HALF YEARLY COMPLIANCE REPORT

(Period from 01.10.2015 to 31.03.2016)

OF

Ferro Alloys Plant, Joda

Tata Steel Limited

P.O- Joda, Dist. Keonjhar
Odisha- 758034

ENVIRONMENTAL CLEARANCE GRANTED
VIDE LETTER NO. - J-11011/03/2012-IA.II(I) DATED- 05th November 2015
ISSUED BY
GOVT. OF INDIA, MINISTRY OF ENVIRONMENT, FOREST& CLIMATE CHANGE, NEW DELHI.

Director (S)
Ministry of Environment and Forests
Eastern Regional Office
A/3, Chandrasekharpur
Bhunaneswar - 751023

Ref. No. FAPJ/ 4430 /2016
Dated : 31st May 2016

Sub : **Submission of six monthly compliance report on implementation of environmental safeguards of Ferro Alloys Plant, Joda for the period from October'15 to March'16.**

Ref : **Ministry of Environment and Forests Letter No.J-11011/03/2012-IA.II(I) dated: 5th November 2015**

Dear Sir,

We are herewith submitting the six monthly compliance report in respect of stipulated environmental clearance condition of Ferro Alloys Plant, Joda for the period from October'15 to March'16 as per EIA Notification, 2006.

We are also sending you to soft copy of the report to your good office on email : mef.or@nic.in for your ready reference.

We trust that the measures taken towards environmental safeguards comply with the stipulated environmental conditions. We look forward to your further guidance which shall certainly help us in our endeavor for further improve upon our Environmental Management practices.

Thanking you,

Yours faithfully,
For TATA STEEL LTD.

Head
Ferro Alloys Plant

Encl : as above.

Copy to MoEF, New Delhi
" " CPCB, Zonal Office, Kolkata
" " OSPCB, Bhubaneswar
" " Regional Office, Keonjhar

TATA STEEL
Ferro Alloys & Minerals Division
Ferro Alloys Plant, Joda – 758034, Orissa, India
Tel : 09238100945,e-mail –head.office@tatasteel.com
Regd. Office : Bombay House, 24 Homi Mody Street, Mumbai – 400 001
Corporate Identity Number L27100MH1907PLC000260 , Website : www.tatasteel.com

A. SPECIFIC CONDITIONS:

i. The project proponent should install 24x7 air monitoring devices to monitor air emission, as provided by CPCB and submit report to Ministry and its Regional Office.

- **It will be strictly followed after commissioning of plant. For existing plant three nos. ambient air monitoring stations have been installed for monitoring air emission and the reports are submitted on monthly basis to SPCB, Odisha. Monitoring results for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-I**

ii. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz, Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm3 and installing energy efficient technology.

- **There are four nos. of stacks in existing plant and all having adequate height and diameter. Online stack monitoring system installation is under progress and it will be installed by 30th June 2016 for all four stacks of existing plant. At present four nos. of Gas cleaning plants are operational among two of them are in operation and two are kept for stand-by to ensure emission level within the norms prescribed by CPCB. Same facility will be provided to forthcoming project. Stack Monitoring results for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-II.**

iii. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.

- **Existing plant emissions are within the specified limit prescribed by national ambient air quality emission standards; also the same will be followed after commissioning of forthcoming Plant. Ambient Air quality Monitoring results for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-I**

iv. Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB should be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414 (E) dated 30th May, 2008 should be followed.

- **Existing plant emission level is within the permissible limit. Guidelines/codes of practice issued by CPCB are followed. Monthly reports are sent to SPCB, Bhubaneswar and Regional office, Keonjhar. Monitoring results of Gaseous emission levels including secondary fugitive emissions from all the sources for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-I**

v. Water sprinkling arrangements as well as dry fog system to control fugitive emission shall be undertaken.

- **For dry fogging one Mobile water sprinkler cum mist canon is in operation. 9 Nos. of Water sprinkling system was installed at all critical location for existing plant same will be installed after project execution. (Include photographs as Annexure III)**

vi. Tap hole emissions shall be taken to GCP system by providing proper hood and suction system.

- **Two nos. of Fume extraction system is in place for existing plant and same system will be provided to forthcoming project. (Include photographs as Annexure IV)**

vii. Efforts should further be made to use maximum water from the rain water harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources. Use of air cooled condensers shall be explored and closed circuit cooling system should be provided to reduce water consumption and water requirement shall be modified accordingly.

- **It will be followed. For Existing Plant close ciruit cooling system is in operation & same will be followed for forthcoming plant.**

viii. All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by the soak pit.

- **Now the existing plant is a zero effluent discharge plant. STP is in operation for Sewage treatment, and the recycled water is being utilised for gardening purpose. Photograph is included in Annexure V)**

ix. Regular monitoring of surface, sub-surface and ground water should be ensured and treated waste water should meet the norms prescribed by the State Pollution Control Board or described under the E (P) Act 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPEB and CPCB.

- **Monitoring of ground water and surface water is been carry out on regular basis. Leachate study for effluent generated will be carried out soon. (details of monitoring results are given in Annexure VI)**

x. Slag produced in Ferro Manganese (Fe-Mn) production should be used in manufacture of Silico Manganese (Si-Mn). All the other Ferro alloy slag should be used in the preparation of building materials.

- **Slag produced from existing FeMn plant are, Partly used in the process as a raw material for FeMn production and rest are sold to the Ferro Alloys Industry.**

xi. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB within 3 months of issue of environment clearance letter.

- **Risk and disaster management plan along with the mitigation measures was submitted vide Letter no. FAPJ/4249/2016, dtd. 01.02.2016 to the central Plooution control board,New Delhi, Vide letter no. FAP(J)/4250/2016,dtd. 01.02.2016, to the Ministry of Environment & Forest, Eastern Regional Office, Bhubaneswar and vide letter no. FAP(J)/4251/2016, dtd. 01.02.2016 to State Pollution Control Board, Bhubaneswar. Copy of the letter is enclosed as Annexure-VII.**

xii. Green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.

- **Plantation programme is regularly done. Plant species are selected as per CPCB guidelines. In the Year 2015-16 total 4647 nos. of Plantation done.**

xiii. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.

- **It will be followed.**

xiv. At least 5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on locals need and item-wise details along with time bound action plan shall be prepa5red and submitted to the Ministry's Regional Office at Chennai. Implementation of such program shall be ensured accordingly in a time bound manner.

- **It will be done. The details of expenditure towards CSR activity done along with details are given in Annexure XI.**

xv. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be

in the form of temporary structures to be removed after the completion of the project.

- **It will be strictly followed. There is no labour camp within the Site.**

B. GENERAL CONDITIONS :

i. The project authorities must strictly adhere to the stipulations made by the Odisha Pollution Control Board and the State Government.

- **It will be strictly followed. We have applied for CTE vide letter no. FAPJ/3976/2014, dtd. 16.07.2014. Once the expansion work starts conditions shall be adhered to.**

ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).

- **No expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).**

iii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.

- **At present three ambient air quality monitoring stations are installed at the downward direction in consultation with the SPCB. . Ambient air quality report and stack emission reports are submitted monthly to Ministry including its Regional Office at Bhubaneswar and SPCB, Bhubaneswar. Monitoring results for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-I**

iv. Industrial waste water shall be properly collected, treated so as to conform to the standard prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December1993 or as amended from time to time. The treated waste water shall be utilized for plantation purpose.

- **It is been followed .Treated waste water is utilised for plantation/gardening purpose.**

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

- **It was followed. Acoustic enclosures are provided for DG sets. Monitoring results for last six months i.e Oct' 2015 to March' 2016 is enclosed as Annexure-VIII**

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

- **Periodic medical check-ups were conducted yearly. Last medical check-up was done on December'2015 and 528 nos. of employees are examined including contractual employees. Records were maintained as per Orissa factory rule it is shown in Annexure IX.**

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.

- **It will be followed.**

viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake social-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.

- **Complied to environmental protection measures and safeguards recommended in the EIA/EMP report. Social-economic development activities in the surrounding villages were carried out with Tata Steel Rural Development Society. Details of Expenditure made towards CSR activities are given in Annexure XI.**

ix. Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.

- **It will be followed.**

x. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.

- **Already Complied. Intimation of obtaining Environmental Clearance is given to Zila Parishad vide letter No. FAPJ/4136/2015. Copy of Letter is given in Annexure-X.**

xi. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEFCC at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

- **Status of compliance will be uploaded in the website along with the monitored data.It will be sent to regional office of MoEFCC at Bhubaneswar, SPCB, Bhubaneswar & regional office, Keonjhar.**
- **The criteria pollutant levels PM 10,PM 2.5, SO2, NOX , CO, Ambient air parameters along with stack emission parameters are displayed at the company's main gate.Photgraph is goven in the Annexure XII.**

xii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data
(both in hard copies as well as by e-mail) to the Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of the Ministry at Bhubaneswar/CPCB/SPVCB shall monitor the stipulated conditions.

- **It will be strictly complied.**

xiii. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MoEFCC) at Bhubaneswar by e-mail.

- **The Environment statement in Form V was submitted for the year 2014-15 on 22nd september'2015 vide letter no.- FAPJ/4068/2015 to SPCB, Bhubaneswar and Regional office, Keonjhar.And the compliance of environmental conditions will be upload on the website of the company soon. Covering letter Environment statement is given in the Annexure XIII.**

xiv. 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 SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at http:envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office at Bhubaneswar.

- **Information regarding Environamntal clearance issued is published on Sambad Oriya news paper of 13th November issue. And on The statesman English News paper of 12th November issue. Details of Publication is given in Annexure XIV.**

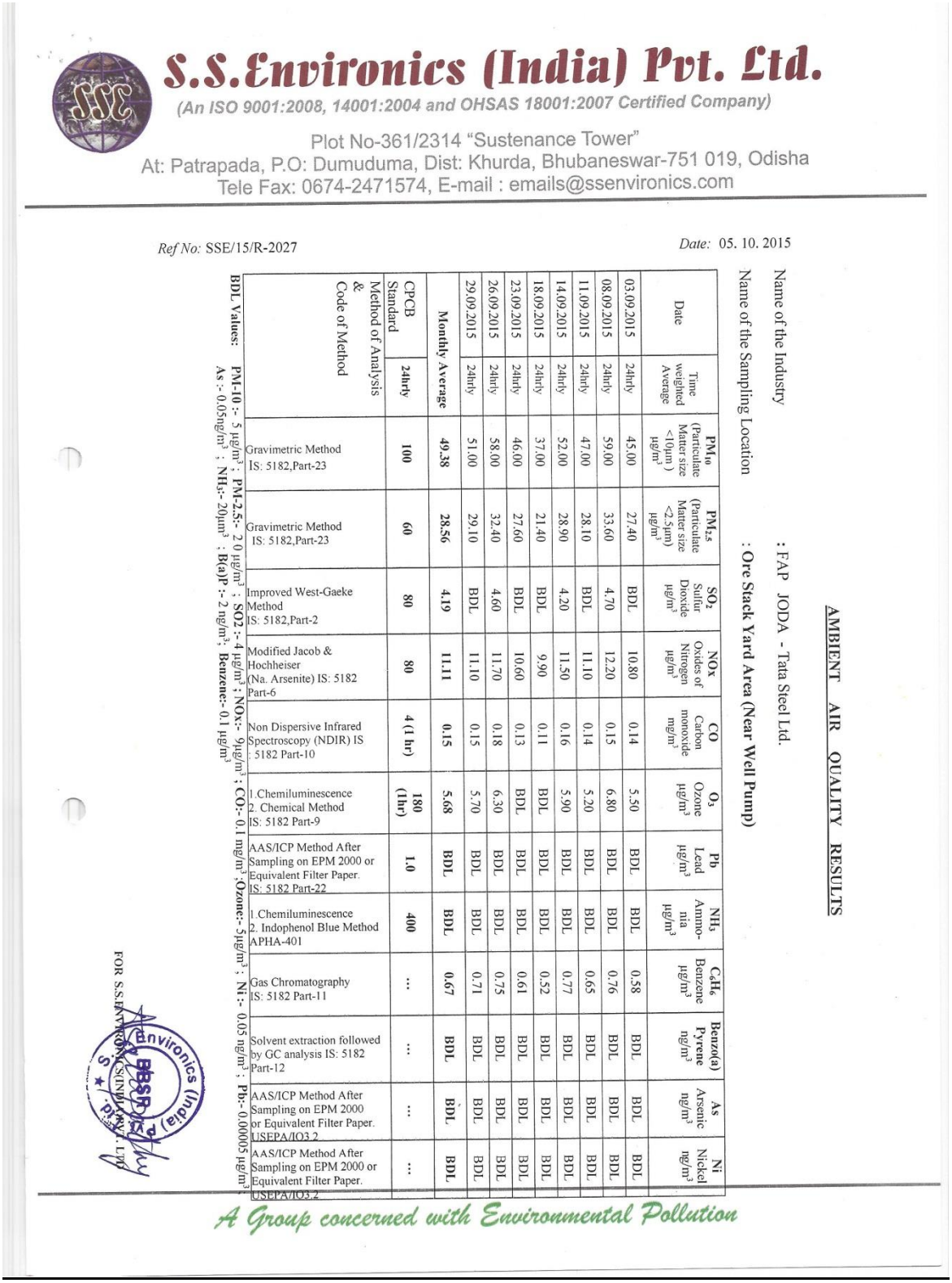
xv. Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

- **It will be strictly followed.**

Head
Ferro Alloys Plant, Joda
Tata Steel Limited

Annexure # I

Ambient Air quality Report From 01-10-2015 To 31-03-2016



S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2027 *Date:* 05. 10. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : Ore Stack Yard Area (Near Well Pump)

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.09.2015	24hrly	45.00	27.40	BDL	10.80	0.14	5.50	BDL	BDL	0.58	BDL	BDL	BDL
08.09.2015	24hrly	59.00	33.60	4.70	12.20	0.15	6.80	BDL	BDL	0.76	BDL	BDL	BDL
11.09.2015	24hrly	47.00	28.10	BDL	11.10	0.14	5.20	BDL	BDL	0.65	BDL	BDL	BDL
14.09.2015	24hrly	52.00	28.90	4.20	11.50	0.16	5.90	BDL	BDL	0.77	BDL	BDL	BDL
18.09.2015	24hrly	37.00	21.40	BDL	9.90	0.11	BDL	BDL	BDL	0.52	BDL	BDL	BDL
23.09.2015	24hrly	46.00	27.60	BDL	10.60	0.13	BDL	BDL	BDL	0.61	BDL	BDL	BDL
26.09.2015	24hrly	58.00	32.40	4.60	11.70	0.18	6.30	BDL	BDL	0.75	BDL	BDL	BDL
29.09.2015	24hrly	51.00	29.10	BDL	11.10	0.15	5.70	BDL	BDL	0.71	BDL	BDL	BDL
Monthly Average		**49.38**	**28.56**	**4.19**	**11.11**	**0.15**	**5.68**	**BDL**	**BDL**	**0.67**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2.0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD.

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2026 *Date:* 05. 10. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.09.2015	24hrly	54.00	30.20	4.20	11.70	0.17	6.20	BDL	BDL	0.77	BDL	BDL	BDL
08.09.2015	24hrly	68.00	38.50	5.50	13.10	0.25	7.50	BDL	BDL	0.91	BDL	BDL	BDL
11.09.2015	24hrly	56.00	31.40	4.30	11.90	0.19	6.40	BDL	BDL	0.78	BDL	BDL	BDL
14.09.2015	24hrly	63.00	35.60	5.10	12.50	0.24	7.10	BDL	BDL	0.86	BDL	BDL	BDL
18.09.2015	24hrly	44.00	26.90	BDL	10.80	0.15	5.20	BDL	BDL	0.65	BDL	BDL	BDL
23.09.2015	24hrly	52.00	29.10	BDL	11.40	0.16	5.90	BDL	BDL	0.74	BDL	BDL	BDL
26.09.2015	24hrly	67.00	38.40	5.40	12.80	0.25	7.40	BDL	BDL	0.89	BDL	BDL	BDL
29.09.2015	24hrly	59.00	33.70	4.70	12.30	0.20	6.60	BDL	BDL	0.81	BDL	BDL	BDL
Monthly Average		**57.88**	**32.98**	**4.65**	**12.06**	**0.20**	**6.54**	**BDL**	**BDL**	**0.80**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10** :- 5 μg/m³ ; **PM-2.5**:- 2 0 μg/m³ ; **SO2** :-4 μg/m³ ; **NOx**:- 9μg/m³ ; **CO**:- 0.1 mg/m³ ;**Ozone**:- 5μg/m³ ; **Ni**:- 0.05 ng/m³ ; **Pb**:- 0.00005 μg/m³ ; **As** :- 0.05ng/m³ ; NH_3:- 20μm³ ; **B(a)P** :- 2 ng/m³; **Benzene**:- 0.1 μg/m³

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S.S.Environics (India) Pvt. Ltd.

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Plot No-361/2314 "Sustenance Tower"
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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2025 *Date:* 05. 10. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near GATE No-2**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NO_x Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.09.2015	24hrly	49.00	28.70	BDL	11.20	0.15	5.80	BDL	BDL	0.65	BDL	BDL	BDL
08.09.2015	24hrly	63.00	35.20	5.10	12.80	0.17	7.10	BDL	BDL	0.88	BDL	BDL	BDL
11.09.2015	24hrly	51.00	29.20	BDL	11.50	0.16	5.90	BDL	BDL	0.70	BDL	BDL	BDL
14.09.2015	24hrly	58.00	32.50	4.60	11.90	0.19	6.60	BDL	BDL	0.82	BDL	BDL	BDL
18.09.2015	24hrly	41.00	24.70	BDL	10.50	0.12	BDL	BDL	BDL	0.59	BDL	BDL	BDL
23.09.2015	24hrly	49.00	28.10	BDL	11.10	0.14	5.40	BDL	BDL	0.66	BDL	BDL	BDL
26.09.2015	24hrly	62.00	35.60	4.90	12.40	0.21	6.90	BDL	BDL	0.83	BDL	BDL	BDL
29.09.2015	24hrly	54.00	30.20	4.20	11.90	0.17	6.20	BDL	BDL	0.74	BDL	BDL	BDL
Monthly Average		**53.38**	**30.53**	**4.35**	**11.66**	**0.16**	**6.11**	**BDL**	**BDL**	**0.73**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	…	…	…	…
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2170 *Date:* 03. 11. 2015

AMBIENT AIR QUALITY RESULTS

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Ore Stack Yard Area (Near Well Pump)**

Date	Time weighted Average	PM_{10} (Particulate Matter size <10µm) µg/m³	$PM_{2.5}$ (Particulate Matter size <2.5µm) µg/m³	SO_2 Sulfur Dioxide µg/m³	NO_x Oxides of Nitrogen µg/m³	CO Carbon monoxide mg/m³	O_3 Ozone µg/m³	Pb Lead µg/m³	NH_3 Ammo-nia µg/m³	C_6H_6 Benzene µg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.10.2015	24hrly	45.00	26.90	BDL	10.90	0.14	5.40	BDL	BDL	0.65	BDL	BDL	BDL
05.10.2015	24hrly	59.00	33.40	4.80	12.20	0.18	6.80	BDL	BDL	0.78	BDL	BDL	BDL
08.10.2015	24hrly	41.00	25.50	BDL	10.70	0.13	BDL	BDL	BDL	0.62	BDL	BDL	BDL
12.10.2015	24hrly	57.00	31.40	4.30	12.10	0.16	6.20	BDL	BDL	0.77	BDL	BDL	BDL
15.10.2015	24hrly	52.00	29.80	BDL	11.60	0.15	5.70	BDL	BDL	0.71	BDL	BDL	BDL
19.10.2015	24hrly	68.00	37.50	5.60	13.20	0.27	7.20	BDL	BDL	0.89	BDL	BDL	BDL
22.10.2015	24hrly	42.00	25.60	BDL	10.80	0.12	5.40	BDL	BDL	0.66	BDL	BDL	BDL
26.10.2015	24hrly	55.00	30.20	4.20	11.90	0.15	6.00	BDL	BDL	0.75	BDL	BDL	BDL
29.10.2015	24hrly	48.00	27.90	BDL	12.40	0.14	5.50	BDL	BDL	0.69	BDL	BDL	BDL
	Monthly Average	**51.89**	**29.80**	**4.32**	**11.76**	**0.16**	**5.91**	**BDL**	**BDL**	**0.72**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10** :- 5 µg/m³ ; **PM-2.5**:- 2 0 µg/m³ ; **SO2** :- 4 µg/m³ ; **NOx**:- 9µg/m³ ; **CO**:- 0.1 mg/m³ ;**Ozone**:- 5µg/m³ ; **Ni**:- 0.05 ng/m³ ; **Pb**:- 0.00005 µg/m³ ; As :- 0.05ng/m³ ; NH_3:- 20µm³ ; **B(a)P** :- 2 ng/m³ ; **Benzene**:- 0.1 µg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2169 *Date:* 03. 11. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NO_x Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.10.2015	24hrly	56.00	31.50	4.30	11.90	0.19	6.40	BDL	BDL	0.78	BDL	BDL	BDL
05.10.2015	24hrly	68.00	37.40	5.50	13.20	0.25	7.60	BDL	BDL	0.91	BDL	BDL	BDL
08.10.2015	24hrly	51.00	29.10	BDL	11.40	0.16	5.90	BDL	BDL	0.74	BDL	BDL	BDL
12.10.2015	24hrly	66.00	37.20	5.20	12.80	0.23	7.40	BDL	BDL	0.89	BDL	BDL	BDL
15.10.2015	24hrly	62.00	35.10	4.90	12.40	0.21	7.00	BDL	BDL	0.84	BDL	BDL	BDL
19.10.2015	24hrly	78.00	44.80	6.20	14.10	0.36	8.40	BDL	BDL	1.10	BDL	BDL	BDL
22.10.2015	24hrly	54.00	29.60	BDL	11.70	0.18	6.30	BDL	BDL	0.77	BDL	BDL	BDL
26.10.2015	24hrly	65.00	37.20	5.20	12.90	0.23	7.10	BDL	BDL	0.86	BDL	BDL	BDL
29.10.2015	24hrly	57.00	30.50	4.40	13.20	0.19	6.50	BDL	BDL	0.79	BDL	BDL	BDL
	Monthly Average	**61.89**	**34.71**	**4.86**	**12.62**	**0.22**	**6.96**	**BDL**	**BDL**	**0.85**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS. 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2.0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS(INDIA)PVT. LTD

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(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2168 *Date:* 03. 11. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near GATE No-2**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.10.2015	24hrly	48.00	27.90	BDL	11.50	0.16	5.80	BDL	BDL	0.70	BDL	BDL	BDL
05.10.2015	24hrly	63.00	35.60	5.10	12.80	0.20	7.20	BDL	BDL	0.84	BDL	BDL	BDL
08.10.2015	24hrly	44.00	26.90	BDL	11.10	0.14	5.40	BDL	BDL	0.68	BDL	BDL	BDL
12.10.2015	24hrly	62.00	35.10	4.70	12.40	0.19	6.90	BDL	BDL	0.82	BDL	BDL	BDL
15.10.2015	24hrly	58.00	32.50	4.40	12.00	0.17	6.40	BDL	BDL	0.78	BDL	BDL	BDL
19.10.2015	24hrly	72.00	39.80	5.90	13.60	0.31	7.90	BDL	BDL	0.96	BDL	BDL	BDL
22.10.2015	24hrly	47.00	27.20	BDL	11.20	0.16	5.70	BDL	BDL	0.72	BDL	BDL	BDL
26.10.2015	24hrly	59.00	33.50	4.60	12.30	0.18	6.60	BDL	BDL	0.80	BDL	BDL	BDL
29.10.2015	24hrly	52.00	29.80	BDL	12.60	0.16	6.10	BDL	BDL	0.74	BDL	BDL	BDL
Monthly Average		**56.11**	**32.03**	**4.52**	**12.19**	**0.19**	**6.44**	**BDL**	**BDL**	**0.78**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gacke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2.0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni:-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS(INDIA)PVT. LTD

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At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2391 *Date:* 03. 12. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : Ore Stack Yard Area (Near Well Pump)

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.11.2015	24hrly	57.00	31.50	4.40	11.90	0.17	6.60	BDL	BDL	0.78	BDL	BDL	BDL
05.11.2015	24hrly	41.00	24.80	BDL	10.20	0.11	BDL	BDL	BDL	0.62	BDL	BDL	BDL
09.11.2015	24hrly	48.00	27.60	BDL	11.40	0.13	BDL	BDL	BDL	0.66	BDL	BDL	BDL
12.11.2015	24hrly	62.00	35.20	5.20	12.10	0.22	6.90	BDL	BDL	0.79	BDL	BDL	BDL
16.11.2015	24hrly	54.00	30.10	4.30	11.80	0.18	5.30	BDL	BDL	0.74	BDL	BDL	BDL
19.11.2015	24hrly	47.00	28.40	BDL	10.70	0.13	BDL	BDL	BDL	0.65	BDL	BDL	BDL
23.11.2015	24hrly	59.00	33.70	4.70	12.20	0.19	6.50	BDL	BDL	0.72	BDL	BDL	BDL
26.11.2015	24hrly	51.00	29.60	BDL	11.60	0.16	6.20	BDL	BDL	0.69	BDL	BDL	BDL
30.11.2015	24hrly	57.00	31.40	4.90	12.40	0.20	6.70	BDL	BDL	0.77	BDL	BDL	BDL
	Monthly Average	**52.89**	**30.26**	**4.39**	**11.59**	**0.17**	**5.91**	**BDL**	**BDL**	**0.71**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5μg/m³ ; **Ni:-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; As :- 0.05ng/m³ ; NH_3:- 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2390

Date: 03. 12. 2015

AMBIENT AIR QUALITY RESULTS

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.11.2015	24hrly	66.00	37.40	5.30	12.90	0.24	7.40	BDL	BDL	0.89	BDL	BDL	BDL
05.11.2015	24hrly	49.00	28.50	BDL	11.40	0.14	5.60	BDL	BDL	0.72	BDL	BDL	BDL
09.11.2015	24hrly	56.00	31.40	4.40	12.20	0.16	6.40	BDL	BDL	0.79	BDL	BDL	BDL
12.11.2015	24hrly	71.00	39.20	5.90	13.50	0.30	7.90	BDL	BDL	0.93	BDL	BDL	BDL
16.11.2015	24hrly	64.00	37.30	5.20	12.70	0.25	7.20	BDL	BDL	0.87	BDL	BDL	BDL
19.11.2015	24hrly	55.00	30.10	4.20	11.90	0.18	6.10	BDL	BDL	0.76	BDL	BDL	BDL
23.11.2015	24hrly	67.00	38.50	5.50	13.10	0.28	7.50	BDL	BDL	0.89	BDL	BDL	BDL
26.11.2015	24hrly	62.00	34.60	4.90	12.50	0.23	6.90	BDL	BDL	0.84	BDL	BDL	BDL
30.11.2015	24hrly	70.00	38.10	5.70	13.40	0.28	7.70	BDL	BDL	0.93	BDL	BDL	BDL
	Monthly Average	**62.22**	**35.01**	**5.01**	**12.62**	**0.23**	**6.97**	**BDL**	**BDL**	**0.85**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	…	…	…	…
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2389 *Date:* 03. 12. 2015

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near GATE No-2**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
02.11.2015	24hrly	61.00	35.20	4.90	12.40	0.20	6.90	BDL	BDL	0.82	BDL	BDL	BDL
05.11.2015	24hrly	44.00	26.10	BDL	10.90	0.13	5.20	BDL	BDL	0.68	BDL	BDL	BDL
09.11.2015	24hrly	52.00	29.40	BDL	11.70	0.14	5.70	BDL	BDL	0.72	BDL	BDL	BDL
12.11.2015	24hrly	66.00	37.50	5.60	12.90	0.27	7.40	BDL	BDL	0.85	BDL	BDL	BDL
16.11.2015	24hrly	59.00	33.40	4.80	12.20	0.20	5.80	BDL	BDL	0.82	BDL	BDL	BDL
19.11.2015	24hrly	51.00	29.10	BDL	11.30	0.15	5.50	BDL	BDL	0.73	BDL	BDL	BDL
23.11.2015	24hrly	63.00	35.60	5.10	12.60	0.25	7.10	BDL	BDL	0.83	BDL	BDL	BDL
26.11.2015	24hrly	57.00	31.50	4.40	12.10	0.19	6.60	BDL	BDL	0.79	BDL	BDL	BDL
30.11.2015	24hrly	65.00	37.20	5.20	12.80	0.25	7.20	BDL	BDL	0.86	BDL	BDL	BDL
Monthly Average		**57.56**	**32.78**	**4.67**	**12.10**	**0.20**	**6.38**	**BDL**	**BDL**	**0.79**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5μg/m³ ; **Ni:-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2812 *Date:* 04. 01. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Ore Stack Yard Area (Near Well Pump)**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammonia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.12.2015	24hrly	47.00	28.40	BDL	10.80	0.12	5.40	BDL	BDL	0.65	BDL	BDL	BDL
07.12.2015	24hrly	63.00	35.60	5.40	12.40	0.21	7.20	BDL	BDL	0.62	BDL	BDL	BDL
10.12.2015	24hrly	52.00	29.40	BDL	11.20	0.17	5.80	BDL	BDL	0.70	BDL	BDL	BDL
14.12.2015	24hrly	68.00	37.90	5.70	12.90	0.26	7.60	BDL	BDL	0.83	BDL	BDL	BDL
17.12.2015	24hrly	55.00	30.20	4.20	11.80	0.19	6.30	BDL	BDL	0.77	BDL	BDL	BDL
21.12.2015	24hrly	42.00	25.60	4.00	10.80	0.14	5.10	BDL	BDL	0.61	BDL	BDL	BDL
24.12.2015	24hrly	58.00	32.40	4.80	12.10	0.16	6.50	BDL	BDL	0.78	BDL	BDL	BDL
28.12.2015	24hrly	51.00	29.30	BDL	11.40	0.13	5.80	BDL	BDL	0.74	BDL	BDL	BDL
31.12.2015	24hrly	65.00	37.70	5.30	12.80	0.25	7.30	BDL	BDL	0.85	BDL	BDL	BDL
	Monthly Average	**55.67**	**31.83**	**4.60**	**11.80**	**0.18**	**6.33**	**BDL**	**BDL**	**0.73**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni:-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; As :- 0.05ng/m³ ; **NH3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS(INDIA)PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2811 *Date:* 04. 01. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10µm) µg/m³	$PM_{2.5}$ (Particulate Matter size <2.5µm) µg/m³	SO_2 Sulfur Dioxide µg/m³	NOx Oxides of Nitrogen µg/m³	CO Carbon monoxide mg/m³	O_3 Ozone µg/m³	Pb Lead µg/m³	NH_3 Ammonia µg/m³	C_6H_6 Benzene µg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.12.2015	24hrly	55.00	30.20	4.30	11.70	0.17	6.20	BDL	BDL	0.78	BDL	BDL	BDL
07.12.2015	24hrly	73.00	40.80	6.10	13.50	0.31	8.10	BDL	BDL	0.95	BDL	BDL	BDL
10.12.2015	24hrly	60.00	35.90	4.80	12.20	0.22	6.80	BDL	BDL	0.83	BDL	BDL	BDL
14.12.2015	24hrly	79.00	45.20	6.50	14.10	0.36	8.70	BDL	BDL	1.12	BDL	BDL	BDL
17.12.2015	24hrly	64.00	33.80	5.20	12.70	0.25	7.20	BDL	BDL	0.86	BDL	BDL	BDL
21.12.2015	24hrly	53.00	30.10	4.20	11.60	0.18	6.10	BDL	BDL	0.74	BDL	BDL	BDL
24.12.2015	24hrly	67.00	38.20	5.50	12.90	0.24	7.40	BDL	BDL	0.89	BDL	BDL	BDL
28.12.2015	24hrly	61.00	35.60	4.70	12.40	0.19	6.80	BDL	BDL	0.83	BDL	BDL	BDL
31.12.2015	24hrly	74.00	41.20	6.20	13.70	0.32	8.20	BDL	BDL	0.96	BDL	BDL	BDL
Monthly Average		**65.11**	**36.78**	**5.28**	**12.76**	**0.25**	**7.28**	**BDL**	**BDL**	**0.88**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10** :- 5 µg/m³ ; **PM-2.5**:- 2 0 µg/m³ ; **SO2** :- 4 µg/m³ ; **NOx**:- 9µg/m³ ; **CO**:- 0.1 mg/m³ ;**Ozone**:- 5µg/m³ ; **Ni**:- 0.05 ng/m³ ; **Pb**:- 0.00005 µg/m³ ; **As** :- 0.05ng/m³ ; **NH3**:- 20µm³ ; **B(a)P** :- 2 ng/m³; **Benzene**:- 0.1 µg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2810 *Date:* 04. 01. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : Near GATE No-2

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
03.12.2015	24hrly	51.00	29.30	BDL	11.20	0.14	5.80	BDL	BDL	0.70	BDL	BDL	BDL
07.12.2015	24hrly	68.00	38.10	5.80	12.90	0.27	7.70	BDL	BDL	0.88	BDL	BDL	BDL
10.12.2015	24hrly	57.00	31.40	4.40	11.60	0.20	6.40	BDL	BDL	0.76	BDL	BDL	BDL
14.12.2015	24hrly	72.00	39.60	6.10	13.50	0.30	8.20	BDL	BDL	0.95	BDL	BDL	BDL
17.12.2015	24hrly	59.00	33.50	4.70	12.20	0.21	6.90	BDL	BDL	0.81	BDL	BDL	BDL
21.12.2015	24hrly	47.00	28.40	BDL	11.20	0.16	5.70	BDL	BDL	0.65	BDL	BDL	BDL
24.12.2015	24hrly	62.00	35.60	5.10	12.50	0.21	7.10	BDL	BDL	0.82	BDL	BDL	BDL
28.12.2015	24hrly	56.00	31.20	4.30	11.90	0.17	6.30	BDL	BDL	0.79	BDL	BDL	BDL
31.12.2015	24hrly	70.00	38.90	5.80	13.20	0.29	7.80	BDL	BDL	0.91	BDL	BDL	BDL
Monthly Average		**60.22**	**34.00**	**4.91**	**12.24**	**0.22**	**6.88**	**BDL**	**BDL**	**0.81**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	…	…	…	…
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS(INDIA)PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008,14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail: emails@ssenvironics.com

Ref No: SSE/15/R-3019 *Date:* 03. 02. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Ore Stack Yard Area (Near Well Pump)**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2
CPCB Standard	24hrly	100	60	80	80	4 (1 hr)	180 (1hr)	1.0	400	...	...	...	...
04.01.2016	24hrly	57.00	31.40	4.50	12.10	0.16	6.60	BDL	BDL	0.78	BDL	BDL	BDL
07.01.2016	24hrly	44.00	26.90	BDL	10.70	0.13	5.10	BDL	BDL	0.65	BDL	BDL	BDL
11.01.2016	24hrly	65.00	37.20	5.10	12.60	0.22	7.20	BDL	BDL	0.83	BDL	BDL	BDL
14.01.2016	24hrly	52.00	29.10	BDL	11.70	0.14	6.00	BDL	BDL	0.77	BDL	BDL	BDL
18.01.2016	24hrly	49.00	28.60	BDL	11.30	0.13	5.70	BDL	BDL	0.71	BDL	BDL	BDL
21.01.2016	24hrly	42.00	25.30	BDL	10.60	0.11	5.00	BDL	BDL	0.65	BDL	BDL	BDL
25.01.2016	24hrly	57.00	31.40	4.70	12.20	0.19	6.60	BDL	BDL	0.79	BDL	BDL	BDL
28.01.2016	24hrly	49.00	28.60	4.40	10.90	0.14	5.30	BDL	BDL	0.68	BDL	BDL	BDL
Monthly Average		**51.88**	**29.81**	**4.34**	**11.51**	**0.15**	**5.94**	**BDL**	**BDL**	**0.73**	**BDL**	**BDL**	**BDL**

BDL Values: **PM-10** :- 5 μg/m³ ; **PM-2.5**:- 2 0 μg/m³ ; **SO2** :- 4 μg/m³ ; **NOx**:- 9μg/m³ ; **CO**:- 0.1 mg/m³ ; **Ozone**:- 5μg/m³ ; **Ni**:- 0.05 ng/m³ ; **Pb**:- 0.00005 μg/m³ ; **As** :- 0.05ng/m³ ; **NH_3**:- 20μm³ ; **B(a)P** :- 2 ng/m³ ; **Benzene**:- 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008,14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"

At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha

Tele Fax: 0674-2471574, E-mail: emails@ssenvironics.com

Ref No: SSE/15/R-3018 *Date:* 03. 02. 2016

AMBIENT AIR QUALITY RESULTS

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NO_x Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammonia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
04.01.2016	24hrly	66.00	37.50	5.40	12.90	0.25	7.40	BDL	BDL	0.89	BDL	BDL	BDL
07.01.2016	24hrly	51.00	29.10	BDL	11.40	0.17	5.90	BDL	BDL	0.74	BDL	BDL	BDL
11.01.2016	24hrly	74.00	41.50	6.20	13.70	0.32	8.20	BDL	BDL	0.95	BDL	BDL	BDL
14.01.2016	24hrly	63.00	35.80	4.90	12.50	0.21	7.10	BDL	BDL	0.86	BDL	BDL	BDL
18.01.2016	24hrly	59.00	33.40	4.40	12.20	0.19	6.60	BDL	BDL	0.81	BDL	BDL	BDL
21.01.2016	24hrly	50.00	28.60	BDL	11.40	0.15	5.80	BDL	BDL	0.74	BDL	BDL	BDL
25.01.2016	24hrly	68.00	37.90	5.60	13.10	0.26	7.60	BDL	BDL	0.92	BDL	BDL	BDL
28.01.2016	24hrly	56.00	31.20	5.30	11.80	0.19	6.40	BDL	BDL	0.79	BDL	BDL	BDL
Monthly Average		**60.88**	**34.38**	**4.98**	**12.38**	**0.22**	**6.88**	**BDL**	**BDL**	**0.84**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD.

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008,14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"

At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha

Tele Fax: 0674-2471574, E-mail: emails@ssenvironics.com

Ref No: SSE/15/R-3017 *Date:* 03. 02. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near GATE No-2**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
04.01.2016	24hrly	62.00	35.80	4.90	12.40	0.19	7.10	BDL	BDL	0.82	BDL	BDL	BDL
07.01.2016	24hrly	47.00	28.40	BDL	11.10	0.15	5.50	BDL	BDL	0.69	BDL	BDL	BDL
11.01.2016	24hrly	69.00	37.90	5.60	13.30	0.28	7.70	BDL	BDL	0.89	BDL	BDL	BDL
14.01.2016	24hrly	56.00	31.20	4.30	12.10	0.17	6.50	BDL	BDL	0.80	BDL	BDL	BDL
18.01.2016	24hrly	54.00	30.00	BDL	11.80	0.16	6.20	BDL	BDL	0.76	BDL	BDL	BDL
21.01.2016	24hrly	47.00	27.60	BDL	11.00	0.13	5.40	BDL	BDL	0.69	BDL	BDL	BDL
25.01.2016	24hrly	61.00	35.50	5.20	12.60	0.22	7.20	BDL	BDL	0.85	BDL	BDL	BDL
28.01.2016	24hrly	52.00	29.40	4.80	11.30	0.16	5.90	BDL	BDL	0.73	BDL	BDL	BDL
Monthly Average		**56.00**	**31.98**	**4.60**	**11.95**	**0.18**	**6.44**	**BDL**	**BDL**	**0.78**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10** :- 5 μg/m³ ; **PM-2.5**:- 2.0 μg/m³ ; **SO2** :- 4 μg/m³ ; **NOx**:- 9μg/m³ ; **CO**:- 0.1 mg/m³ ;**Ozone**:- 5μg/m³ ; **Ni**:- 0.05 ng/m³ ; **Pb**:- 0.00005 μg/m³ ; As :- 0.05ng/m³ ; NH_3:- 20μm³ ; **B(a)P** :- 2 ng/m³; **Benzene**:- 0.1 μg/m³

FOR SS ENVIRONICS (INDIA) PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-3340 *Date:* 03. 03. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Ore Stack Yard Area (Near Well Pump)**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10µm) µg/m³	$PM_{2.5}$ (Particulate Matter size <2.5µm) µg/m³	SO_2 Sulfur Dioxide µg/m³	NO_x Oxides of Nitrogen µg/m³	CO Carbon monoxide mg/m³	O_3 Ozone µg/m³	Pb Lead µg/m³	NH_3 Ammo-nia µg/m³	C_6H_6 Benzene µg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
01.02.2016	24hrly	64.00	37.20	5.20	12.60	0.23	7.20	BDL	BDL	0.82	BDL	BDL	BDL
04.02.2016	24hrly	49.00	28.60	4.40	11.20	0.15	5.80	BDL	BDL	0.69	BDL	BDL	BDL
08.02.2016	24hrly	57.00	31.50	4.20	11.50	0.19	6.10	BDL	BDL	0.75	BDL	BDL	BDL
11.02.2016	24hrly	46.00	27.10	BDL	11.10	0.13	5.40	BDL	BDL	0.63	BDL	BDL	BDL
15.02.2016	24hrly	61.00	33.80	4.90	12.40	0.22	6.90	BDL	BDL	0.79	BDL	BDL	BDL
18.02.2016	24hrly	54.00	30.20	BDL	11.90	0.14	6.10	BDL	BDL	0.74	BDL	BDL	BDL
22.02.2016	24hrly	58.00	32.60	4.60	12.00	0.19	6.60	BDL	BDL	0.72	BDL	BDL	BDL
25.02.2016	24hrly	43.00	25.90	BDL	10.80	0.12	5.30	BDL	BDL	0.63	BDL	BDL	BDL
29.02.2016	24hrly	48.00	27.70	BDL	11.50	0.14	5.70	BDL	BDL	0.68	BDL	BDL	BDL
Monthly Average		**53.33**	**30.51**	**4.37**	**11.67**	**0.17**	**6.12**	**BDL**	**BDL**	**0.72**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 µg/m³ ; **PM-2.5:-** 2 0 µg/m³ ; **SO2 :-** 4 µg/m³ ; **NOx:-** 9µg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5µg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.0005 µg/m³ ; As :- 0.05ng/m³ ; NH_3:- 20µm³ ; **B(a)P :-** 2 ng/m³ ; **Benzene:-** 0.1 µg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD.

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-3339 *Date:* 03. 03. 2016

AMBIENT AIR QUALITY RESULTS

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near MAIN GATE**

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammo-nia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
01.02.2016	24hrly	74.00	41.80	6.10	13.80	0.32	8.20	BDL	BDL	0.96	BDL	BDL	BDL
04.02.2016	24hrly	59.00	33.50	5.40	12.20	0.20	6.60	BDL	BDL	0.82	BDL	BDL	BDL
08.02.2016	24hrly	65.00	37.20	5.20	12.70	0.26	7.10	BDL	BDL	0.87	BDL	BDL	BDL
11.02.2016	24hrly	55.00	30.10	4.20	11.80	0.18	6.30	BDL	BDL	0.77	BDL	BDL	BDL
15.02.2016	24hrly	71.00	39.60	5.70	13.40	0.29	7.90	BDL	BDL	0.93	BDL	BDL	BDL
18.02.2016	24hrly	63.00	35.70	5.10	12.60	0.22	7.10	BDL	BDL	0.85	BDL	BDL	BDL
22.02.2016	24hrly	68.00	37.90	5.60	13.10	0.26	7.60	BDL	BDL	0.91	BDL	BDL	BDL
25.02.2016	24hrly	53.00	30.10	BDL	11.70	0.17	6.10	BDL	BDL	0.74	BDL	BDL	BDL
29.02.2016	24hrly	58.00	33.60	4.60	12.40	0.19	6.60	BDL	BDL	0.80	BDL	BDL	BDL
Monthly Average		**62.89**	**35.50**	**5.10**	**12.63**	**0.23**	**7.06**	**BDL**	**BDL**	**0.85**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	...	...	...	...
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 5μg/m³ ; **CO:-** 0.1 mg/m³ ;**Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS(INDIA)PVT. LTD

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-3338 *Date:* 03. 03. 2016

Name of the Industry : FAP JODA - Tata Steel Ltd.

Name of the Sampling Location : **Near GATE No-2**

AMBIENT AIR QUALITY RESULTS

Date	Time weighted Average	PM_{10} (Particulate Matter size <10μm) μg/m³	$PM_{2.5}$ (Particulate Matter size <2.5μm) μg/m³	SO_2 Sulfur Dioxide μg/m³	NOx Oxides of Nitrogen μg/m³	CO Carbon monoxide mg/m³	O_3 Ozone μg/m³	Pb Lead μg/m³	NH_3 Ammonia μg/m³	C_6H_6 Benzene μg/m³	Benzo(a) Pyrene ng/m³	As Arsenic ng/m³	Ni Nickel ng/m³
01.02.2016	24hrly	69.00	38.50	5.80	13.10	0.28	7.80	BDL	BDL	0.89	BDL	BDL	BDL
04.02.2016	24hrly	54.00	30.10	4.90	11.90	0.17	6.20	BDL	BDL	0.75	BDL	BDL	BDL
08.02.2016	24hrly	61.00	33.70	4.60	12.10	0.22	6.50	BDL	BDL	0.81	BDL	BDL	BDL
11.02.2016	24hrly	49.00	28.60	BDL	11.40	0.15	5.90	BDL	BDL	0.69	BDL	BDL	BDL
15.02.2016	24hrly	66.00	37.40	5.20	12.90	0.26	7.30	BDL	BDL	0.84	BDL	BDL	BDL
18.02.2016	24hrly	58.00	32.10	4.40	12.20	0.19	6.40	BDL	BDL	0.79	BDL	BDL	BDL
22.02.2016	24hrly	62.00	35.60	5.20	12.60	0.22	7.10	BDL	BDL	0.84	BDL	BDL	BDL
25.02.2016	24hrly	49.00	28.70	BDL	11.30	0.14	5.80	BDL	BDL	0.69	BDL	BDL	BDL
29.02.2016	24hrly	53.00	29.40	4.40	12.10	0.16	6.20	BDL	BDL	0.73	BDL	BDL	BDL
Monthly Average		**57.89**	**32.68**	**4.72**	**12.18**	**0.20**	**6.58**	**BDL**	**BDL**	**0.78**	**BDL**	**BDL**	**BDL**
CPCB Standard	**24hrly**	**100**	**60**	**80**	**80**	**4 (1 hr)**	**180 (1hr)**	**1.0**	**400**	…	…	…	…
Method of Analysis & Code of Method		Gravimetric Method IS: 5182,Part-23	Gravimetric Method IS: 5182,Part-23	Improved West-Gaeke Method IS: 5182,Part-2	Modified Jacob & Hochheiser (Na. Arsenite) IS: 5182 Part-6	Non Dispersive Infrared Spectroscopy (NDIR) IS : 5182 Part-10	1.Chemiluminescence 2. Chemical Method IS: 5182 Part-9	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. IS: 5182 Part-22	1.Chemiluminescence 2. Indophenol Blue Method APHA-401	Gas Chromatography IS: 5182 Part-11	Solvent extraction followed by GC analysis IS: 5182 Part-12	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2	AAS/ICP Method After Sampling on EPM 2000 or Equivalent Filter Paper. USEPA/IO3.2

BDL Values: **PM-10 :-** 5 μg/m³ ; **PM-2.5:-** 2 0 μg/m³ ; **SO2 :-** 4 μg/m³ ; **NOx:-** 9μg/m³ ; **CO:-** 0.1 mg/m³ ; **Ozone:-** 5μg/m³ ; **Ni :-** 0.05 ng/m³ ; **Pb:-** 0.00005 μg/m³ ; **As :-** 0.05ng/m³ ; **NH_3:-** 20μm³ ; **B(a)P :-** 2 ng/m³; **Benzene:-** 0.1 μg/m³

FOR S.S.ENVIRONICS (INDIA) PVT. LTD

A Group concerned with Environmental Pollution

Annexure- II

Stack Emission Monitoring Report from 01-10-2015 To 31-03-2016

S.S.Environics (India) Pvt. Ltd.
(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)
Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2031 *Date:* 05. 10. 2015

STACK EMISSION MONITORING REPORT
For the Month of September 2015

1. Name of the Industry : Ferro Alloys Plant-Joda, Tata Steel Ltd.
2. Date of Monitoring : 28.09.2015
3. Date of Analysis : 01.10.2015
4. Time of Monitoring : 1. Furnace – I
   2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	58	47
Average Velocity mtr/sec	CPCB Guidlines	11.4	9.4
Average Sampling flow rate ltr/min	CPCB Guidlines	14	14
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	38.2	40.6
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	13.1	14.9
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	7.6	8.8

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

For S.S.Environics (India) Pvt. Ltd

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2173 *Date:* 03. 11. 2015

STACK EMISSION MONITORING REPORT

For the Month of October 2015

1.	Name of the Industry	:	Ferro Alloys Plant-Joda, Tata Steel Ltd.
2.	Date of Monitoring	:	12.10.2015
3	Date of Analysis	:	14.10.2015
4.	Time of Monitoring	:	1. Furnace – I 2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	61	54
Average Velocity mtr/sec	CPCB Guidlines	10.9	10.3
Average Sampling flow rate ltr/min	CPCB Guidlines	15	15
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	33	29
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	12.4	11.6
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	10.2	9.3

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

S.S. Environics (India) Pvt. Ltd. BBSR

For S.S.Environics (India) Pvt. Ltd

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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Ref No: SSE/15/R-2394

Date: 03. 12. 2015

STACK EMISSION MONITORING REPORT

For the Month of November 2015

1. Name of the Industry : Ferro Alloys Plant-Joda, Tata Steel Ltd.
2. Date of Monitoring : 28.11.2015
3. Date of Analysis : 30.11.2015
4. Time of Monitoring : 1. Furnace – I
   2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	58	60
Average Velocity mtr/sec	CPCB Guidlines	9.7	10.1
Average Sampling flow rate ltr/min	CPCB Guidlines	14	14
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	29	33
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	11.7	10.9
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	9.5	10.2

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

For S.S.Environics (India) Pvt. Ltd

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-2815 *Date:* 04. 01. 2016

STACK EMISSION MONITORING REPORT

For the Month of December 2015

1. Name of the Industry : Ferro Alloys Plant-Joda, Tata Steel Ltd.
2. Date of Monitoring : 28.12.2015
3. Date of Analysis : 30.12.2015
4. Time of Monitoring : 1. Furnace – I
   2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	56	59
Average Velocity mtr/sec	CPCB Guidlines	9.2	9.8
Average Sampling flow rate ltr/min	CPCB Guidlines	13	13
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	34	41
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	12.8	14.2
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	10.1	11.8

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

S.S.Environics (India) Pvt. Ltd. BBSR

For S.S.Environics (India) Pvt. Ltd

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008,14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
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Ref No: SSE/15/R-3024

Date: 03. 02. 2016

STACK EMISSION MONITORING REPORT

For the Month of January 2016

1. Name of the Industry : Ferro Alloys Plant-Joda, Tata Steel Ltd.
2. Date of Monitoring : 27.01.2016
3. Date of Analysis : 31.01.2016
4. Time of Monitoring : 1. Furnace – I
   2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	61	57
Average Velocity mtr/sec	CPCB Guidlines	9.4	86
Average Sampling flow rate ltr/min	CPCB Guidlines	14	14
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	38	31
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	13.9	11.6
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	9.2	8.4

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

For S.S.Environics (India) Pvt. Ltd.

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref No: SSE/15/R-3343 *Date:* 03. 03. 2016

STACK EMISSION MONITORING REPORT

For the Month of February 2016

1. Name of the Industry : Ferro Alloys Plant-Joda, Tata Steel Ltd.
2. Date of Monitoring : 29.02.2016
3. Date of Analysis : 02.03.2016
4. Time of Monitoring : 1. Furnace – I
   2. Furnace – II

Parameters	Method of Testing	Stack Connected to Reduction Arc Furnace – I	Stack Connected to Reduction Arc Furnace – II
Flue gas Temperature °C	CPCB Guidlines	54	57
Average Velocity mtr/sec	CPCB Guidlines	11.4	10.6
Average Sampling flow rate ltr/min	CPCB Guidlines	14	14
Particulate Matter (PM) in mg/Nm³	IS: 11255, Part-1	35	42
Sulfur dioxide (SO_2) mg/Nm³	IS: 11255, PART-2	13.4	14.1
Oxides Nitrogen (NOx) mg/Nm³	IS: 11255, PART-7	10.7	11.9

N.B: Permissible Limit for Particulate Matter is 100mg/Nm³.

S.S. Environics (India) Pvt. Ltd. BBSR

For S.S.Environics (India) Pvt. Ltd

Annexure – III

Mobile High Velocity Water Sprinkler cum Mist Canon

Dry Fogging System for Fugitive dust suppression

Annxure - IV

Fume Extraction System

Fume Extraction System For existing Plant

Annexure – V

Sewage Treatment Plant Installed at FAP,Joda

Annexure – VI

Ground water Analysis Report

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"

At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha

Tele Fax: 0674- 2471574; E-mail: emails@ssenvironics.com

Ref No.: SSE/15/R-2824 *Date:* 04.01.2016

GROUND WATER QUALITY ANALYSIS REPORT

Name of the Industry : FAP Joda, Tata Steel Ltd.
Sample collected by : M/s. S.S Environics (I) Pvt. Ltd

Sampling location : TW1- Test well at Upstream of Sludge pit
TW2- Test well at Downstream of Sludge pit

Date of Sampling : 19.12.2015
Date of Analysis : 22.12.2015

Sl No.	Parameter	Unit	Standard as per IS-10500	Analysis Results	
				TW1	TW2
1	Calcium (as Ca)	mg/l	75	9.1	9.4
2	Magnesium (as Mg)	mg/l	-	6.8	7.1
3	Manganese (as Mn)	mg/l	0.1	0.024	0.037

For S.S. Environics (India) Pvt. Ltd.

S.S. ENVIRONICS (INDIA) PVT. LTD. BBSR

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

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Ref No.: SSE/15/R-2028

Date: 05.10.2015

GROUND WATER QUALITY ANALYSIS REPORT

Name of the Industry : FAP Joda, Tata Steel Ltd.
Sample collected by : M/s. S.S Environics (I) Pvt. Ltd

Sampling location : TW1- Test well at Upstream of Sludge pit
TW2- Test well at Downstream of Sludge pit

Date of Sampling : 24.09.2015
Date of Analysis : 26.09.2015

Sl No.	Parameter	Unit	Standard as per IS-10500	Analysis Results	
				TW1	TW2
1	Calcium (as Ca)	mg/l	75	9.9	10.4
2	Magnesium (as Mg)	mg/l	-	7.4	7.7
3	Manganese (as Mn)	mg/l	0.1	0.038	0.051

For S.S. Environics (India) Pvt. Ltd.

Annexure VII

Risk & Disaster Mitigation Plan submission covering Letter

TATA

Ref. No. FAPJ/ 4251 /2016 Dated : 01.02.2016

To
The Chairman
Orissa Pollution Control Board
Paribesh Bhawan
A/118,Nilkantha Nagar
Unit-VIII ,Bhubaneswar - 751012

Sub : Submission of Risk & Disaster Management Plant along with the mitigation measures for expansion of Ferro Manganese Plant, Joda.

Sir,

It may kindly be aware that with reference to Environment Clearance issued for expansion of Ferro Manganese Plant, Joda, vide F. No. J-11011/03/2012-IA.II (I) dated 5th November, 2015, there is a specific condition mentioned in clause (xi) for submission of Risk & Disaster Management Plan along with the mitigation measures.

As such, we hereby enclose the Risk & Disaster Management Plan along with the mitigation measures for expansion of Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA, Silico Manganese Plant of 0.06 MTPA and Manganese Sinter Plant of 0.05 MTPA.
Thanking you,

Yours faithfully,
For TATA STEEL Ltd.

HEAD
FERRO ALLOYS PLANT, JODA

Encl : as above.

Received 4/2/16

No. ..... DL .....
RECEIVED
4 FEB 2016
S.P.C. BOARD
BHUBANESWAR-12

TATA STEEL LIMITED
Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Risk & Disaster Management Plan Submitted to OSCPCB,Bhubaneswar

TATA

Ref. No. FAPJ/ 4250 /2016 Dated : 01.02.2016

To
The Additional Principal Chief Conservator of Forests(C)
Ministry of Environment & Forests
Regional office (EZ)
A/3, Chandersekharpur,
Bhubaneswar - 751023

Sub : Submission of Risk & Disaster Management Plant along with the mitigation measures for expansion of Ferro Manganese Plant, Joda.

Sir,

It may kindly be aware that with reference to Environment Clearance issued for expansion of Ferro Manganese Plant, Joda, vide F. No. J-11011/03/2012-IA.II (I) dated 5th November, 2015, there is a specific condition mentioned in clause (xi) for submission of Risk & Disaster Management Plan along with the mitigation measures.

As such, we hereby enclose the Risk & Disaster Management Plan along with the mitigation measures for expansion of Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA, Silico Manganese Plant of 0.06 MTPA and Manganese Sinter Plant of 0.05 MTPA.
Thanking you,

Yours faithfully,
For TATA STEEL Ltd.

HEAD
FERRO ALLOYS PLANT, JODA

Encl : as above.

GOVT. OF INDIA
MoEF & CC, Eastern R.O.
Bhubaneswar-751023
04 FEB 2016
RECEIVED

TATA STEEL LIMITED
Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Risk & Disaster Management Plan Submitted to MOEF, Regional Office,Bhubaneswar

Ref. No. FAPJ/4249 /2016 Dated : 01:02:2016

To
The Chairman,
Central Pollution Control Board,
Parivesh Bhavan
CBD-cum-Office Complex,
East Arjun Nagar
New Delhi – 110 032

Sub : Submission of Risk & Disaster Management Plant along with the mitigation measures for expansion of Ferro Manganese Plant, Joda.

Sir,

It may kindly be aware that with reference to Environment Clearance issued for expansion of Ferro Manganese Plant, Joda, vide F. No. J-11011/03/2012-IA.II (I) dated 5th November, 2015, there is a specific condition mentioned in clause (xi) for submission of Risk & Disaster Management Plan along with the mitigation measures.

As such, we hereby enclose the Risk & Disaster Management Plan along with the mitigation measures for expansion of Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA, Silico Manganese Plant of 0.06 MTPA and Manganese Sinter Plant of 0.05 MTPA.
Thanking you,

Yours faithfully,
For TATA STEEL Ltd.

HEAD
FERRO ALLOYS PLANT, JODA

Encl : as above.

TATA STEEL LIMITED
Ferro Alloys Plant, Joda-758034, Dist. Keonjhar, Odisha, India
Tel. : 09238100945, e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel. 91 22 66658282, Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260, Website : www.tatasteel.com

Risk & Disaster Management Plan Submitted to CPCB, New Delhi

Annexure VIII

Noise Monitoring Report From 01-10-2015 to 31-03-2016

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref. No.: SSE/15/R-2686 *Date:* 04.01.2016

NOISE MONITORING REPORT
For the month of December-2015

Name of the Industry : FAP – Joda, Tata Steel Ltd
Date of the Monitoring : 17.12.2015 & 19.12.2015

Sl. No	Location	Maximum In dBA	Minimum In dBA
1	In front of Store	55.4	49.2
2	JCB 40X 1mtr distance	81.8	79.9
3	Near Weigh Bridge	75.9	68.4
4	Loader 2 meters distance	78.4	74.5
5	Crusher Area	81.2	78.6
6	Near Back Gate	70.1	66.9
7	Breaking Yard (during work)	63.2	61.4
8	Plot No. 4B	54.1	51.9
9	Arc Furnace Ground floor	64.7	62.1
10	Arc Furnace floor	76.7	63.1
11	Pit side Area	75.3	61.4
12	Near Cooling Tower	72.4	70.1
13	Pump house (Inside)	83.7	72.4
14	Telphar Floor	79.9	83.8
15	GCP Floor (1 meter away from blower)	79.5	74.4
16	ACS Area	72.8	80.7
17	CMDS Area	73.2	65.1
18	Office Area	64.8	59.8
19	Quality Control Analysis Lab	65.9	61.6
20	Laboratory Crusher Room (During Work)	85.5	79.7
21	Canteen Kitchen	85.5	79.1
22	Near Main Gate	68.0	61.7
23	D.G. Room	81.7	78.0
24	Locomotive During Operation	88.9	81.7
25	Near cooling Tower	83.7	77.2

Noise Standards For Auto Mobiles, Equipment's & Work Zone		**in dBA**
i	Passenger or commercial vehicles up to 4tonns	85
ii	Passenger or commercial vehicles above 4tonns and up to 12 tons	89
iii	Passenger or commercial vehicles exceeding 12 tons	91
iv	Work Zone Standard	85

Locations where noise level more than 80 dB (A) earmuffs are provided.

S.S. Environics (India) Pvt. Ltd. BBSR

For S.S. Environics (India) Pvt. Ltd.

A Group concerned with Environmental Pollution

S.S.Environics (India) Pvt. Ltd.

(An ISO 9001:2008, 14001:2004 and OHSAS 18001:2007 Certified Company)

Plot No-361/2314 "Sustenance Tower"
At: Patrapada, P.O: Dumuduma, Dist: Khurda, Bhubaneswar-751 019, Odisha
Tele Fax: 0674-2471574, E-mail : emails@ssenvironics.com

Ref. No.: SSE/16/R-0183 *Date:* 04.04.2016

NOISE MONITORING REPORT
For the month of March-2016

Name of the Industry : FAP – Joda, Tata Steel Ltd
Date of the Monitoring : 24.03.2016

Sl. No	Location	Maximum In dBA	Minimum In dBA
1	In front of Store	54.7	48.5
2	JCB 40X 1mtr distance	82.6	80.7
3	Near Weigh Bridge	77.0	69.5
4	Loader 2 meters distance	77.5	73.6
5	Crusher Area	81.7	79.1
6	Near Back Gate	71.2	68.0
7	Breaking Yard (during work)	62.3	60.5
8	Plot No. 4B	54.6	52.4
9	Arc Furnace Ground floor	64.0	61.4
10	Arc Furnace floor	77.5	63.9
11	Pit side Area	74.4	60.5
12	Near Cooling Tower	73.5	71.2
13	Pump house (Inside)	82.8	71.5
14	Telphar Floor	80.4	84.3
15	GCP Floor (1 meter away from blower)	80.6	75.5
16	ACS Area	71.9	79.8
17	CMDS Area	73.7	65.6
18	Office Area	64.1	59.1
19	Quality Control Analysis Lab	65.0	60.7
20	Laboratory Crusher Room (During Work)	86.0	80.2
21	Canteen Kitchen	84.6	78.2
22	Near Main Gate	68.5	62.2
23	D.G. Room	81.0	77.3
24	Locomotive During Operation	89.7	82.5
25	Near cooling Tower	82.8	76.3
Noise Standards For Auto Mobiles, Equipment's & Work Zone		**in dBA**	
i	Passenger or commercial vehicles up to 4tonns	85	
ii	Passenger or commercial vehicles above 4tonns and up to 12 tons	89	
iii	Passenger or commercial vehicles exceeding 12 tons	91	
iv	Work Zone Standard	85	

Locations where noise level more than 80 dB (A) earmuffs are provided.

S.S. Environics (India) Pvt. Ltd. BBSR

For S.S. Environics (India) Pvt. Ltd.

Annexure IX

Periodic Medical Examination Records

[FORM NO. 31-A]

Health Record

~~Pre-Employment~~ / Periodical

[Prescribed under Rule 62-J]

Date : 20/12/15 Sl No : **MS-01**

1. Name of the Factory:	FAP,JODA TATA STEEL
2. Name of the Employee:	PALLV KISHOR BARIK
3. Employee Distinguishing No:	3000095662
4. Age of the employee:	21/M
Identification Mark:	BLACKMOLE UPPER PART OF LT. CHEST
Nature of the job:	LAB ASST.(Q.C LAB)
5. Date of Employement:	2013
6. Length of the service in years:	2
7. General Survey: Health:	Good / ~~Fair~~ / ~~Poor~~
Height: 165 Cms.	Weight: 81 Kgs.
8. Blood Group: "O"	Rh typing: POSITIVE
9. Eye Vision:	Normal / ~~Abnormal~~
Use of glass:	Yes / ~~No~~
10. Hearing:	Normal / ~~Abnormal~~
Audiometry:	NORMAL
11. Respiratory Syatem & Chest Measurment:	
Inspiration: 111 Cm.	Expiration: 107 Cm.
Respiration Rate: 22 / minute	
Chest x-Ray: NORMAL	
PFT: RESTRICTION MODERATE	
Remarks if any: NIL	

12. Cardio Vascular System:	Pulse rate : 66/min
B.P: 130/80 mm of Hg	Heart Sound: S1S2 NORMAL
ECG: NORMAL	
Remarks if any:	NIL
13. Abdomen Tenderness:	~~Yes~~ / No
Liver:	Normal / ~~Abnormal~~
Spleen:	Normal / ~~Abnormal~~
14. Nervous System:	History of Fits: ~~Yes~~/ No
	Epilepsy: ~~Yes~~ / No
Remarks on Mental Health:	GOOD
15. Locomotor System :	Normal / ~~Abnormal~~
16. Skin Condition :	Normal / ~~Abnormal~~
Remarks on any skin disease noticed:	NIL
17. Hernia :	~~Present~~ / Absent
18. Hydrocele :	~~Present~~ / Absent / ~~N/A~~
19. Present Complaint if any :	NO

20. **Summary of abnormal finding:**

i) Heart Disease :	NO
ii) Hypertension :	NO
iii) Diabetes Mellitus :	NO
iv) T.B. :	ABSENT
v) Epilepsy :	ABSENT
vi) Poisoning :	ABSENT
vii) Others :	NIL
viii) Occupational disease(If any):	NIL

21. Recommendation if any : NIL
For any further investigation:

Pallov Kishor Barik

Signature of the Employee:

Signature of Medical officer :
DR B. N. MOHAPATRA, MBBS. AFIH(Mumbai)
Occupational Health Consultant
Trained in ILO Classification of Pneumocon
Trained in Cardiology
Regd. No. 7338 (Orissa), 219 (DGFASLI)

Annexure X

Intimation Letter oF EC to Zila Parishad

Ref : FAPJ/ 4135 /2015
Date : 9th Nov, 2015

To
Chairman
Joda Municipality
Joda.

Sub: Intimation of obtaining Environmental Clearance under EIA Notification-2006 for the expansion of Ferro Alloys Plant of TATA STEEL Ltd., Joda, Keonjhar District.

Dear Sir/ Madam,

We would like to inform you that Ministry of Environment Forests & Climate Change (MOEF&CC), Govt. Of India has granted Environmental Clearance for the expansion of capacity of our existing Ferro Manganese Plant from 0.0504 MTPA to 0.06 MTPA with 0.05 MTPA Sinter Plant & addition of 2*18 MVA SAF for 0.06 MTPA Slicn Manganese production at our Ferro Alloys Plant, Joda, Odisha vide letter No. F. No. J-11011/03/2012- IA II (I) dt 05.11.2015.

We therefore request your good-self to kindly acknowledge the receipt of above letter.

Yours Faithfully
F: Tata Steel Limited

HEAD
FERRO ALLOYS PLANT, JODA

JODA MUNICIPAL COUNCIL

Enclosed:

1. Xerox copy of Environmental Clearance

TATA STEEL LIMITED
Ferro Alloys Plant, Joda 758034, Dist. Keonjhar, Odisha, India
Tel : 06823-311094(5), e-mail : headoffice.fapj@tatasteel.com
Registered Office : Bombay House, 24, Homi Mody Street, Fort, Mumbai-400001, India
Tel: 91 22 66658282, Fax: 91 22 66657724
Corporate Identity Number : L27106MH1907PLC000260, Website : www.tatasteel.com

Annexure XI

Details of CSR funds allocated and released Expenditure against CSR Activities

ANNEXURE - II

DETAILS OF CSR funds allocated released and expenditure incurred				
Period	Year-wise Expenditure Planning (In Rs. Cr.)	Actual Expenditure for C.S.R. (In Rs.) (Year-wise)	Name of the C.S.R. Activities	Whether Completed or not
6	7	8	9	10
2010-11	8.50 Cr	8.40 Cr.	Health , Education, Livelihood. Rural Infrastructure. Major project: Road resurfacing inside Joda Municipalty from Ranasal Ghati to Banspani	completed
2011-12	26.00 Cr.	26.07 Cr	Health , Education, Livelihood. Rural Infrastructure. Major project: Keonjhar bus stand.	completed
2012-13	21.00 Cr	21.17 Cr.	Health , Education, Livelihood. Rural Infrastructure. Major project: Construction of Khandbondh Joribar Road.	completed
2013-14	15.00 Cr	15.21 Cr.	Health , Education, Livelihood. Rural Infrastructure. Major project: Road resurfacing inside Joda Municipalty.	completed
2014-15	24.00 Cr	24.98 Cr.	Health , Education, Livelihood. Rural Infrastructure. Major project: Municpality drinking water project and Kalyan Mandap.	Municipality drinking water project ongoing . All other projects completed.

HEAD
FERRO ALLOYS PLANT, JODA

FERROALLOYS PLAN
TATA STEEL
JODA

Annexure XII

Environmental Parameter Display board at Main Gate

Annexure XIII

Covering Letter of Form V, Environment statement submission

A.M.(S+E).

TATA

TATA STEEL LTD.
FERRO MANGANESE PLANT, JODA

Ref. No. FAPJ/ 4068 / /2015 Dated : 22/09/2015

The Member Secretary
Odisha Pollution Control Board
A/118, Nilakantha Nagar
Bhubaneswar

Sub : Submission of Environmental Statement.

Sir,

We are submitting one set of Annual Environmental Statement in respect of M/s Ferro Manganese Plant, Joda for the year ending 31st March, 2015.

This is for your kind perusal.

Thanking you,

Yours faithfully,
For : TATA STEEL LTD.

HEAD
FERRO MANGANESE PLANT,
JODA

Encl : as above.

Copy to -Regional Officer, OPCB,At-Baniapatt, College Road,Keonjhar - with enclosure.

TATA STEEL LTD.
Ferro Alloys & Minerals Division
Ferro Managanese Plant, Joda
Joda – 758034, Odisha, India
Tel : 09238100945,e-mail –head.office@tatasteel.com
Regd. Office : Bombay House, 24 Homi Mody Street, Mumbai – 400 001

Annexure XIV

Details of Publication on the Newspapers

Ferro Alloys Plant
M/s. Tata Steel Limited,
Joda, District- Keonjhar, Odisha

TATA
TATA STEEL

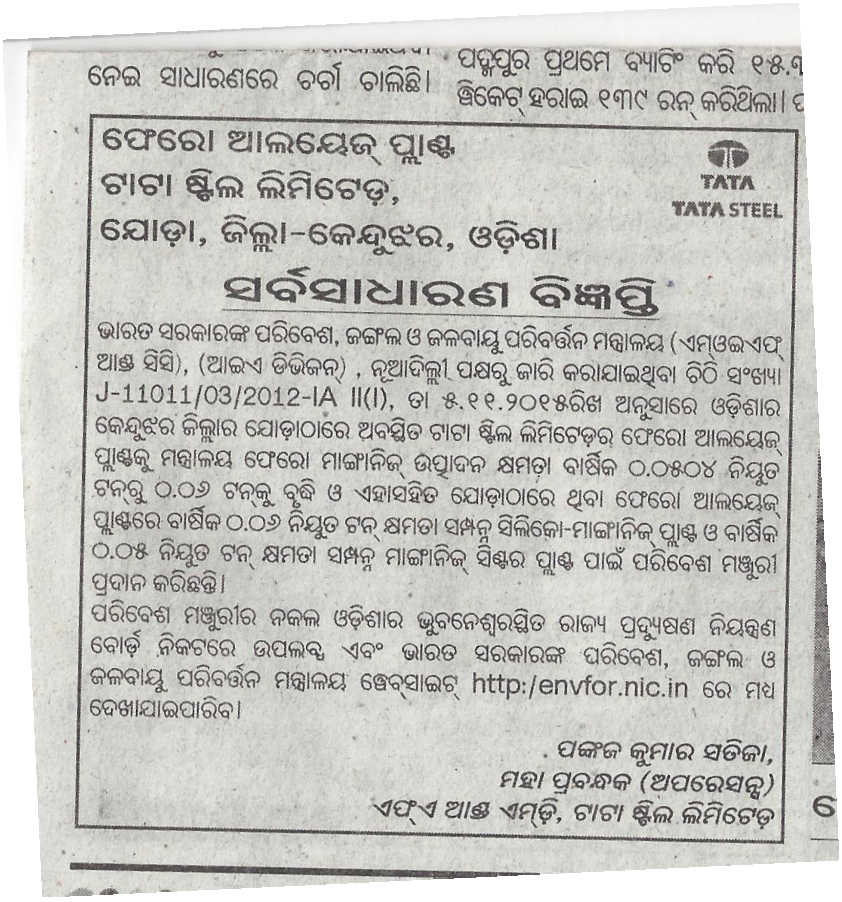
PUBLIC NOTICE

The Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India (IA Division), New Delhi has accorded Environmental Clearance vide letter no J-11011/03/2012-IA II(I), dated 05.11.2015 for expansion of Fe-Mn Alloy Plant of M/s Tata Steel Limited located at Joda, Keonjhar District, Odisha for enhancement of production of Ferro Manganese from 0.0504 MTPA to 0.06 MTPA and addition of 0.06 MTPA Silico-Manganese Plant and 0.05 MTPA Manganese Sinter Plant in existing Ferro Alloys Plant at Joda.

The copy of the Environmental Clearance is available with the State Pollution Control Board, Bhubaneswar, Odisha and may also be seen at the website of the Ministry of Environment, Forest and Climate Change at http:/envfor.nic.in.

-Sd-
Pankaj Kumar Satija,
General Manager (Operations),
FA & MD, Tata Steel Ltd

Published on The Statesman of 12th November 2015 Issue



ନେଇ ସାଧାରଣରେ ଚର୍ଚ୍ଚା ଚାଲିଛି। ପଦ୍ମପୁର ପ୍ରଥମେ ବ୍ୟାଟିଂ କରି ୧୫.୨ ଓ୍ୱିକେଟ୍ ହରାଇ ୧୩୯ ରନ୍ କରିଥିଲା।

ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟ
ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍,
ଯୋଡ଼ା, ଜିଲ୍ଲା-କେନ୍ଦୁଝର, ଓଡ଼ିଶା

TATA
TATA STEEL

ସର୍ବସାଧାରଣ ବିଜ୍ଞପ୍ତି

ଭାରତ ସରକାରଙ୍କ ପରିବେଶ, ଜଙ୍ଗଲ ଓ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ ମନ୍ତ୍ରାଳୟ (ଏମ୍ଓଇଏଫ୍ ଆଣ୍ଡ ସିସି), (ଆଇଏ ଡିଭିଜନ୍) , ନୂଆଦିଲ୍ଲୀ ପକ୍ଷରୁ ଜାରି କରାଯାଇଥିବା ଚିଠି ସଂଖ୍ୟା J-11011/03/2012-IA II(I), ତା ୫.୧୧.୨୦୧୫ରିଖ ଅନୁସାରେ ଓଡ଼ିଶାର କେନ୍ଦୁଝର ଜିଲ୍ଲାର ଯୋଡ଼ାଠାରେ ଅବସ୍ଥିତ ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍‌ର ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟକୁ ମନ୍ତ୍ରାଳୟ ଫେରୋ ମାଙ୍ଗାନିଜ୍ ଉତ୍ପାଦନ କ୍ଷମତା ବାର୍ଷିକ ୦.୦୫୦୪ ନିୟୁତ ଟନ୍‌ରୁ ୦.୦୬ ଟନ୍‌କୁ ବୃଦ୍ଧି ଓ ଏହାସହିତ ଯୋଡ଼ାଠାରେ ଥିବା ଫେରୋ ଆଲୟେଜ୍ ପ୍ଲାଣ୍ଟରେ ବାର୍ଷିକ ୦.୦୬ ନିୟୁତ ଟନ୍ କ୍ଷମତା ସମ୍ପନ୍ନ ସିଲିକୋ-ମାଙ୍ଗାନିଜ୍ ପ୍ଲାଣ୍ଟ ଓ ବାର୍ଷିକ ୦.୦୫ ନିୟୁତ ଟନ୍ କ୍ଷମତା ସମ୍ପନ୍ନ ମାଙ୍ଗାନିଜ୍ ସିଣ୍ଟର ପ୍ଲାଣ୍ଟ ପାଇଁ ପରିବେଶ ମଞ୍ଜୁରୀ ପ୍ରଦାନ କରିଛନ୍ତି।

ପରିବେଶ ମଞ୍ଜୁରୀର ନକଲ ଓଡ଼ିଶାର ଭୁବନେଶ୍ୱରସ୍ଥିତ ରାଜ୍ୟ ପ୍ରଦୂଷଣ ନିୟନ୍ତ୍ରଣ ବୋର୍ଡ଼ ନିକଟରେ ଉପଲବ୍ଧ ଏବଂ ଭାରତ ସରକାରଙ୍କ ପରିବେଶ, ଜଙ୍ଗଲ ଓ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ ମନ୍ତ୍ରାଳୟ ୱେବ୍‌ସାଇଟ୍ http:/envfor.nic.in ରେ ମଧ୍ୟ ଦେଖାଯାଇପାରିବ।

ପଙ୍କଜ କୁମାର ସଡିଜା,
ମହା ପ୍ରବନ୍ଧକ (ଅପରେସନ୍ସ)
ଏଫ୍ଏ ଆଣ୍ଡ ଏମ୍ଡି, ଟାଟା ଷ୍ଟିଲ ଲିମିଟେଡ୍

Published on Sambad of 13th November 2015 Issue

****