) 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.	These features are taken care of in Design & Engineering. Efforts are made considering necessary factor of safety that at no time, the emission level shall go beyond the prescribed standards. However, due to technological limitation and safety & hazards requirements of different units of the plant interlock facilities cannot be provided for automatically stopping. Test Reports of monitoring and analysis carried out by WBPCB and other recognized laboratories during April to September 2024 are placed at Annexure 1.
ii) Low NO _x burners shall be provided in re-heating furnace and boilers to control NO _x emissions. Continuous stack monitoring facilities for all the major stacks and adequate air pollution control systems shall be provided to control air emissions within 50 mg/Nm ³ and reports submitted to the WBPCB & CPCB.	These features are taken care of in Design & Engineering. Emission is maintained within norm. Stack, Ambient Air, Work Environment, Ambient Noise and Coke oven Fugitive Emissions monitoring report from April to September 2024 is placed at Annexure 2.
iii) Ambient air quality monitoring stations shall be set up per statutory requirement in consultation with the WBPCB. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality and shall be carried out regularly in consultation with WBPCB and data submitted to the CPCB and WBPCB regularly. The instruments used for ambient air quality monitoring shall be calibrated time to time.	Monitoring stations already exist. Calibration being done regularly. Five (5) Nos. of Continuous Ambient Air Quality Stations (CAAQMS) are set up at Township (1 No.) & Plant (4 Nos.).
iv) In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. ESP to the new sinter plant, ventury scrubber to BOF shop, pulse jet type bag filter to lime and dolomite plant and bag filters in material handling areas and material transfer points shall be provided. A fume extraction system comprising suction hood, associated duct, cyclone/scrubber shall be provided to control dust generated during secondary refining. De-dusting system shall be provided at different material transfer points. Tar, NH ₃ shall be cleaned in the process and H ₂ S recovery from the coke oven shall be ensured. By-product fuel gases shall be used for steam and power generation.	The stipulated control measures have been considered in Design & Engineering and installed. ESP has been provided in the sinter plant. Scrubber has been provided to clean BOF gas. Bag filters have been provided at Lime & Dolomite Calcination Plant, as well as in material handling & transfer points. ESP is provided to control dust generated from secondary refining. List of Pollution Control equipment installed in various units are provided in Annexure 3. Tar, NH ₃ is being cleaned and H ₂ S recovery plant is in operation. By-product fuel gases like Coke Oven, Blast Furnace & BOF Gas is used for generation of power & steam generation as well as for heating purpose.

महायुक्त महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR

Condition of MoEFCC	Status / Compliance
v) Dry fog dust suppression system shall be provided to control fugitive emissions. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions. Secondary fugitive emissions shall be controlled within the prescribed limits, regularly monitored and records maintained. Guidelines/Code of Practice issued by the CPCB in this regard shall be followed.	Dry fog dust suppression system and water sprinkling systems are provided to control fugitive emissions from coal stockpiles. Also, the roads have been concretised. Secondary fugitive emissions are being controlled by deploying sprinklers and mist canons.
vi) Total requirement of the water from River Damodar shall not exceed 23 MGD and prior 'permission' – for the total water requirement shall be obtained from the concerned Department before commissioning the project. Effluent Treatment Plant (ETP) shall be installed for the treatment of process water. During the rebuilding of coke oven battery, BOD plant shall be provided for the disposal of liquid effluent. The wastewater generated from blast furnace (BF) shall be treated in clarifier and reused in the system. Blow down from BF re-circulation system shall be reused in SGP as make up water. Blow down from BOF re-circulation system shall be reused in new SMS slag yard. Reverse Osmosis plant shall be installed. All the wastewater generated shall be treated, recycled and reused either in the process or for dust suppression or green belt development. No wastewater shall be discharged outside the factory premises and 'Zero' discharge shall be adopted. Domestic effluent shall be treated in sewage treatment plant (STP).	Total water requirement from the River Damodar is well within the permitted value of 23 MGD. Permission from DVC is also obtained before commissioning of the project. ETP is installed at Sinter Plant, Blast Furnace, SMS, Bar Mill and at USM. Separate BODs are installed for both COB 10 & 11. Clarifier is provided at BF and water is being reused. Clarifier is also provided in BOF for re-circulation of water. Reverse Osmosis systems are also installed with ZLD units. Domestic effluents are being treated in STP.
vii) All the BF slag shall be either sold or used for road construction. BF sludge and BOF sludge shall be partly used in sinter plant and partly dumped. BOF slag shall be reused in BF, sinter plant as well as ballast. All the BF fume dust, BOF scale, Mill scales, Lime dust, Dolo dust, Burnt lime, Pig casting machine sludge etc. shall be reused in sinter plant. All the mill scrap and skull/scrap shall be reused in BOF plant. Blast furnace gas, Coke oven gas, BOF gas, Liquid Oxygen, LPG, shall be used in the power plant, Tar sludge, BOD plant sludge and waste oil shall be generated during the rebuilding of coke oven battery shall be properly disposed of as per the Hazardous Waste (Management & Handling) Rules, 1989 and subsequent amendments.	BF & BOF slags are either sold or being used in the plant. BF & BOF sludge is either being sold or used. BF Fume Dust, CCP/Mill scales, Lime & Dolo Dust and burnt Lime are being used in the plant. Skull & Scrap are being used in the plant. Tar Sludge is being utilized in the plant and waste oils are being disposed as per Hazardous & Other Wastes (Management And Trans-boundary Movement) Rules, 2016.
viii) The prescribed emission standards for coke oven plants as notified vide notification no. GSR 46 (E) dated 3 rd February, 2006 shall be complied with.	Complied
ix) All the environment management measures given in the EIA/EMP shall be implemented and complied with.	Complied
x) Out of total 1,165.58 ha. green belt shall be developed in 260 ha. area in addition to existing 43 ha within and around the plant premises as per the CPCB guidelines in consultation with DFO.	Development of green belt is done in and around the plant premises as per the CPCB guidelines and total planted area is around 305 Ha.
A. General Conditions :	
i) The project authority shall adhere to the stipulation made by West Bengal Pollution Control Board (WBPCB) and State Government.	Complied
ii) No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	Agreed

सहायक मन्त्री प्रवक्ता, पर्यावरण प्रबंधन
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR

Condition of MoEFCC	Status / Compliance
iii) The overall noise levels in and around the plant area shall be kept well within the standards (85 dB (A)) 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 Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dB(A) (day time) and 70 dB(A) (night time).	All the noise control measures have been installed and noise levels in and around the plant is well within the standards.
iv) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance is being carried for all the employees including workers and records are being maintained.
v) All the recommendations mentioned in the Corporate Responsibility for Environmental Protection (CREP) of CPCB issued for the steel plants shall be implemented.	Recommendations mentioned in the CREP of CPCB issued for the steel plants are implemented.
vi) The company shall undertake eco-development measures including community welfare measures in the project area.	Being done on regular basis under Corporate Social Responsibility (CSR). List of CSR activities carried out during April to September 2024 is placed at Annexure 4.
vii) 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.	Rainwater harvesting system is installed at Refractory storage shed area.
viii) Proper housekeeping and adequate occupational health programmes shall be taken up.	Being done on regular basis
ix) A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	Already exists with CGM (Safety, Fire Services & Environment), 2 nos. of GM (Safety & Environment), 3 officers, 4 associates and 15 contractual workers.
x) As mentioned in the EIA/EMP, Rs. 480.00 Crores and Rs. 36.60 Crores allocated towards the capital cost and recurring cost/annum environmental pollution control measures shall be judiciously used 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.	Adequate amount being utilized for environmental measures.
xi) The Regional Office of this Ministry at Bhubaneswar/CPCB/WBPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Monitoring Reports along with statistical interpretation are being submitted regularly to MoEFCC and are also being placed at sail.co.in.
xii) The Project Authorities shall inform the Regional Office as well as 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.	Land development work commenced in November, 2007. Status report submitted in every six months.
xiii) 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 W.B. Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locally concerned and a copy of the same shall be forwarded to the Regional Office at Bhubaneswar.	Advertised through local newspaper and is also being displayed at sail.co.in.


 महा.यक महाप्रबन्धक (पर्यावरण प्रबंधन)
 AGM (Environ. Mgmt.)
 सेल-आई. एस. पी., बर्नपुर
 SAIL-ISP. BURNPUR

Annexure 1

Test Reports

Analysis Report of Waste Water/Solid samples Inspection Id:

U00500000017932260624405

Identification Code:

1 3 0 6 2 0 2 4 3 6 8 9

Analysis Done At:



WEST BENGAL POLLUTION CONTROL BOARD
Durgapur Regional Laboratory, Paribesh Bhawan, Durgapur-713 216

Mr. P. Mondal, JEE

Sample Collected by (First name only in short)

(As indicate in the label affixed to the sample container)

Date=> 13/06/2024

Office Code=>

00000005

Name of Unit / Source: M/s. SAIL-IISCO Steel Plant

Address: P.O.- Burnpur P.S.- Hirapur Dist.- Burdwan Pin Code- 713325

Sl.	Sampling Details (Collection/Discharge)	T#/U#	Collection Time
1	Dihika Outfall	T	1245
2	Damra Outfall	T	1201
3	Plant Reservoir	T	1225
4	Inlet to BOD Plant No.-10	U	1210
5	Outlet of BOD Plant No.-11	T	1235

*Treated / Untreated

Parameters	Sample Serial Number				
	1	2	3	4	5
pH	8.05	7.90	7.53	7.75	7.87
TSS	18.00	18.00	10.00	28.00	12.00
COD	18.98	20.60	19.81	22.72	26.11
BOD	Not Done	Not Done	Not Done	Not Done	Not Done
O&G	1.50	1.40	BDL	BDL	BDL
NH ₄ -N	1.451	1.527	1.220	2.146	0.596
CN	0.140	BDL	0.111	BDL	BDL
Phenols	0.061	0.111	0.144	0.062	0.122

*All Parameters expressed in mg/l excepting pH

BDL : Below Detectable Limit, NT : Not Traceable, NE : Not Exerted, N.A. : Not Applicable

Remarks: B.O.D Plant

09/07/24

Date of Reporting

09/07/24

Prepared by

09/07/24

Checked by

09/07/2024

Signature of In-Charge, DRL

- Copy to:
1. OSD - Operation & Execution, WBPCB
 2. Chief Scientist, WBPCB
 3. Env. Engineer (DRO) / Env. Engineer (ARO), WBPCB
 4. Industry

सहायक महाप्रबंधक (पर्यावरण प्रबंधन)
SAIL-ISP, BURNPUR
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1. Name of Industry	M/s. SAIL- IISCO Steel Plant.
2. Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3. Category & Type	Red & Integrated Steel Plant
4. Sampling Date	13.06.2024
5. Duration of Sampling	38 min.
6. Name of Laboratory	M/s. Eco Care
7. Height of Stack from ground (m)	31.00
8. Cross section of Stack at sampling point (m ²)	11.646
9. Stack connected to	BF # 05 (Cast House No: 02)
10. Emission due to (Furnace / Boiler)	Process Activity
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.
12. APC System (if any)	ESP
13. Working load of source (MT/hr)	7200 MT/day.
14. Fuel used	-
15. Rated Fuel consumption (Kg or l/hr)	-
16. Working Fuel consumption (Kg or l/hr)	-
17. Nature of furnace/boiler	Cast House
18. Flue Gas Temp (°C)	78.0
19. Flue gas velocity (m/s)	13.27
20. Volume of Flue gas drawn in lit (m ³)	1.026
21. Corrected flue gas volume (Nm ³)	0.7902
22. Percentage of CO ₂ & O ₂	CO ₂ =7.2% O ₂ =13.2%
23. To be compensated at (% if required)	12% CO ₂
24. Initial wt of thimble (gm)	1.6400
25. Final wt of thimble (gm)	1.6551
26. Wt. of PM (mg)	15.10
27. Particulate matter (mg/Nm ³)	31.85 at 12% CO ₂
28. Barometric Pressure Head (mm of Hg)	753
29. Diameter of the nozzle	1/4 "
30. Others SO ₂ & NO _x	
31. Thimble Number	5394
Sampled by	Mr. P. Mondal, JEE

03/07/24

Date of Reporting

03/07/24

Prepared by

03/07/24

Checked by

03/07/24

Signature of In-Charge, DRL

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AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR

Analysis Reports of Gaseous Emission

Identification Code: 1 3 0 6 2 0 2 4 9 9 2 8



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1. Name of Industry	M/s. SAIL- IISCO Steel Plant.
2. Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3. Category & Type	Red & Integrated Steel Plant
4. Sampling Date	13.06.2024
5. Duration of Sampling	42 min.
6. Name of Laboratory	M/s. Eco Care
7. Height of Stack from ground (m)	79.10
8. Cross section of Stack at sampling point (m ²)	16.4096
9. Stack connected to	Basic Oxygen Furnace (BOF)
10. Emission due to (Furnace / Boiler)	Process Activity
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.
12. APC System (if any)	ESP
13. Working load of source (MT/hr)	5880 MT/Day.
14. Fuel used	Mixed gas
15. Rated Fuel consumption (Kg or l/hr)	-
16. Working Fuel consumption (Kg or l/hr)	144020 m ³ /Day.
17. Nature of furnace/boiler	BOF
18. Flue Gas Temp (°C)	64.0
19. Flue gas velocity (m/s)	11.94
20. Volume of Flue gas drawn in lit (m ³)	1.008
21. Corrected flue gas volume (Nm ³)	0.8214
22. Percentage of CO ₂ & O ₂	CO ₂ =6.8% O ₂ =14.0%
23. To be compensated at (% if required)	12% CO ₂
24. Initial wt of thimble (gm)	1.5630
25. Final wt of thimble (gm)	1.5777
26. Wt. of PM (mg)	14.70
27. Particulate matter (mg/Nm ³)	31.58 at 12% CO ₂
28. Barometric Pressure Head (mm of Hg)	753
29. Diameter of the nozzle	1/4 "
30. Others SO ₂ & NO _x	31. Thimble Number 5395
Sampled by	Mr. P. Mondal, JEE

03/07/24

Date of Reporting

03/07/24

Prepared by

03/07/24

Checked by

Signature of In-Charge, DRL

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सहायक महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एम. पी., बर्नपुर
SAIL-ISP, BURNPUR

Analysis Reports of Gaseous Emission

Identification Code: 1 3 0 6 2 0 2 4 9 9 2 2



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1.Name of Industry	M/s. SAIL- IISCO Steel Plant.
2.Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3.Category & Type	Red & Integrated Steel Plant
4.Sampling Date	13.06.2024
5.Duration of Sampling	38 min.
6.Name of Laboratory	M/s. Eco Care
7.Height of Stack from ground (m)	85.00
8.Cross section of Stack at sampling point (m ²)	25.528
9.Stack connected to	Sinter Plant No # 02
10 Emission due to (Furnace / Boiler)	Combustion of Coke Oven Gas
11.Average operational hours of boiler/furnace (per month)	720 hrs/month.
12.APC System (if any)	ESP
13.Working load of source (MT/hr)	10422 MT/Day.
14. Fuel used	Coke Oven Gas
15.Rated Fuel consumption (Kg or l /hr)	-
16.Working Fuel consumption (Kg or l /hr)	7000 M ³ /hr.
17.Nature of furnace/boiler	Sinter Plant
18.Flue Gas Temp (°C)	137.0
19.Flue gas velocity (m/s)	13.73
20.Volume of Flue gas drawn in lit (m ³)	1.026
21.Corrected flue gas volume (Nm ³)	0.7116
22.Percentage of CO ₂ & O ₂	CO ₂ =8.4% O ₂ =12.2%
23.To be compensated at (% if required)	12% CO ₂
24.Initial wt of thimble (gm)	1,7760
25.Final wt of thimble (gm)	1.7949
26.Wt. of PM (mg)	18.90
27.Particulate matter (mg/Nm ³)	37.94 at 12% CO ₂
28.Barometric Pressure Head (mm of Hg)	753
29.Diameter of the nozzle	1/4 "
30. Others -	31. Thimble Number
31. Thimble Number	5393
Sampled by	Mr. P. Mondal, JEE

03/07/24

Date of Reporting

03/07/24

Prepared by

03/07/24

Checked by

03/07/24

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4. Industry

AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR

Analysis Reports of Gaseous Emission

Identification Code: 1 4 0 6 2 0 2 4 9 9 2 5



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribeshi Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1. Name of Industry	M/s. SAIL- IISCO Steel Plant.
2. Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3. Category & Type	Red & Integrated Steel Plant
4. Sampling Date	14.06.2024
5. Duration of Sampling	31 min.
6. Name of Laboratory	M/s. Eco Care
7. Height of Stack from ground (m)	65.00
8. Cross section of Stack at sampling point (m ²)	7.166
9. Stack connected to	Reheating Furnace (BAR Mill) -
10. Emission due to (Furnace / Boiler)	Process Activity
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.
12. APC System (if any)	-
13. Working load of source (MT/hr)	88.84 MT/hr.
14. Fuel used	CBM & BF Gas
15. Rated Fuel consumption (Kg or l/hr)	-
16. Working Fuel consumption (Kg or l/hr)	10.754 m ³ /hr.
17. Nature of furnace/boiler	(BAR Mill) Furnace Stack
18. Flue Gas Temp (°C)	335.0
19. Flue gas velocity (m/s)	14.59
20. Volume of Flue gas drawn in lit (m ³)	1.023
21. Corrected flue gas volume (Nm ³)	0.9074
22. Percentage of CO ₂ & O ₂	O ₂ =18.6%
23. To be compensated at (% if required)	-
24. Initial wt of thimble (gm)	1.5935
25. Final wt of thimble (gm)	1.6023
26. Wt. of PM (mg)	8.80
27. Particulate matter (mg/Nm ³)	9.70
28. Barometric Pressure Head (mm of Hg)	754
29. Diameter of the nozzle	3/8 "
30. Others -	31. Thimble Number
32. Sampled by -	Mr. R. Chakraborty, AEE

03/07/24

Date of Reporting

Prepared by

Checked by

Signature of In-Charge, DRL

Copy to:

1. OSD - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer (DRO) / Env. Engineer (ARO), WBPCB
4. Industry

सहायक महाप्रबंधक (पर्यावरण प्रबंधन)
 AGM (Environ. Mgmt.)
 सेल-आई. एस. पी., बर्नपुर
 SAIL-ISP, BURNPUR



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1. Name of Industry	M/s. SAIL- IISCO Steel Plant.
2. Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3. Category & Type	Red & Integrated Steel Plant
4. Sampling Date	14.06.2024
5. Duration of Sampling	44 min.
6. Name of Laboratory	M/s. Eco Care
7. Height of Stack from ground (m)	0.9144
8. Cross section of Stack at sampling point (m ²)	5.0
9. Stack connected to	Boiler No # 02
10. Emission due to (Furnace / Boiler)	Combustion of BF Gas
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.
12. APC System (if any)	-
13. Working load of source (MT/hr)	170 TPH
14. Fuel used	Mixed Gas & CO Gas
15. Rated Fuel consumption (Kg or l /hr)	-
16. Working Fuel consumption (Kg or l /hr)	11,72000 M ³ /Day.
17. Nature of furnace/boiler	Boiler
18. Flue Gas Temp (°C)	141.0
19. Flue gas velocity (m/s)	12.91
20. Volume of Flue gas drawn in lit (m ³)	1.012
21. Corrected flue gas volume (Nm ³)	0.7628
22. Percentage of CO ₂ & O ₂	CO ₂ =11.2% O ₂ =7.2%
23. To be compensated at (% if required)	6% O ₂
24. Initial wt of thimble (gm)	1.6120
25. Final wt of thimble (gm)	1.6250
26. Wt. of PM (mg)	13.00
27. Particulate matter (mg/Nm ³)	18.54 at 6% O ₂
28. Barometric Pressure Head (mm of Hg)	754
29. Diameter of the nozzle	1/4 "
30. Others SO ₂ & NO _x	
31. Thimble Number	5398
32. Sampled by	Mr. R. Chakraborty, AEE

03/07/24
Date of Reporting

Prepared by

Checked by

Signature of In-Charge, DRL

Copy to:

1. OSD - Operation & Execution, WBPCB
2. Chief Scientist, WBPCB
3. Env. Engineer.(DRO) / Env. Engineer (ARO), WBPCB
4. Industry

AGM (Environ. Mgmt.)
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SAIL-ISP, BURNPUR

Analysis Reports of Gaseous Emission

Identification Code: 1 4 0 6 2 0 2 4 9 9 2 6



WEST BENGAL POLLUTION CONTROL BOARD

Durgapur Regional Laboratory, Paribesh Bhawan, City Centre, Durgapur- 713 216

Analysis done at:

1. Name of Industry	M/s. SAIL- IISCO Steel Plant.
2. Address	P.O.: Burnpur, Dist: Paschim Bardhaman, West Bengal
3. Category & Type	Red & Integrated Steel Plant
4. Sampling Date	14.06.2024
5. Duration of Sampling	44 min.
6. Name of Laboratory	M/s. Eco Care
7. Height of Stack from ground (m)	0.9144
8. Cross section of Stack at sampling point (m ²)	5.0
9. Stack connected to	Boiler No # 03
10. Emission due to (Furnace / Boiler)	Combustion of BF gas
11. Average operational hours of boiler/furnace (per month)	720 hrs/month.
12. APC System (if any)	-
13. Working load of source (MT/hr)	150 TPH
14. Fuel used	Mixed Gas, CO Gas
15. Rated Fuel consumption (Kg or l/hr)	-
16. Working Fuel consumption (Kg or l/hr)	1172000 m ³ /hr.
17. Nature of furnace/boiler	Boiler
18. Flue Gas Temp (°C)	144.0
19. Flue gas velocity (m/s)	13.15
20. Volume of Flue gas drawn in lit (m ³)	1.012
21. Corrected flue gas volume (Nm ³)	0.7692
22. Percentage of CO ₂ & O ₂	CO ₂ =11.0% O ₂ = 7.8%
23. To be compensated at (% if required)	6% O ₂
24. Initial wt of thimble (gm)	1.6109
25. Final wt of thimble (gm)	1.6220
26. Wt. of PM (mg)	11.10
27. Particulate matter (mg/Nm ³)	16.41 at 6% O ₂
28. Barometric Pressure Head (mm of Hg)	754
29. Diameter of the nozzle	1/4 "
30. Others SO ₂ & NO _x	31. Thimble Number
Sampled by	Mr. R. Chakraborty, AEE

03/07/24

Date of Reporting

03/07/24

Prepared by

03/07/24

Checked by

03/07/24

Signature of In-Charge, DRL

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मह. प्र. महाप्रबन्धक (पर्यावरण प्रबंधन)
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Asansol - 713304

Dist. Paschim Bardhaman (W.B.)

Specialised House on Environmental Monitoring, Analysis, Assessment & Management

ISO 9001:2015 Certified, OHSAS 45001:2018 Certified

ULR NO - TC510924000000524F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240411
Test Report No	: EC/TR/42/04019	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 20.04.2024
Sample Details	: Stack Emission	Sampling Location	: Coke Oven Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 02
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ---
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. # 10
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 110.0 m
6	Height of Sampling Port from G.L.	: 28.0 m
7	Height of Sampling Port from L.D.Z.	: ---
8	Dimension of Stack at Sampling Port	: 3.5 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 35 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 9500 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ---

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	145 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	8.70 m/sec
4	Flue Gas Quantity	213297 NM ³ / hr
5	Concentration of Particulate Matter	35.49 mg/NM ³
6	Concentration of SO ₂	139.81 mg/NM ³
7	Concentration of NO _x	94.33 mg/NM ³

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3. The Test report shall not be reproduced, without the written approval of laboratory

Dr. Mousumi Pal

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ULR NO - TC51092400000525F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240411
Test Report No	: EC/TR/42/04020	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 20.04.2024
Sample Details	: Stack Emission	Sampling Location	: Boiler Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 03
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: Boiler - A
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.0 m
6	Height of Sampling Port from G.L.	: 24.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.6 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 18 TPH

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal, Co. Gas
2	Energy Consumption	: 50 MT/hr, 2250 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	171 ⁰ C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	7.68 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	97792 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	35.49 mg/NM ³	IS 11255 : Part 1
6	Concentration of SO ₂	139.81 mg/NM ³	IS 11255 : Part 2
7	Concentration of NO _x	94.33 mg/NM ³	IS 11255 : Part 7

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ULR NO - TC510924000000526F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240411
Test Report No	: EC/TR/42/04021	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 20.04.2024
Sample Details	: Stack Emission	Sampling Location	: Boiler Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 04
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Basic Oxygen Furnace (BOF)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 79.10 m
6	Height of Sampling Port from G.L.	: 35.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 4.52 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 150 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	62°C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	11.62 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	593366 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	41.26 mg/NM ³	IS 11255 : Part 1
6	Concentration of SO ₂	121.68 mg/NM ³	IS 11255 : Part 2
7	Concentration of NO _x	87.45 mg/NM ³	IS 11255 : Part 7

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Signature

Authorised Signatory

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ULR NO - TC51092400000523F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240411
Test Report No	: EC/TR/42/04018	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 20.04.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 01
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of BF Gas
3	Stack Connected to	: Boiler No. # 03
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 0.9144 m
6	Height of Sampling Port from G.L.	: 2.4384 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.5m x 2.0m
9	Shape of the Stack	: Rectangle
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal, Co Gas
2	Energy Consumption	: 4 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	145 °C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	10.66 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	136652 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	09.29 mg/NM ³	IS 11255 : Part 1
6	Concentration of Carbon Dioxide	----	IS 13270
7	Concentration of SO ₂	136.17 mg/NM ³	IS 11255 : Part 2
8	Concentration of NO _x	103.51 mg/NM ³	IS 11255 : Part 7

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Signature
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Signature
Authorised Signatory

Dr. Mousumi Pal
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Asansol - 713304

Dist. Paschim Bardhaman (W.B.)

ULR NO - TC510924000000527F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240412
Test Report No	: EC/TR/42/04022	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 20.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 22.04.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 05
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 01
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 5880 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 6002 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	139 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	13.72 m/sec
4	Flue Gas Quantity	905037 NM ³ / hr
5	Concentration of Particulate Matter	45.16 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	124.35 mg/NM ³
8	Concentration of NO _x	88.47 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1
		IS 13270
		IS 11255 : Part 2
		IS 11255 : Part 7

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Dist. Paschim Bardhaman (W.B.)

ULR NO – TC510924000000528F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240412
Test Report No	: EC/TR/42/04023	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 20.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 22.04.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 06
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 02
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 10422 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 7000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	135 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	13.84 m/sec
4	Flue Gas Quantity	921174 NM ³ / hr
5	Concentration of Particulate Matter	48.56 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	137.46 mg/NM ³
8	Concentration of NO _x	92.58 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1
		IS 13270
		IS 11255 : Part 2
		IS 11255 : Part 7

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ULR NO - TC51092400000529F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240412
Test Report No	: EC/TR/42/04024	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 20.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 22.04.2024
Sample Details	: Stack Emission	Sampling Location	: Furnace Stack via
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 07
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Mixed Gas
3	Stack Connected to	: Re-Heating Furnace (Bar Mill)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 65.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.02 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 88.84 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: CBM & BF Gas
2	Energy Consumption	: 10.754 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	405 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	10.83 m/sec
4	Flue Gas Quantity	121728 NM ³ /hr
5	Concentration of Particulate Matter	09.27 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	61.09 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1
		IS 13270
		IS 11255 : Part 2

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ULR NO – TC510924000000530F

TEST REPORT

Report Release Date	: 24.04.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240412
Test Report No	: EC/TR/42/04025	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 20.04.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 22.04.2024
Sample Details	: Stack Emission	Sampling Location	: Furnace Stack
Name & Address	: SAIL - HISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 08
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Mixed Gas
3	Stack Connected to	: Reheating Furnace (USM)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 65.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.02 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 23.79 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: CBM & BF Gas
2	Energy Consumption	: 10.754 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	168 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	14.76 m/sec
4	Flue Gas Quantity	255260 NM ³ / hr
5	Concentration of Particulate Matter	11.33 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	44.79 mg/NM ³

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ULR NO – TC510924000000695F

TEST REPORT

Report Release Date	: 30.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240523
Test Report No	: EC/TR/42/05065	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 28.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 29.05.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 20
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 01
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 5890 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 6002 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	142 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	13.96 m/sec
4	Flue Gas Quantity	914532 NM ³ / hr
5	Concentration of Particulate Matter	47.15 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

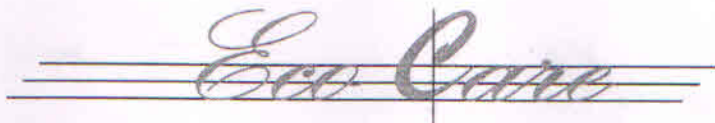
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ULR NO – TC510924000000696F

TEST REPORT

Report Release Date	: 30.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240523
Test Report No	: EC/TR/42/05066	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 28.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 29.05.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 21
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 02
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 10420 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 7000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	130 °C	IS 11255 : Part 3
2	Barometric Pressure	753 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	13.20 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	889434 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	38.33 mg/NM ³	IS 11255 : Part 1

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ULR NO – TC510924000000697F

TEST REPORT

Report Release Date	: 30.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240523
Test Report No	: EC/TR/42/05067	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 28.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 29.05.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 22
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of BF Gas
3	Stack Connected to	: Boiler No. # 02
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 0.9144 m
6	Height of Sampling Port from G.L.	: 2.4384 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.5m x 2.5m
9	Shape of the Stack	: Rectangle
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal & Co. Gas
2	Energy Consumption	: 4 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	138 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	13.17 m/sec
4	Flue Gas Quantity	213079 NM ³ / hr
5	Concentration of Particulate Matter	14.31 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 30.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240523
Test Report No	: EC/TR/42/05068	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 28.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 29.05.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 23
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of BF Gas
3	Stack Connected to	: Boiler No. # 03
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 0.9144 m
6	Height of Sampling Port from G.L.	: 2.4384 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.5m x 2.5m
9	Shape of the Stack	: Rectangle
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal & Co. Gas
2	Energy Consumption	: 4 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	148 °C	IS 11255 : Part 3
2	Barometric Pressure	753 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	10.53 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	133822 NM ³ /hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	11.63 mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 31.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240524
Test Report No	: EC/TR/42/05069	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 29.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 30.05.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 24
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Cast House No. 01
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	72 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	13.60 m/sec
4	Flue Gas Quantity	489619 NM ³ /hr
5	Concentration of Particulate Matter	44.15 mg/NM ³

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ULR NO - TC510924000000710F

TEST REPORT

Report Release Date	: 31.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240524
Test Report No	: EC/TR/42/05070	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 29.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 30.05.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 25
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Cast House No. 02)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	74 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	13.65 m/sec
4	Flue Gas Quantity	488631 NM ³ / hr
5	Concentration of Particulate Matter	41.50 mg/NM ³
		IS 11255 : Part 3
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		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

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ULR NO - TC51092400000711F

TEST REPORT

Report Release Date	: 31.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240524
Test Report No	: EC/TR/42/05071	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 29.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 30.05.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 26
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stove)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 70.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: BF Gas
2	Energy Consumption	: 200000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	161 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	13.41 m/sec
4	Flue Gas Quantity	841327 NM ³ /hr
5	Concentration of Particulate Matter	9.40 mg/NM ³
		IS 11255 : Part 3
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		IS 11255 : Part 1

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ULR NO - TC51092400000712F

TEST REPORT

Report Release Date	: 31.05.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240524
Test Report No	: EC/TR/42/05072	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 29.05.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 30.05.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 27
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stock House)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	55 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	11.39 m/sec
4	Flue Gas Quantity	431364 NM ³ /hr
5	Concentration of Particulate Matter	39.40 mg/NM ³
		IS 11255 : Part 3
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		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

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ULR NO - TC51092400000684F

TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240605
Test Report No	: EC/TR/42/06007	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.06.2024
Sample Details	: Stack Emission	Sampling Location	: Coke Oven Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 36
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. # 11
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 120.0 m
6	Height of Sampling Port from G.L.	: 36.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.8 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 2150 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 2005000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	160 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	8.65 m/sec
4	Flue Gas Quantity	562078 NM ³ /hr
5	Concentration of Particulate Matter	44.57 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	140.93 mg/NM ³
8	Concentration of NO _x	89.45 mg/NM ³

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ULR NO - TC51092400000685F

TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240605
Test Report No	: EC/TR/42/06008	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.06.2024
Sample Details	: Stack Emission	Sampling Location	: Coke Oven Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 37
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. # 11 (PEC)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 30.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.1 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	66 °C	IS 11255 : Part 3
2	Barometric Pressure	753 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	5.79 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	62912 NM ³ /hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	11.85 mg/NM ³	IS 11255 : Part 1

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ULR NO - TC510924000000686F

TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240605
Test Report No	: EC/TR/42/06009	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.06.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. - Burnpur	Sample Stamped as	: TH - 38
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: CDCP Outlet
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 50.0 m
6	Height of Sampling Port from G.L.	: 20.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.60 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	77 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	12.76 m/sec
4	Flue Gas Quantity	78127 NM ³ /hr
5	Concentration of Particulate Matter	33.98 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240605
Test Report No	: EC/TR/42/06010	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.06.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. - Burnpur	Sample Stamped as	: TH - 39
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: CDU
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 40.0 m
6	Height of Sampling Port from G.L.	: 27.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.60 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

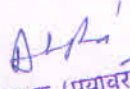
Method

1	Flue Gas Temperature	54 °C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	8.59 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	56625 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	25.63 mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240609
Test Report No	: EC/TR/42/06021	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 12.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 13.06.2024
Sample Details	: Stack Emission	Sampling Location	: Boiler Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 41
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: Boiler - A
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 24.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.6 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 18 TPH

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal, Co. Gas
2	Energy Consumption	: Coal - 50 MT/hr, Co-Gas - 2250 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	175 °C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	7.60 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	95903 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	72.48 mg/NM ³	IS 11255 : Part 1
6	Concentration of Carbon Dioxide	----	IS 13270
7	Concentration of SO ₂	164.64 mg/NM ³	IS 11255 : Part 2
8	Concentration of NO _x	115.82 mg/NM ³	IS 11255 : Part 7

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TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240609
Test Report No	: EC/TR/42/06022	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 12.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 13.06.2024
Sample Details	: Stack Emission	Sampling Location	: Furnace Stack via
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 42
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Mixed Gas
3	Stack Connected to	: Re-Heating Furnace (Bar Mill)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 65.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.02 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 88.84 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: CBM & BF Gas
2	Energy Consumption	: 10.754 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	398 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	10.90 m/sec
4	Flue Gas Quantity	91760 NM ³ /hr
5	Concentration of Particulate Matter	13.87 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	70.68 mg/NM ³

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TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240609
Test Report No	: EC/TR/42/06023	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 12.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 13.06.2024
Sample Details	: Stack Emission	Sampling Location	: Furnace Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 43
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Burning of Mixed Gas
3	Stack Connected to	: Reheating Furnace (USM)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 65.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.02 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 23.79 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: CBM & BF Gas
2	Energy Consumption	: 10.754 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	170 °C
2	Barometric Pressure	753 mm Hg
3	Velocity of Flue Gas	10.64 m/sec
4	Flue Gas Quantity	182995 NM ³ /hr
5	Concentration of Particulate Matter	11.64 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	46.56 mg/NM ³

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TEST REPORT

Report Release Date	: 14.06.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240609
Test Report No	: EC/TR/42/06024	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 12.06.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 13.06.2024
Sample Details	: Stack Emission	Sampling Location	: Oven Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 44
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. # 10
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 110.0 m
6	Height of Sampling Port from G.L.	: 28.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.5 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 35 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 9500 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	151 ⁰ C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	8.73 m/sec
4	Flue Gas Quantity	211257 NM ³ /hr
5	Concentration of Particulate Matter	39.72 mg/NM ³
6	Concentration of SO ₂	137.53 mg/NM ³
7	Concentration of NO _x	94.76 mg/NM ³

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ULR NO - TC510924000001038F

TEST REPORT

Report Release Date	: 11.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240705
Test Report No	: EC/TR/42/07012	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 09.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 10.07.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. - Burnpur	Sample Stamped as	: TH - 48
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Cast House No. 01)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	74°C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	12.63 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	451739 NM ³ /hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	41.72 mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 11.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240705
Test Report No	: EC/TR/42/07013	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 09.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 10.07.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. - Burnpur	Sample Stamped as	: TH - 49
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ---
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Cast House No. 02)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ---
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ---
2	Energy Consumption	: ---
3	Calorific Value (K-Cal/Kg)	: ---

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	79°C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	13.39 m/sec
4	Flue Gas Quantity	472002 NM ³ / hr
5	Concentration of Particulate Matter	38.89 mg/NM ³

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ULR NO - TC510924000001040F

TEST REPORT

Report Release Date	: 11.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240705
Test Report No	: EC/TR/42/07014	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 09.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 10.07.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. - Burnpur	Sample Stamped as	: TH - 50
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stove)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 70.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: BF Gas
2	Energy Consumption	: 200000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

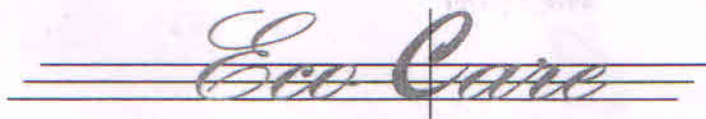
1	Flue Gas Temperature	157°C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	13.61 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	860975 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	22.45 mg/NM ³	IS 11255 : Part 1

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ULR NO – TC510924000001041F

TEST REPORT

Report Release Date	: 11.07.2024	Sample Ref. No (ARF)	: EC/ARF/29/240705
Test Report No	: EC/TR/42/07015	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 09.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 10.07.2024
Sample Details	: Stack Emission	Sampling Location	: ESP Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed
	P.O. – Burnpur	Sample Stamped as	: TH – 51
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stock House)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	58°C	IS 11255 : Part 3
2	Barometric Pressure	754 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	11.66 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	436945 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	37.66 mg/NM ³	IS 11255 : Part 1

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ULR NO - TC510924000001042F

TEST REPORT

Report Release Date	: 12.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240706
Test Report No	: EC/TR/42/07016	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 10.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 11.07.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 52
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Lime Dolomite Calcinations Unit No. 1 (LDGP - 1)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.0 m
6	Height of Sampling Port from G.L.	: 20.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.0 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

Method

1	Flue Gas Temperature	60 °C	IS 11255 : Part 3
2	Barometric Pressure	755 mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	9.34 m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	23509 NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	40.12 mg/NM ³	IS 11255 : Part 1

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ULR NO - TC510924000001043F

TEST REPORT

Report Release Date	: 12.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240706
Test Report No	: EC/TR/42/07017	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 10.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 11.07.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 53
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ---
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Lime Dolomite Calcinations Unit No. 2 (LDCEP - 2)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.0 m
6	Height of Sampling Port from G.L.	: 20.0 m
7	Height of Sampling Port from L.D.Z.	: ---
8	Dimension of Stack at Sampling Port	: 1.0 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ---

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ---
2	Energy Consumption	: ---
3	Calorific Value (K-Cal/Kg)	: ---

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	59 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	7.53 m/sec
4	Flue Gas Quantity	19010 NM ³ /hr
5	Concentration of Particulate Matter	48.55 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part I

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ULR NO - TC510924000001044F

TEST REPORT

Report Release Date	: 12.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240706
Test Report No	: EC/TR/42/07018	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 10.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 11.07.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 54
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan &	
		Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Lime Dolomite Calcinations Unit No. 3 (LDCCP - 3)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.0 m
6	Height of Sampling Port from G.L.	: 20.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.0 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	74 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	7.48 m/sec
4	Flue Gas Quantity	18069 NM ³ /hr
5	Concentration of Particulate Matter	42.38 mg/NM ³

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ULR NO – TC510924000001045F

TEST REPORT

Report Release Date	: 12.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240706
Test Report No	: EC/TR/42/07019	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 10.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 11.07.2024
Sample Details	: Stack Emission	Sampling Location	: Bag Filter Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 55
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Lime Dolomite Calcinations Unit No. 4 (LDGP – 4)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.0 m
6	Height of Sampling Port from G.L.	: 20.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.0 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: ----

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	55 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	8.39 m/sec
4	Flue Gas Quantity	21417 NM ³ /hr
5	Concentration of Particulate Matter	46.46 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1

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ULR NO - TC510924000001046F

TEST REPORT

Report Release Date	: 13.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240707
Test Report No	: EC/TR/42/07020	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.07.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 56
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 01
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 5880 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 6002 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	142 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	13.45 m/sec
4	Flue Gas Quantity	881418 NM ³ / hr
5	Concentration of Particulate Matter	41.45 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	132.54 mg/NM ³
8	Concentration of NO _x	92.79 mg/NM ³

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ULR NO - TC510924000001047F

TEST REPORT

Report Release Date	: 13.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240707
Test Report No	: EC/TR/42/07021	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.07.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. - Burnpur	Sample Stamped as	: TH - 57
	Dist - Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Combustion of Coke Oven Gas
3	Stack Connected to	: Sinter Plant No. # 02
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 85.0 m
6	Height of Sampling Port from G.L.	: 50.0 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 10422 MT/day

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 7000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	140 °C
2	Barometric Pressure	755 mm Hg
3	Velocity of Flue Gas	13.79 m/sec
4	Flue Gas Quantity	908966 NM ³ / hr
5	Concentration of Particulate Matter	46.23 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	143.81 mg/NM ³
8	Concentration of NO _x	90.73 mg/NM ³

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ULR NO – TC510924000001048F

TEST REPORT

Report Release Date	: 13.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240707
Test Report No	: EC/TR/42/07022	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.07.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - HISCO Steel Plant P.O. – Burnpur Dist – Paschim Bardhaman West Bengal	Sample Condition	: Sealed & Preserved
		Sample Stamped as	: TH – 58
		Sample Drawn By	: ECO CARE
		Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Boiler No. 01
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 0.9144 m
6	Height of Sampling Port from G.L.	: 2.4384 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.5m x 2.0m
9	Shape of the Stack	: Rectangular
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal, Co Gas
2	Energy Consumption	: 4 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	145 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	11.20 m/sec
4	Flue Gas Quantity	143635 NM ³ / hr
5	Concentration of Particulate Matter	10.22 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	146.80 mg/NM ³
8	Concentration of NO _x	106.30 mg/NM ³
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 3
		IS 11255 : Part 1
		IS 13270
		IS 11255 : Part 2
		IS 11255 : Part 7

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ULR NO – TC510924000001049F

TEST REPORT

Report Release Date	: 13.07.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240707
Test Report No	: EC/TR/42/07023	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 11.07.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Period of Analysis	: 12.07.2024
Sample Details	: Stack Emission	Sampling Location	: E.S.P Stack
Name & Address	: SAIL - IISCO Steel Plant	Sample Condition	: Sealed & Preserved
	P.O. – Burnpur	Sample Stamped as	: TH – 59
	Dist – Paschim Bardhaman	Sample Drawn By	: ECO CARE
	West Bengal	Sampling Plan & Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Boiler No. 03
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 0.9144 m
6	Height of Sampling Port from G.L.	: 2.3484 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.5m x 2.0m
9	Shape of the Stack	: Rectangular
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coal, Co Gas
2	Energy Consumption	: 4 MT/hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		Method
1	Flue Gas Temperature	148 °C
2	Barometric Pressure	754 mm Hg
3	Velocity of Flue Gas	10.60 m/sec
4	Flue Gas Quantity	134881 NM ³ / hr
5	Concentration of Particulate Matter	8.84 mg/NM ³
6	Concentration of Carbon Dioxide	----
7	Concentration of SO ₂	143.95 mg/NM ³
8	Concentration of NO _x	98.60 mg/NM ³

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TEST REPORT

Report Release Date	: 19.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240906
Test Report No	: EC/TR/42/09007	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 16.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 18.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 18.09.2024
Customer Name &	: SAIL - IISCO Steel Plant	Sampling Location	: ESP Stack
Address	P.O. - Burnpur	Sample Condition	: Sealed
	Dist - Paschim Bardhaman	Sample Stamped as	: TH - 60
	West Bengal	Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ---
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Cast House No. 1
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: ---
7	Height of Sampling Port from L.D.Z.	: ---
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ---
2	Energy Consumption	: ---
3	Calorific Value (K-Cal/Kg)	: ---

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS		UNIT	METHOD	
1	Flue Gas Temperature	74	⁰ C	IS 11255 : Part 3
2	Barometric Pressure	752	mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	13.73	m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	489758	NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	45.15	mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 19.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240906
Test Report No	: EC/TR/42/09008	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 16.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 18.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 18.09.2024
Customer Name &	: SAIL - IISCO Steel Plant	Sampling Location	: ESP Stack
Address	P.O. - Burnpur	Sample Condition	: Sealed
	Dist - Paschim Bardhaman	Sample Stamped as	: TH - 61
	West Bengal	Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Cast House No. 2
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS		UNIT	METHOD
1	Flue Gas Temperature	76	°C
2	Barometric Pressure	752	mm Hg
3	Velocity of Flue Gas	13.72	m/sec
4	Flue Gas Quantity	486702	NM ³ /hr
5	Concentration of Particulate Matter	42.03	mg/NM ³

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TEST REPORT

Report Release Date	: 19.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240906
Test Report No	: EC/TR/42/09009	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 16.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 18.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 18.09.2024
Customer Name & Address	: SAIL - IISCO Steel Plant P.O. – Burnpur Dist – Paschim Bardhaman West Bengal	Sampling Location	: ESP Stack
		Sample Condition	: Sealed
		Sample Stamped as	: TH – 62
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stove)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 70.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.7 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: BF Gas
2	Energy Consumption	: 200000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS

		UNIT	METHOD
1	Flue Gas Temperature	165	°C
2	Barometric Pressure	752	mm Hg
3	Velocity of Flue Gas	13.55	m/sec
4	Flue Gas Quantity	441827	NM ³ /hr
5	Concentration of Particulate Matter	24.62	mg/NM ³

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TEST REPORT

Report Release Date	: 19.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240906
Test Report No	: EC/TR/42/09010	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 16.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 18.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 18.09.2024
Customer Name & Address	: SAIL - IISCO Steel Plant P.O. - Burnpur Dist - Paschim Bardhaman West Bengal	Sampling Location	: ESP Stack
		Sample Condition	: Sealed
		Sample Stamped as	: TH - 63
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: BF # 05 (Stock House)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 31.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 3.85 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS			UNIT	METHOD
1	Flue Gas Temperature	57	⁰ C	IS 11255 : Part 3
2	Barometric Pressure	752	mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	11.78	m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	441827	NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	34.87	mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 21.09.2024	Sample Ref. No. (ARF)	: EC/ARF/29/240908
Test Report No	: EC/TR/42/09013	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 20.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 20.09.2024
Customer Name & Address	: SAIL - IISCO Steel Plant P.O. – Burnpur Dist – Paschim Bardhaman West Bengal	Sampling Location	: Bag Filter Stack
		Sample Condition	: Sealed
		Sample Stamped as	: TH – 64
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: CDCP Outlet
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 50.00 m
6	Height of Sampling Port from G.L.	: 20.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.60 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS		UNIT	METHOD
1	Flue Gas Temperature	72	⁰ C
2	Barometric Pressure	753	mm Hg
3	Velocity of Flue Gas	12.43	m/sec
4	Flue Gas Quantity	77080	NM ³ / hr
5	Concentration of Particulate Matter	36.12	mg/NM ³

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TEST REPORT

Report Release Date	: 21.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240908
Test Report No	: EC/TR/42/09014	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 20.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 20.09.2024
Customer Name & Address	: SAIL - IISCO Steel Plant P.O. – Burnpur Dist – Paschim Bardhaman West Bengal	Sampling Location	: Bag Filter Stack
		Sample Condition	: Sealed
		Sample Stamped as	: TH – 65
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: CDU
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 40.00 m
6	Height of Sampling Port from G.L.	: 27.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 1.60 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS			UNIT	METHOD
1	Flue Gas Temperature	59	⁰ C	IS 11255 : Part 3
2	Barometric Pressure	753	mm Hg	IS 11255 : Part 3
3	Velocity of Flue Gas	6.67	m/sec	IS 11255 : Part 3
4	Flue Gas Quantity	42992	NM ³ / hr	IS 11255 : Part 3
5	Concentration of Particulate Matter	28.38	mg/NM ³	IS 11255 : Part 1

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TEST REPORT

Report Release Date	: 21.09.2024	Sample Ref. No.(ARF)	: EC/ARF/29/240908
Test Report No	: EC/TR/42/09015	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 20.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 20.09.2024
Customer Name & Address	: SAIL - HISCO Steel Plant P.O. – Burnpur Dist – Paschim Bardhaman West Bengal	Sampling Location	: Oven Stack
		Sample Condition	: Sealed & Preserved
		Sample Stamped as	: TH – 66
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. #11
4	Material of Construction	: R.C.C
5	Stack Height from G.L.	: 120.00 m
6	Height of Sampling Port from G.L.	: 36.00 m
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 5.80 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 2150 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: Coke Oven Gas
2	Energy Consumption	: 2005000 M ³ /hr
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS		UNIT	METHOD
1	Flue Gas Temperature	161	°C
2	Barometric Pressure	753	mm Hg
3	Velocity of Flue Gas	8.69	m/sec
4	Flue Gas Quantity	563116	NM ³ / hr
5	Concentration of Particulate Matter	42.96	mg/NM ³
6	Concentration of Carbon Dioxide	----	%
7	Concentration of SO ₂	141.20	mg/NM ³
8	Concentration of NO _x	89.48	mg/NM ³

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TEST REPORT

Report Release Date	: 21.09.2024	Sample Ref. No (ARF)	: EC/ARF/29/240908
Test Report No	: EC/TR/42/09016	Source of Sample	: Integrated Steel Plant
Type of Sample	: Dust & Gaseous Emission	Sampling Date	: 19.09.2024
Sample Collected by	: Mr. Sisir Kr. Roy & Team	Sample Registration Date	: 20.09.2024
Sample Details	: Stack Emission	Period of Analysis	: 20.09.2024
Customer Name & Address	: SAIL - IISCO Steel Plant P.O. - Burnpur Dist - Paschim Bardhaman West Bengal	Sampling Location	: Oven Stack
		Sample Condition	: Sealed
		Sample Stamped as	: TH - 67
		Sample Drawn By	: ECO CARE
		Sampling Procedure	: EC/SOP/03/01
		Remarks	: ----
		Deviation if any	: None

GENERAL INFORMATION PROVIDED BY CUSTOMER

1	Particular of the Plant	: Integrated Steel Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Coke Oven Battery No. #11(PEC)
4	Material of Construction	: M.S
5	Stack Height from G.L.	: 30.00 m
6	Height of Sampling Port from G.L.	: ----
7	Height of Sampling Port from L.D.Z.	: ----
8	Dimension of Stack at Sampling Port	: 2.1 m
9	Shape of the Stack	: Circular Ø
10	Working Load	: 720 MT/hr

FUEL CHARACTERISTIC REPORT

1	Source of Energy	: ----
2	Energy Consumption	: ----
3	Calorific Value (K-Cal/Kg)	: ----

RESULTS OF SAMPLING GASEOUS EMISSION ANALYSIS		UNIT	METHOD
1	Flue Gas Temperature	67	°C
2	Barometric Pressure	753	mm Hg
3	Velocity of Flue Gas	4.88	m/sec
4	Flue Gas Quantity	52868	NM ³ /hr
5	Concentration of Particulate Matter	14.26	mg/NM ³
			IS 11255 : Part 1

1. Test values are reported based on the samples received.
2. Sample(s) will be destroyed after 30 days from date of issues of the Test Report subject to nature of Preservation. Sample will be preserved as per the standard method.
3. The Test report shall not be reproduced, without the written approval of laboratory

Authorised Signatory

Dr. Mousumi Pal
Ph.D. (Env.), Scientist
Authorised Signatory

End of Test Report

महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR



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Test Report

Test Report No.: ALPL/27042024/12-1

dated 27.04.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/23042024/EW-14/5-1	Analysis Start	23.04.2024
	Inward Date	23.04.2024	Analysis End	26.04.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 1 Damra Outlet			Quantity Received 1L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date:23.04.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	7.74 at 32°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.079
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	15.40
4	Phenolic compounds (as C ₆ H ₅ OH)	g/l	IS 3025 (Part 43) : 1992	0.17
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	88
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	12.40
7	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	18.0
8	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	<1.0

NOTES: ● Please see watermark "Original Test Report" to confirm the authenticity of this report ● Results shall be referred to tested sample(s) and applicable to tested parameters only ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs ● Liability of Anacon Labs is limited to invoiced amount only ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise ● 'mg/l' is equivalent to 'ppm'

REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

महायक महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
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Test Report

Test Report No.: ALPL/27042024/12-2

dated 27.04.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No. ALPL/23042024/EW-14/5-2	Analysis Start 23.04.2024
	Inward Date 23.04.2024	Analysis End 26.04.2024
	Reference W.O. 3000000580	Sample Category Waste Water
	Reference Date 21.05.2022	
Sample Name Waste Water	Sample Location 2 Dihika Outlet	Quantity Received IL
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal		Sampling Date: 23.04.2024
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease		

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	7.92 at 32°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.067
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	19.20
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.20
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	100
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	13.8
7	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	26.0
8	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	<1.0

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REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

AGM

महायक महाप्रबन्धक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
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Test Report

Test Report No.: ALPL/27042024/12-3

dated 27.04.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/23042024/EW-14/5-3	Analysis Start	23.04.2024
	Inward Date	23.04.2024	Analysis End	26.04.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 3 Reservoir			Quantity Received 1L
Sample Collected By Joint Sampling of PCB and Environment Department of IISCO Steel Plant			Sampling Date: 07.03.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.10 at 32°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.086
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	32.50
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.28
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2022	136
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) :2023	18.60
7	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	33.0
8	Oil & grease	mg/l	IS 3025 (Part 39) :2021	2.00

NOTES: ● Please see watermark "Original Test Report" to confirm the authenticity of this report ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs ● Liability of Anacon Labs is limited to invoiced amount only ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● 'mg/l' is equivalent to 'ppm'

REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

सहायक महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
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Test Report

Test Report No.: ALPL/27042024/12- 4

dated 27.04.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/23042024/EW-14/5-4	Analysis Start	23.04.2024
	Inward Date	23.04.2024	Analysis End	26.04.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 4 BOD Plant 10 Outlet			Quantity Received 1L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date:23.04.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.39 at 34°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.095
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	38.70
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.26
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	176
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	25.00
7	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	36.0
8	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	1.80

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REMARKS: As requested by the client, samples were tested for above parameters only

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
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Test Report

Test Report No.: ALPL/27042024/12-5

dated 27.04.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/23042024/EW-14/5-5	Analysis Start	23.04.2024
	Inward Date	23.04.2024	Analysis End	26.04.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 5 BOD Plant 11 Outlet			Quantity Received 1 L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date:23.04.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.46 at 34°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.125
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	45.60
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.48
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	192
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	27.00
7	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	39.0
8	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	1.20

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● '<' indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, samples were tested for above parameters only

Verified By

Snchal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

महानगर महामंत्री (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
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Test Report

Test Report No.: ALPL/03062024/05-1

dated 03.06.2024

Page 1 of 1

Issued To : M/s HISCO Steel Plant -SAIL Environment Management Division, Burnipur-713325 (West Bengal).		Sample Inward No.	ALPL/28052024/EW-12/5-1	Analysis Start	28.05.2024
		Inward Date	28.05.2024	Analysis End	31.05.2024
		Reference	W.O. 3000000580	Sample Category	Waste Water
		Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 1 Damra Outlet			Quantity Received 11.	
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal				Sampling Date: 28.05.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease					

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	7.66 at 36°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.085
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	17.4
4	Phenolic compounds (as C ₆ H ₅ OH)	g/l	IS 3025 (Part 43) : 1992	0.18
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2022	92
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) :2023	13
7	Oil & grease	mg/l	IS 3025 (Part 39) :2021	<1.0
8	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	21

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REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

महानयक महाप्रबधक (पर्यावरण प्रबधक)

AGM (Environ. Mgmt.)

मेहन-आई. एम. पी., बर्नपुर

SAIL, ISF, BURNPUR

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Test Report

Test Report No.: ALPL/03062024/05-2

dated 03.06.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/28052024/EW-12/5-2	Analysis Start	28.05.2024
	Inward Date	28.05.2024	Analysis End	31.05.2024
	Reference	W.O. 3000000580	Sample Category Waste Water	
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 2 Dihika Outlet			Quantity Received IL
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal				Sampling Date: 28.05.2024
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	7.87 at 36°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.057
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	18.7
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.19
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	96
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	14
7	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	<1.0
8	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	29

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REMARKS: As requested by the client, samples were tested for above parameters only

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

महयिक महाप्रबधक (पयावरण प्रबंधन)
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Test Report

Test Report No.: ALPL/03062024/05-3

dated 03.06.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/28052024/EW-12/5-3	Analysis Start	28.05.2024
	Inward Date	28.05.2024	Analysis End	31.05.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 3 Reservoir			Quantity Received 1L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date:28.05.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.21 at 36°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.109
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	30.6
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.26
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	132
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	16
7	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	1.8
8	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	36

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REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Garvey
Deputy Quality Manager

-----END OF REPORT-----

महाप्रबन्धक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL ISP, BURNPUR



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Anacon Laboratories Pvt. Ltd. Nagpur Lab

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MIDC Butibori, Nagpur, Maharashtra, India - 441 122
+ 91 8045685558 Email : info@anacon.in
https://www.anaconlaboratories.com

Test Report

Test Report No.: ALPL/03062024/05-4

dated 03.06.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/28052024/EW-12/5-4	Analysis Start	28.05.2024
	Inward Date	28.05.2024	Analysis End	31.05.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 4 BOD Plant 10 Outlet			Quantity Received 1L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date:28.05.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.29 at 36°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.091
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	34.7
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.24
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) : 2022	168
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) : 2023	24
7	Oil & grease	mg/l	IS 3025 (Part 39) : 2021	1.6
8	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	32

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'

REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

Snehal Raut
Technical Manager

Authorized Signatory

Chinmay Gauray
Deputy Quality Manager

-----END OF REPORT-----

AGM (Environ. Mgmt.)
सेन-आई. एस. पी., बर्नपुर
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Test Report

Test Report No.: ALPL/03062024/05-5

dated 03.06.2024

Page 1 of 1

Issued To : M/s IISCO Steel Plant -SAIL Environment Management Division, Burnpur-713325 (West Bengal).	Sample Inward No.	ALPL/28052024/EW-12/5-5	Analysis Start	28.05.2024
	Inward Date	28.05.2024	Analysis End	31.05.2024
	Reference	W.O. 3000000580	Sample Category	Waste Water
	Reference Date	21.05.2022		
Sample Name Waste Water	Sample Location 5 BOD Plant II Outlet			Quantity Received 1L
Sample Collected By Anacon Representative- Mr. Sanjib Roy & Mohit Mondal			Sampling Date: 28.05.2024	
Tests Required : pH, Cyanide, Ammonical Nitrogen, Phenolic compounds, Chemical oxygen demand, Biochemical oxygen demand, Total Suspended solids, Oil & grease				

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Test Result
1	pH	-	IS 3025 (Part 11) : 2022	8.38 at 36°C
2	Cyanide (as CN ⁻)	mg/l	IS 3025 (Part 27) : 1986	0.128
3	Ammonical Nitrogen (as N)	mg/l	IS 3025 (Part 34) : 1988	47.2
4	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.48
5	Chemical oxygen demand	mg/l	IS 3025 (Part 58) :2022	184
6	Biochemical oxygen demand (at 27°C for 3 days)	mg/l	IS 3025 (Part 44) :2023	26
7	Oil & grease	mg/l	IS 3025 (Part 39) :2021	1.4
8	Total Suspended solids (TSS)	mg/l	IS 3025 (Part 17) : 2022	38

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only.
• Test report shall not be reproduced except in full without prior written approval of Anacon Labs. • Liability of Anacon Labs is limited to invoiced amount only. • Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. • 'mg/l' is equivalent to 'ppm'
• '<' indicates detection limit of instrument/method and shall be considered as 'absent'.

REMARKS: As requested by the client, samples were tested for above parameters only.

Verified By

[Signature]

Snehal Raut
Technical Manager

Authorized Signatory

[Signature]
Chinmay Garway
Deputy Quality Manager

-----END OF REPORT-----

[Signature]

महायक महाप्रबधक (पर्यावरण प्रबधक)

AGM (Environ. Mgmt.)

सेल-आई. एस. पी., बर्नपुर

SAIL-ISP, BURNPUR



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Annexure 2

Monitoring Results

Stack Monitoring Data

Month	Unit	Stack	PM (mg/Nm ³)	SO ₂ (mg/Nm ³)	NOx (mg/Nm ³)
April 2024	Blast Furnace	Bf-5 Cast house-1	15	---	---
		Bf-5 Cast house-2	16	---	---
		Bf-5 Stock house	34	---	---
		Bf-5 (Stove)	6	106	42
	Coke Oven	COB #10	35	140	94
		COB #11	36	145	86
	LDCP	Dolomite Plant	18	---	---
		Lime Plant-1	9	---	---
		Lime Plant-2	20	---	---
		Lime Plant-3	16	---	---
	Mills	WRM	8	---	---
		Bar Mill	9	---	---
		USM	11	---	---
	Sinter Plant	Sinter Plant # 1	45	---	---
		Sinter Plant # 2	49	---	---
	PBS	Boiler - A	77	164	115
	BOF	SMS	41	---	---
May 2024	Blast Furnace	Bf-5 Cast house-1	44	---	---
		Bf-5 Cast house-2	41	---	---
		Bf-5 Stock house	39	---	---
		Bf-5 (Stove)	9	114	51
	Coke Oven	COB #10	15	178	165
		COB #11	20	88	93
	LDCP	Dolomite Plant	34	---	---
		Lime Plant-1	37	---	---
		Lime Plant-2	44	---	---
		Lime Plant-3	40	---	---
	Mills	WRM	9	---	---
		Bar Mill	10	---	---
		USM	11	---	---
	Sinter Plant	Sinter Plant # 1	47	---	---
		Sinter Plant # 2	38	---	---
	PBS	Boiler -2	14	149	106
	BOF	SMS	25	---	---
June 2024	Blast Furnace	Bf-5 Cast house-1	20	---	---
		Bf-5 Cast house-2	36	---	---
		Bf-5 Stock house	40	---	---
		Bf-5 (Stove)	16	45	29
	Coke Oven	COB #10	40	137	95
		COB #11	35	141	89
	LDCP	Dolomite Plant	14	---	---
		Lime Plant-2	15	---	---
		Lime Plant-3	22	---	---
		Lime Plant-4	13	---	---

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महायक महाप्रबंधक (पर्यावरण प्रबंधन)

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Month	Unit	Stack	PM (mg/Nm ³)	SO ₂ (mg/Nm ³)	NOx (mg/Nm ³)	
	Mills	WRM	17	---	---	
		Bar Mill	14	---	---	
		USM	12	---	---	
	Sinter Plant	Sinter Plant # 1	17	---	---	
		Sinter Plant # 2	29	---	---	
	PBS	Boiler - A	72	165	116	
		Boiler -2	13	126	96	
		Boiler -3	17	117	69	
	BOF	SMS	18	---	---	
	July 2024	Blast Furnace	Bf-5 Cast house-1	42	---	---
Bf-5 Cast house-2			39	---	---	
Bf-5 Stock house			38	---	---	
Bf-5 (Stove)			22	56	14	
Coke Oven		COB #10	20	172	185	
		COB #11	11	84	95	
LDCP		Dolomite Plant	40	---	---	
		Lime Plant-1	48	---	---	
		Lime Plant-2	42	---	---	
		Lime Plant-3	46	---	---	
Mills		WRM	14	---	---	
		Bar Mill	21	---	---	
		USM	10	---	---	
Sinter Plant		Sinter Plant # 1	41	---	---	
		Sinter Plant # 2	46	---	---	
PBS		Boiler -1	10	147	106	
		Boiler -3	9	144	99	
BOF		SMS	21	---	---	
August 2024		Blast Furnace	Bf-5 Cast house-1	45	---	---
			Bf-5 Cast house-2	45	---	---
	Bf-5 Stock house		37	---	---	
	Bf-5 (Stove)		15	46	23	
	Coke Oven	COB #10	45	185	172	
		COB #11	12	92	141	
	LDCP	Dolomite Plant	12	---	---	
		Lime Plant-1	9	---	---	
		Lime Plant-2	19	---	---	
		Lime Plant-3	14	---	---	
	Mills	WRM	14	---	---	
		Bar Mill	14	---	---	
		USM	10	---	---	
	Sinter Plant	Sinter Plant # 1	28	---	---	
		Sinter Plant # 2	41	---	---	
	PBS	Boiler -1	15	127	116	
		Boiler -3	16	124	105	
	BOF	SMS	29	---	---	
		Blast Furnace	Bf-5 Cast house-1	45	---	---
			Bf-5 Cast house-2	42	---	---
Bf-5 Stock			35	---	---	


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Month	Unit	Stack	PM (mg/Nm ³)	SO ₂ (mg/Nm ³)	NOx (mg/Nm ³)
September 2024	Coke Oven	house			
		Bf-5 (Stove)	25	71	59
		COB #10	30	185	174
		COB #11	43	141	89
	LDCP	Dolomite Plant	14	---	---
		Lime Plant-1	12	---	---
		Lime Plant-2	10	---	---
		Lime Plant-3	16	---	---
	Mills	WRM	14	---	---
		Bar Mill	17	---	---
		USM	10	---	---
	Sinter Plant	Sinter Plant # 1	28	---	---
		Sinter Plant # 2	26	---	---
	PBS	Boiler -2	15	117	111
		Boiler -3	17	113	102
	BOF	SMS	26	---	---

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Ambient Air Quality Monitoring Data

Month	Location of Station	Norm	Parameters ($\mu\text{g}/\text{m}^3$)			
			PM ₁₀	PM _{2.5}	SO ₂	NOx
			100	60	80	80
April 2024	Town Department		98	55	13	18
	Chhotodighari		96	53	11	14
	Rangapara		94	52	9	12
	Kuilapur		95	56	10	13
	Nakrasota		94	52	12	17
	Dharampur		92	52	10	15
May 2024	Central Town		94	54	11	19
	Chhotodighari		97	58	12	16
	Rangapara		93	54	10	14
	Kuilapur		92	52	12	16
	Nakrasota		95	56	13	18
	Dharampur		95	55	27	38
June 2024	Central Town		98	58	13	19
	Chhotodighari		94	54	15	18
	Rangapara		97	56	12	16
	Kuilapur		93	54	12	18
	Nakrasota		97	55	15	20
	Dharampur		91	57	11	17
July 2024	Central Town		94	51	11	18
	Chhotodighari		91	52	12	16
	Rangapara		93	53	10	15
	Kuilapur		97	52	11	16
	Nakrasota		92	54	14	18
	Dharampur		93	55	11	15
August 2024	Central Town		95	53	13	17
	Chhotodighari		93	51	14	18
	Rangapara		96	55	11	16
	Kuilapur		95	50	12	15
	Nakrasota		94	52	16	19
	Dharampur		91	53	15	18
September 2024	Central Town		94	56	11	13
	Chhotodighari		95	58	11	14
	Rangapara		94	52	14	18
	Kuilapur		97	57	13	14
	Nakrasota		98	57	11	17
	Dharampur		98	58	14	16

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Work Environment

Month	Unit	Location	Parameters			
			SPM ($\mu\text{g}/\text{m}^3$)	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOx ($\mu\text{g}/\text{m}^3$)
April 2024	Coke Oven #10	Ram Side	1497	582	52	63
	Coke Oven #11	Ram Side	1528	664	54	69
	BF-5	Cast House	2273	598	56	71
	Sinter Plant	Floor Area	2892	1236	24	44
	BOF	Converter	1136	494	21	39
	Bar Mill	Floor Area	442	227	17	31
	RMHP	Floor Area	1845	812	24	40
	LDCP	Floor Area	1945	772	19	34
	Oxygen Plant	Floor Area	362	182	22	31
	PBS	Floor Area	508	262	23	38
May 2024	Coke Oven #10	Coke Side	1228	497	57	69
	Coke Oven #11	Coke Side	1424	612	56	71
	BF-5	Cast House	2149	637	61	74
	Sinter Plant	Floor Area	2132	1277	26	46
	BOF	Converter	1097	444	24	42
	USM	Floor Area	529	208	22	34
	RMHP	Floor Area	1779	726	21	38
	LDCP	Floor Area	1854	718	18	32
	Oxygen Plant	Floor Area	412	174	19	28
	PBS	Floor Area	614	288	24	39
June 2024	Coke Oven #10	Ram side	1148	542	54	67
	Coke Oven #11	Ram side	1413	623	52	71
	BF-5	Cast House	1836	722	63	72
	Sinter Plant	Floor Area	2025	1341	24	44
	BOF	Converter	1244	511	22	43
	WRM	Floor Area	623	252	21	32
	RMHP	Floor Area	1853	749	24	39
	LDCP	Floor Area	1903	778	19	31
	Oxygen Plant	Floor Area	426	192	18	32
	PBS	Floor Area	704	271	23	37
July 2024	Coke Oven #10	Coke side	1098	504	48	61
	Coke Oven #11	Coke side	1362	589	55	65
	BF-5	Cast House	1940	745	65	75
	Sinter Plant	Floor Area	1918	1261	26	40
	BOF	Converter	1174	485	19	36
	Bar Mill	Floor Area	538	245	24	34
	RMHP	Floor Area	1790	685	21	33
	LDCP	Floor Area	1865	740	17	29
	Oxygen Plant	Floor Area	460	198	20	34
	PBS	Floor Area	679	261	19	32


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Month	Unit	Location	Parameters			
			SPM ($\mu\text{g}/\text{m}^3$)	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NOx ($\mu\text{g}/\text{m}^3$)
August 2024	Coke Oven #10	Ram side	1110	518	54	65
	Coke Oven #11	Ram side	1408	602	59	67
	BF-5	Cast House	1817	780	69	78
	Sinter Plant	Floor Area	1844	1181	23	36
	BOF	Converter	1209	507	22	39
	USM	Floor Area	483	197	20	31
	RMHP	Floor Area	1721	697	26	41
	LDCP	Floor Area	1781	674	24	36
	Oxygen Plant	Floor Area	513	206	25	38
September 2024	PBS	Floor Area	716	285	22	35
	Coke Oven #10	Coke side	1082	740	62	68
	Coke Oven #11	Coke side	1385	810	54	83
	BF-5	Cast House	1769	920	61	84
	Sinter Plant	Floor Area	1650	1410	37	69
	BOF	Converter	1178	770	46	60
	WRM	Floor Area	448	218	25	36
	RMHP	Floor Area	1628	830	35	61
	LDCP	Floor Area	1636	670	29	42
	Oxygen Plant	Floor Area	578	214	28	40
	PBS	Floor Area	774	302	27	39

Work Environment Noise Monitoring

Month	Chhotodig hari		SCOB Gate		Vehicle Gate		Tunnel Gate		Dharampur		Kuilapur		Nakrasota	
	D	N	D	N	D	N	D	N	D	N	D	N	D	N
Apr- 2024	60	50	61	53	62	53	63	54	63	51	62	52	64	53
May-2024	62	53	60	52	63	54	61	52	60	50	61	52	62	51
Jun-2024	61	49	62	51	61	53	62	51	58	49	60	50	60	50
Jul-2024	58	52	61	49	60	52	61	49	57	50	59	49	59	51
Aug-2024	59	51	58	47	56	46	57	48	59	53	61	52	60	53
Sep-2024	62	53	60	49	57	47	56	49	58	51	59	50	59	51

D – During Day Time, N – During Night Time

Arshad

महायक महाप्रबंधक (पर्यावरण प्रबंधन)
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SAIL-ISP, BURNPUR

Coke Oven Fugitive Emission

Month	Parameters	Norm	Battery 10 (Rebuilt Batt.)	Battery 11 (New Batt.)
April 2024	PLD	10 % (COB#10)	0.87	2.78
		5 % (COB #11)		
	PLL	1 %	0.24	0.45
	PLO	4%	0.60	1.3
	Charging Emissions	50 Sec/ Charge (COB #10)	13	13
		16 Sec/ Charge (COB #11)		
May 2024	PLD	10 % (COB#10)	0.97	2.67
		5 % (COB #11)		
	PLL	1 %	0.22	0.42
	PLO	4%	0.67	1.5
	Charging Emissions	50 Sec/ Charge (COB #10)	10	12
		16 Sec/ Charge (COB #11)		
June 2024	PLD	10 % (COB#10)	0.77	2.23
		5 % (COB #11)		
	PLL	1 %	0.16	0.45
	PLO	4%	0.43	1.2
	Charging Emissions	50 Sec/ Charge (COB #10)	11	11
		16 Sec/ Charge (COB #11)		
July 2024	PLD	10 % (COB#10)	0.83	2.24
		5 % (COB #11)		
	PLL	1 %	0.12	0.33
	PLO	4%	0.42	0.76
	Charging Emissions	50 Sec/ Charge (COB #10)	12	11
		16 Sec/ Charge (COB #11)		
August 2024	PLD	10 % (COB#10)	0.85	2.29
		5 % (COB #11)		
	PLL	1 %	0.08	0.34
	PLO	4%	0.46	0.91
	Charging Emissions	50 Sec/ Charge (COB #10)	9	11
		16 Sec/ Charge (COB #11)		
September 2024	PLD	10 % (COB#10)	0.74	2.21
		5 % (COB #11)		
	PLL	1 %	0.11	0.34
	PLO	4%	0.47	0.96
	Charging Emissions	50 Sec/ Charge (COB #10)	10	12
		16 Sec/ Charge (COB #11)		

Arjun

महायक महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
सेल-आई. एस. पी., बर्नपुर
SAIL-ISP, BURNPUR

Annexure 3

Pollution Control Equipment Installed

IISCO Steel Plant
Pollution Control Equipment Installed

Sl. No.	Shop	Pollution Control System	Nos.
1.	Coke Oven	HPLA System	2
		BOD Plant	2
		Bag Filter	5
		RO Plant	1
		Gravel filter	2
		Pressure filter	1
		ESP	5
		Chimney	5
2.	Blast Furnace	Dust Catcher	1
		Ventury Scrubber	1
		Clarifier	2
		ESP	3
		Drum filter	2
		Chimney	6
3	SMS (BOF)	Dog House (Including ducting)	3
		ESP (Dry type attached with chimney)	2
		ESP (Wet type attached with Gas holder)	3
		Gas Holder	1
		Bag House at Transfer Points	3
		Thickener	4
		Belt press filter for sludge	4
		Chimney	4
4	Sinter Plant	Bag Filter	4
		ESP	4
		RO Plant	1
		Chimney	4
5	LDCP	Bag filter	8
		Chimney	8
6.	Power Plant	Ash Handling System	1
		RO Plant	1
		Chimney	5
7.	Rolling Mills	Fce water treatment plant	1
		Mill water treatment plant	2
		RO Plant	2
		Chimney	3



महायक महाप्रबंधक (पर्यावरण प्रबंधन)
AGM (Environ. Mgmt.)
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SAIL-ISP, BURNPUR

Annexure 4

CSR Activities

CSR Activities carried out during April to September 2024

Sl. No.	CSR Activities/Projects 2024-25	Actual Expenditure (Rs. In Lakhs)
1	Free Coaching Centre for school dropouts & scholarship to the meritorious & poor students from underprivileged class	16.00
2	Vocational Training (Tailoring, AC & Refrigeration) for Village Youths at Ram Krishna Mission (RKM) Vocational training center & Sponsorship of BPL category students in courses viz. Computer operation & programming assistant, Welder, Fitter, Electrician from peripheral villages of ITI, RKM, Asansol	10.00
3	Repair/Renovation/Extension of Class rooms etc. at Dhemomain school	1.00
4	Providing Tiffin, educational kits & accessories (school bag, water bottle, Tiffin box, pencil box & raincoat), uniform including shoes & socks, honorarium for teachers and celebration of important events to Kishalaya Preparatory School & Scholarship to the meritorious & poor students from underprivileged class	15.28
5	Construction of new building for Burnpur Girl's High School (Approx. 98% Non-SAIL BPL)	142.56
6	Distribution of School Uniform & Accessories to the students of Dhemomain Colliery School and Bari Vidyalaya Primary Section	4.40
7	Construction of four additional class rooms, toilet, teachers room & office at Swami Vivekananda Ashrama, Shyamdihi	0.50
8	Infrastructure development of Kishlaya Preparatory School	29.00
9	Scholarship to SC/ST Students	0.33
10	Skill development training on General Duty Assistant & Phlebotomy course	1.50
11	Regular Extended OPD with help of mobile medical van, enhancement of outreach camp, Preventive action against Malaria, Dengue etc. to 20 peripheral villages	2.20
12	Regular Extended OPD with help of mobile medical van, enhancement of outreach camp, Preventive action against Malaria, Dengue etc. to 35 peripheral villages	1.10
13	Providing tiffin to the students of Burnpur Ambagan Volunteers Social Welfare Organisation	0.50
14	Supplying Assistive living devices to PwDs at Burnpur, Asansol, Bankura & Purulia	25.00
15	"Stop Malnutrition" for the under privileged children and regular educational coaching to "Stop school dropout" in Chobka red light area & Bhuiapara	3.88
16	Organizing camp for Health & Nutrition of Mother & Pregnant ladies among underprivileged women at peripheral villages	1.02
17	AIDS awareness project cum medical camp for sex workers of Lachipur & Chobka Red-light Area	2.36
18	Financial aid to Burnpur Mahila Voluntary Samity for stitching & knitting training	0.87
19	Project Annapurna	1.00
20	Setting up solar submersible pump set in peripheral village	2.25


 महाप्रबंधक (पर्यावरण प्रबंधन)
 AGM (Environ. Mgmt.)
 सेल-आई. एम. पी., बर्नपुर
 SAIL-ISP, BURNPUR

Sl.	CSR Activities/Projects 2024-25	Actual Expenditure
21	Providing Community Toilet in 5 peripheral villages under "Swachha Bharat Mission" including maintenance	10.00
22	Construction of toilets for Kishalaya Preparatory School	1.00
24	Construction of Toilets at proposed Burnpur Girls School	3.00
25	Providing training to the villagers(Boys & Girls) for Football & Kabaddi throughout the year	1.12
26	Organizing Inter village Football & Kabaddi tournament	3.32
27	Financial assistance to Asansol Rifle Club for Sponsoring a Rifle and supporting equipment for imparting training to nationally recognized sports	4.00
28	Construction of a 30 lanes 50 meters shooting range with a covered area of 5000 Sq. feet at Asansol Rifle Club.	5.33
29	Financial aid for promotion of sports activity among the ITI students and youth at the RKM Pvt. ITI, Asansol	1.36
30	Upkeep of Football Academy	16.49
31	Development of Sports infrastructure at IISCO (Phase- II)	37.00
32	Organizing Hool Divas	0.50
33	Celebration of Dr. B. R. Ambedkar Jayanti and other events	3.75
34	Installation of Ambedkar Statue on the recommendation of National Commission for Scheduled Castes under thrust area Art & Culture	2.23
35	Repairing/Construction of roads/Infrastructure Development in peripheral villages	15.54
36	Construction of community centers with toilet, repairing/renovation of community centers in peripheral villages of Burnpur	5.00
37	Construction of Vendor Rest Room at Burnpur Station Road Market	2.10
38	Financial aid for running Cheshire Home, Burnpur (Security, food, clothing, education, maintenance & upkeep, special trainers, warden, celebration of important days etc.)	1.43
39	Financial assistance to Asansol Anandam for providing tiffin to divyang students, honorarium for teachers, raw material for training, stationary etc., repair & maintenance of Jacuzzi for hydrotherapy installed earlier under CSR	2.94
40	Afforestation/tree plantation & Environment development	0.20
41	Afforestation/tree plantation & Environment development / development of parks in peripheral villages.	11.99
TOTAL		389.05


 महानगर महाप्रबंधक (पर्यावरण प्रबंधन)
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