



**The Additional Principal Chief Conservator of Forest,  
Regional Office (Eastern Central Zone)  
Ministry of Environment, Forests and Climate Change, Govt. of India  
Bungalow No. A-2, Shyamali Colony, Ranchi – 834002, Jharkhand.**

Ref No. – JMB/ENV/KOCP/24/366/2023

May 29, 2023

Ref.: Environmental Clearance letter no. - J-11015/252/2005-IA.II (M) dated June 22, 2006

**Sub: Half Yearly Compliance Status Report of Environment Clearance conditions issued by MoEF&CC, New Delhi to Kalimela Open Cast Project, Tata Steel Limited, Dhanbad for the period October'22 to March'23**

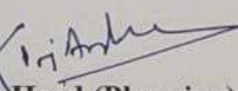
Dear Sir,

We are enclosing herewith compliance report for the period **October'22 to March'23** for the EC granted vide letter no.- J-11015/252/2005-IA.II(M), Dated-22<sup>nd</sup> June 2006 issued by Ministry of Environment, Forest and Climate Change, New Delhi.

We trust the information furnished is in line with your requirement.

Thanking you,

Yours faithfully,

  
**Head (Planning)  
Jharia Division, Tata Steel Ltd.**

Encl: As above.

Copy to: Member Secretary, CPCB, Eastern Zonal Office, Southend Conclave, 502, 5<sup>th</sup> Floor  
1582, Rajdanga Main Road, Kolkata -700107.

Copy to: Member Secretary, JSPCB, T.A. Division Building (Ground Floor), H.E.C, Dhurwa,  
Ranchi - 834004.

Copy to: Regional Officer, JSPCB, HIG-1 Sardar Patel Nagar, Housing Colony, Hirapur, Dhanbad

**HALF YEARLY COMPLIANCE REPORT  
(PERIOD: OCT'22 – MAR'23)**

**OCP KALIMELA PROJECT  
UNDER JAMADOBA COLLIERY**



**TATA STEEL LIMITED, JHARIA DIVISION**

**P.O.- JAMADOBA, DIST. - DHANBAD,  
STATE- JHARKHAND, PIN CODE – 828112.**

**ENVIRONMENTAL CLEARANCE GRANTED VIDE LETTER NO. - J-11015/252/2005-  
IA.II(M) DATED- 22<sup>ND</sup> JUNE 2006 ISSUED BY GOVT. OF INDIA, MINISTRY OF  
ENVIRONMENT & FOREST, NEW DELHI.**

**Compliance status of Environmental Clearance of Kalimela Open Cast Mining Project (0.34 MTPA) of M/s Tata Steel Ltd., Village Dungri, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/252/2005-IA.II (M) dated June 22, 2006**

S. No.	Condition	Compliance Status
<b>Specific Condition:</b>		
(i)	All the conditions stipulated by SPCB in their NOC no N-35 dated 31.01.2005 are to be implemented effectively.	NOC conditions are being complied with. The open cast operations have ceased, and no raw coal production is taking place.  Currently the backfilling of the mine void by the OB has been completed and biological reclamation work is in progress.
(ii)	The bund/embankment shall be designed taking into account highest flood level, based on past data, in the Damodar River/ Dungri Jore so as to guard against mine inundation.	The embankment exists along Dungri Jore. The HFL (Highest flood line) of Damodar river is way below the surface level of open cast mine hence bunds across the river is not necessary.
(iii)	Topsoil should be stacked properly with proper slope at earmarked sites and should not be kept active and shall be used for reclamation and development of green belt.	No further top soil will be generated as coal mining activity has been ceased. The back filling has been completed and the top soil is being used for biological reclamation of backfilled and OB area.
(iv)	OB should be stacked at earmarked external OB dumpsite(s) within ML area and shall be a maximum height of 60m only and consist of benches of 10m each. The ultimate slope of the dump shall not exceed 28°. Backfilling shall begin at the end of 3rd year in the decoaled area. Monitoring and management of existing reclaimed dumpsites should continue until the vegetation becomes self-sustaining. Compliance Status should be submitted to the MOEF and its regional office at Bhubaneswar on yearly basis.	OB was stacked within ML area at an area of 12 ha approx. About 24.08 lakh cum of OB generated has been stacked with an approximate height reached of 50 mts. The other conditions are being followed as well.  This OB has been used for backfilling the mine pit as part of our mine closure plan. Now the backfilling work has been completed and biological reclamation work is in progress.
(v)	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development, etc. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of slit material.	Catch drain and siltation ponds have been constructed to arrest the debris, silt and sediment flows from OB dumps. Collected water had been used for watering mine area, roads & plantation. Total length of catch drains was 2200 mts. Garland drains (about 1790 mts) had been completely constructed around the mine site to ensure runoff water during rainy season is properly drained off. Since mine area has not going to expand, no additional garland drains are required as of now.

**Compliance status of Environmental Clearance of Kalimela Open Cast Mining Project (0.34 MTPA) of M/s Tata Steel Ltd., Village Dungri, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/252/2005-IA.II (M) dated June 22, 2006**

(vi)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data	Retention wall (or Toe wall) of about 2200 mts. exists around the dump area to check run-off and siltation.
(vii)	The effluents from the coal washery shall be treated to prescribed norms before discharge from the lease.	There is no separate coal washery for OCP Kalimela. We have a central coal washery for Jamadoba group of mines, about 1.5 kms away, which has a closed water circuit system to maintain zero discharge.
(viii)	Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	There is no separate CHP for OCP Kalimela. The existing CHP for Jamadoba group of mines already has adequate measures in place such as water sprinkling system (fixed and movable) and dry fog system.
(ix)	Drills should be wet operated.	It is not applicable now as mining has ceased.
(x)	Controlled blasting should be practiced only during daytime with use of delay detonators. The mitigative measures for control of ground vibration and to arrest the fly rocks and boulders should be implemented.	It is not applicable now as mining has ceased.
(xi)	Area brought under afforestation includes reclaimed external OB dump (12.89 ha), backfilled area (25.15 ha), along ML boundary, along roads (0.45 ha) and in undisturbed area (1.14 ha) within the lease area by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	The backfilling work has been completed and the biological reclamation work is in progress .
(xii)	A progressive closure plan shall be implemented by reclamation of quarry area of 25.15 ha which shall be backfilled and afforested by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha. The balance 1.10 ha of decoaled area shall be converted into a water reservoir, the upper benches of which shall be gently sloped and stabilized and reclaimed with plantation.	The reclamation work is in progress as per the progressive mine closure Plan.  The mine closure plan of KOCP is under mining plan of Jamadoba Colliery (including MCP of Kalimela) has been approved by MOC, Delhi.
(xiii)	Conservation Plan for endangered species, if any, found in and around the project area shall be formulated, if required, in consultation with the State Forest and Wildlife Departments.	Not Applicable.

**Compliance status of Environmental Clearance of Kalimela Open Cast Mining Project (0.34 MTPA) of M/s Tata Steel Ltd., Village Dungri, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/252/2005-IA.II (M) dated June 22, 2006**

(xiv)	The company shall obtain prior approval of CGWA/ CGWB Regional Office for use of groundwater if any, for mining operations.	Not Applicable.
(xv)	Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity should be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board quarterly within one month of monitoring.	Now there will be no impact on ground water as mining has ceased. However, quality of groundwater is regularly analysed as required and attached in <b>Annexure-I</b>
(xvi)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Now there will be no impact on ground water as mining has ceased. However, quality of groundwater is regularly analysed as required and attached in <b>Annexure-I</b>
(xvii)	ETP should also be provided for workshop, coal washery and CHP wastewater.	It is not applicable. Though ETP for Central Workshop has been commissioned having facility of Oil & Grease Trap.
(xviii)	R&R shall not be less than the norms laid down by the State Government and shall be completed within a specified time-frame.	It is not applicable.
(xix)	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval.	It has been approved by MOC, Delhi and submitted to MoEF&CC.
(xx)	Consent to operate shall be obtained before starting mining operations.	Consent to operate has been obtained from JSPCB vide letter ref. No. SPCB/HO/RNC/CTO-13226858/2022/959 dated-04.07.2022 valid up to 30.09.2023.
<b>General Conditions:</b>		
(i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and forest.	All mining excavation activities are terminated. Reclamation work is in progress
(i)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	All mining excavation activities are terminated. Reclamation work is in progress.
(ii)	Four Ambient Air quality monitoring station should be established in the core zones as well as in the buffer zone SPM, RSPM, SO2	The operations have now ceased. The ambient air monitoring is done at 4 locations and the reports are attached as <b>Annexure-I</b>

**Compliance status of Environmental Clearance of Kalimela Open Cast Mining Project (0.34 MTPA) of M/s Tata Steel Ltd., Village Dungri, Tehsil Jharia, dist. Dhanbad, Jharkhand vide MoEFCC Letter no J-11015/252/2005-IA.II (M) dated June 22, 2006**

	and NOX monitoring location of the stations should be decided based on the metrological data & topographical features & environmentally & ecologically sensitive targets in consultation with SPCB.	
(iii)	Fugitive dust emissions (SPM & RSPM) from all the sources should be controlled regularly monitored & data recorded properly. Water spraying arrangement on haul roads, wagon loading, and dump trucks (loading & unloading) points should be provided & properly maintained.	Presently no coal excavation and coal transportation jobs are going on. However, water sprinkling on roads is being done regularly.
(iv)	Data on ambient air quality (SPM, RSPM, SOx & NOx) should be regularly submitted to the Ministry including its regional office at Bhubaneswar and to the SPCB & CPCB once in six months.	The ambient air monitoring is done at 4 locations and the reports are submitted to SPCB, CPCB & MoEFCC on half yearly basis ( <b>Annexure-I</b> ).
(v)	Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations of HEMM etc. All should be provided with Ear Plug/Muff.	It is not applicable now.
(vi)	Industrial waste water (Workshop and Waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharged. Oil and Grease trap should be installed before discharge of Work shop effluent.	There is no generation of wastewater.
(vii)	Vehicular emissions should be kept under control and regularly monitored. Vehicle used for transporting the mineral should be covered with tarpaulins and optimally loaded.	No mineral is being transported now. The vehicles carrying OB are only allowed to ply after securing full compliance on vehicle check list. Check list ensures the optimum load, good condition, emissions under limit.
(viii)	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the SPCB.	We have a fully equipped Environment Cell Laboratory with qualified personnel. The monitoring and analysis are also done at regular intervals by a NABL and JSPCB recognised laboratory
(ix)	Personnel working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspect. Occupational Health Surveillance programme of the worker should be under	It is not applicable now.

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	taken periodically to observe any contraction due to exposure to dust and to take corrective measures if needed.	
(x)	A separate Environmental Management cell with suitable qualified personnel should be set up under the control of a senior executive, who will report directly to the Head of the Company.	We have a separate Environmental Management Cell with four qualified personnel. The reporting of Environmental Cell is directly to General Manager of the Division.
(xi)	Funds earmarked for environmental protection measures should be kept in separate A/C and should not be diverted for other purposes. Year wise expenditure should be reported to this ministry and its regional office at Bhubaneswar.	The Environment Cell has a separate fund for Environmental protection measures and for complying with legal requirements.
(xii)	The regional office of this ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities shall extend full co-operation to the officer of regional office by furnishing the requisite Data/ information/ monitoring report.	Being complied. All data is being furnished in the compliance report and during inspection.

**AIR QUALITY REPORT**

Core zone & Buffer zone

Period- October'22 to December'22

No. of sampling points: 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	Latitude/ Longitude	Date	Weather Condition	SPM 24 Hourly Limit- 700 µg/m <sup>3</sup>	RSPM 24 Hourly Limit- 300 µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit- 120 µg/m <sup>3</sup>	NO <sub>x</sub> 24 Hourly Limit-120 µg/m <sup>3</sup>
Jamadoba Group Office	23°42'15.3" N/ 86°24'11" E	20.10.22	Clear	208.9	76.3	14.8	16.2
		10.11.22	Clear	236.7	88.2	15.8	17.3
		12.12.22	Clear	242.3	94.5	14.8	16.9
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m <sup>3</sup>	PM2.5 24 Hourly Limit- 60µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit- 80µg/m <sup>3</sup>	NO <sub>2</sub> 24 Hourly Limit- 80µg/m <sup>3</sup>
Digwadih 12 No. Colony	23°41'42" N/ 86°24'45.3" E	18.10.22	Clear	74.6	38.2	12.4	14.7
		08.11.22	Clear	80.2	46.5	13.7	14.1
		07.12.22	Clear	86.3	44.2	12.7	14.8
New Village Colony, Jamadoba	23°41'51" N/ 86°23'19" E	17.10.22	Clear	77.3	42.6	13.1	15.8
		03.11.22	Clear	89.4	49.2	14.8	16.2
		05.12.22	Clear	82.7	42.6	13.2	15.7
6&7 Pits Kalimandir colony	23°43'15" N/ 86°24'12" E	19.10.22	Clear	86.2	45.7	14.5	16.8
		07.11.22	Clear	78.6	42.6	12.4	14.9
		06.12.22	Clear	89.2	46.5	15.1	17.2



**Sr. Manager (Environment)**



**AIR QUALITY REPORT**  
Core zone & Buffer zone

Period- January'23 to March'23

No. of sampling points: 4

Core zone (as per Air quality standards for coal mines in EPA Notification, 1988)							
Location	Latitude/ Longitude	Date	Weather Condition	SPM 24 Hourly Limit- 700 µg/m <sup>3</sup>	RSPM 24 Hourly Limit- 300 µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit- 120 µg/m <sup>3</sup>	NO <sub>x</sub> 24 Hourly Limit-120 µg/m <sup>3</sup>
Jamadoba Group Office	23°42'15.3" N/ 86°24'11" E	09.01.23	Clear	238.7	92.6	15.6	17.8
		17.02.23	Clear	234.6	90.3	13.7	15.4
		20.03.23	Cloudy	187.6	70.8	12.5	14.8
Buffer zone (as per NAAQS 2009 for ambient air quality standards)							
Location	Latitude/ Longitude	Date	Weather Condition	PM10 24 Hourly Limit- 100µg/m <sup>3</sup>	PM2.5 24 Hourly Limit- 60µg/m <sup>3</sup>	SO <sub>2</sub> 24 Hourly Limit- 80µg/m <sup>3</sup>	NO <sub>2</sub> 24 Hourly Limit- 80µg/m <sup>3</sup>
Digwadih 12 No. Colony	23°41'42" N/ 86°24'45.3" E	06.01.23	Clear	84.1	42.6	13.9	15.2
		15.02.23	Clear	96.3	52.7	15.8	17.1
		17.03.23	Clear	75.4	36.1	13.2	15.7
New Village Colony, Jamadoba	23°41'51" N/ 86°23'19" E	12.01.23	Clear	90.7	46.0	15.8	16.3
		16.02.23	Clear	94.8	50.3	14.2	16.8
		15.03.23	Clear	92.2	49.7	15.4	18.4
6&7 Pits Kalimandir colony	23°43'15" N/ 86°24'12" E	10.01.23	Clear	87.4	40.5	14.9	15.8
		14.02.23	Clear	85.1	38.2	13.4	16.2
		16.03.23	Clear	87.1	43.5	14.8	15.9



**Sr. Manager (Environment)**

**Ground Water Quality Analysis (Hand Pump & Dung Well)  
(Post- Monsoon Season- November'2022)**

S.No	Date	Location	Time	Depth in meter	pH	Electrical Conductivity, $\mu\text{S/m}$
1	06.11.22	Purnadih (Jorapokhar)	11:55 AM	2.98	7.2	834
2	06.11.22	Bhowra 13 No	12:25 PM	2.09	7.0	946
3	06.11.22	Mohalbani Basti	12:50 PM	3.94	7.3	834
4	06.11.22	Digwadih 10 No F & J	01:15 PM	2.97	7.2	1087
5	06.11.22	Kalimela Shivmandir	11:20 AM	1.38	7.1	938
6	06.11.22	Kalimela Kalimandir	11:35 AM	3.28	7.2	1024
7	06.11.22	Lower Dungari	11:00 AM	3.49	7.2	736
8	06.11.22	Upper Dungari	10:35 AM	3.12	7.3	824
9	06.11.22	Pattia Basti	10:05 AM	2.52	7.2	798
10	06.11.22	Kenduadih Basti	09:40 AM	2.14	7.1	766
11	06.11.22	Jorapokhar Kushtand	02:25 PM	1.47	7.2	844
12	06.11.22	Jamadoba 3 No	02:05 PM	2.52	7.1	795
13	06.11.22	6&7 Pits (Ayodhya Nagri)	01:45 PM	2.08	7.1	938
14	06.11.22	Jorapokhar Basti Chhattand	02:50 PM	1.74	7.2	732



**Sr. Manager (Environment)**

**Ground Water Quality Analysis (Hand Pump & Dung Well)  
(Winter Season- January'2023)**

S.No	Date	Location	Time	Depth in meter	pH	Electrical Conductivity $\mu\text{S/m}$
1	30.01.2023	Purnadih (Jorapokhar)	12:15 PM	3.21	7.1	936
2	30.01.2023	Bhowra 13 No	12:55 PM	2.45	7.2	998
3	30.01.2023	Mohalbani Basti	01:20 PM	4.21	7.1	842
4	30.01.2023	Digwadih 10 No F & J	01:40 PM	3.48	7.2	1139
5	30.01.2023	Kalimela Shivmandir	11:25 AM	1.85	7.2	924
6	30.01.2023	Kalimela Kalimandir	11:45 AM	3.78	7.3	1086
7	30.01.2023	Lower Dungari	11:05 AM	3.73	7.2	748
8	30.01.2023	Upper Dungari	10:40 AM	3.68	7.1	839
9	30.01.2023	Pattia Basti	10:15 AM	2.87	7.2	834
10	30.01.2023	Kenduadih Basti	09:45 AM	2.26	7.3	773
11	30.01.2023	Jorapokhar Kushtand	11:50 AM	2.64	7.2	831
12	30.01.2023	6&7 Pits (Ayodhya Nagri)	02:05 PM	2.35	7.2	956
13	30.01.2023	Jorapokhar Basti Chhattand	02:25 PM	1.82	7.2	747
14	30.01.2023	Jorapokhar Babu Basa	12:35 PM	2.77	7.2	1038



**Sr. Manager (Environment)**



# ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

(A Constituent Board of Quality Council of India)

ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

Plot No. - I-B-17 (P)  
Sindri, Industrial Area,  
P.O. - Domgarh, Dist. - Dhanbad  
Jharkhand - 828107  
Email ID: sindriaditi@gmail.com  
Website: aditirnds.com  
Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512808

Ref. No.: - ARDS/22-23/2051

Date: 12.11.2022

## TEST REPORT OF AMBIENT AIR QUALITY

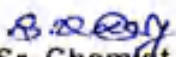
- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

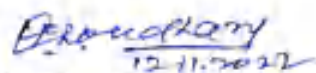
LOCATION – OFFICERS COLONY, 12 NO. DIGWADIH

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	74.81	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	37.84	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	14.60	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.61	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	20.12	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	16.53	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.96	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

### Statements:

- The test report refers only to the particular item(s) submitted for testing.
- The test results reported in this report are valid at the time of and under the stated condition of measurement.
- This particular test report cannot be reproduced except in full without prior permission of Quality Manager of the laboratory.





# ADITI R&D SERVICES

Testing Laboratory

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(A Constituent Board of Quality Council of India)

ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

Plot No - I-B-17 (P)  
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Jharkhand - 828107  
Email ID: sindriaditi@gmail.com  
Website: aditirdservices.com  
Phone: 0326-2952377 (O)  
Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2052

Date: 12.11.2022

## TEST REPORT OF AMBIENT AIR QUALITY


- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

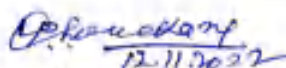
LOCATION – CENTRAL WORKSHOP AREA , JAMADOBA

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	86.9	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	46.8	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	17.52	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.61	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	17.84	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	17.26	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.99	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
12.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2055

Date: 12.11.2022

### TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

#### LOCATION - TATA CENTRAL HOSPITAL

Sl No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	73.24	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	36.49	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	14.52	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	23.19	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	16.57	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	14.62	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.83	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzo(a)pyrene, ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

*B. D. Ray*  
Sr. Chemist  
Aditi R&D Services



*Pradeep Kumar*  
12.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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## TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2028 Date: 09.11.2022		M/S TATA STEEL, JAMADOBA,			
Date of Monitoring		TATA STEEL LIMITED, JAMADOBA GROUP PLANT,			
		DIST. - DHANBAD (JHARKHAND)			
07.11.2022 TO 08.11.2022		Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021		28	50	Clear	Running

### MONITORING RESULTS

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E) Dt. 22.11.2020 Limit in dB(A) Leq	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time	Night Time
	LOCATION							Industrial Area	Industrial Area
	JAMADOBA GROUP								
1.	Central Workshop	67.3	59.8	65.0	53.7	44.6	51.19		
2.	6 & 7 Pits Colliery Office	64.9	59.6	63.01	51.4	42.5	48.92	75	70
								Residential Area	Residential Area
3.	Officer Colony 12 No. Digwadih	50.7	47.8	49.49	43.5	39.8	42.03	65	55
								Silence Zone	Silence Zone
4.	Tata Central Hospital	46.9	42.4	45.21	40.1	37.9	39.14	50	40

*S. S. Roy*  
Sr. Chemist  
Aditi R&D Services



*Ch. Prasad*  
29/11/2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2048


Date: 11.11.2022

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 08.11.2022
- Date of Testing : 09.11.2022 – 10.11.2022

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	Central Workshop Area Jamadoba	1.13	0.04	0.97	2.6
2.	Officer's Colony, 12 No. Digwadih	1.42	0.09	0.92	2.1

  
Sr. Chemist  
Aditi R&D Services



  
11.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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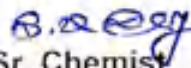
Date: 17.11.2022

## TEST REPORT OF SURFACE WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Damodar River Up Stream  
2. Damodar River Down Stream
- Date of Sample Collection: 07.11.2022 To 08.11.2022
- Date of Testing : 09.11.2022 To 16.11.2022
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO<sub>4</sub>

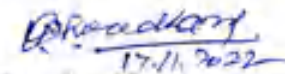
### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Damodar River Up Stream	Damodar River Dn Stream		
1.	pH	7.5	7.6	6.5 -8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	595	625	1500	IS-3025 (P-16): 1984
3.	Turbidity, NTU	9.5	11.2	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	6.8	6.4	4.0	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	2.0	2.2	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	44	52	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.52	0.54	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	36	48	400	IS-3025 (P-24):1986

  
Sr. Chemist

Aditi R&D Services



  
17.11.2022

Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2102

Date: 17.11.2022

### TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. 2 Pit Jamadoba Colliery  
2. 3 Pit Jamadoba Colliery  
3. 2 Incline Jamadoba Colliery  
4. 6 & 7 Pits Colliery  
5. Digwadih Colliery
- Date of Sample Collection: 07.11.2022 To 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE					Limit as per IS-2296 Class B (For Bathing)	Test Method
		2 Pit Jamadoba Colliery	3 Pit Jamadoba Colliery	2 Incline Jamadoba Colliery	6 & 7 Pits Colliery	Digwadih Colliery		
1.	pH,	7.9	7.3	7.3	7.6	7.8	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	896	680	610	660	742	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	38	26	32	18	28	-	IS-3025(P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.4	2.7	2.2	1.6	2.4	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	48	54	44	32	48	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	BDL	BDL	BDL	BDL	BDL	-	IS-3025 (P-39):2021

*S. S. Ray*  
Sr. Chemist  
Aditi R&D Services



*Pradeep Kumar*  
17.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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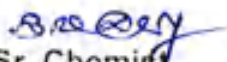
Date: 17.11.2022

### TEST REPORT OF SEWAGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet Jamadoba Canteen  
2. S.T.P. Outlet J.C.P.P. Canteen  
3. S.T.P. Outlet Railway Colony
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE			MoEF&C Notification 1 <sup>st</sup> Jan.2016 Permissible Max. Desirable Limit	Test Method
		S.T.P. Outlet Jamadoba Canteen	S.T.P. Outlet J.C.P.P. Canteen	S.T.P. Outlet Railway Colony		
1.	pH,	7.3	7.6	7.3	6.0-9.0	IS-3025 (P-11):1983
2.	Total Dissolved Solids, mg/l	648	725	760	2100	IS-3025 (P-16):1984
3.	Total Suspended Solids, mg/l	28	22	32	100	IS-3025(P-17):1984
4.	Bio chemical Oxygen Demand, mg/l	11.5	10.0	12.0	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	58	52	60	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.4	B.D.L	1.2	10	IS-3025 (P-39):2021

  
Sr. Chemist  
Aditi R&D Services



  
17/11/2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2110

Date: 18.11.2022

## TEST REPORT OF EFFLUENT

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. E.T.P. Outlet T.C.H.  
2. E.T.P. Outlet Garage
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		MoEF&C Notification 1 <sup>st</sup> Jan.2016 Permissible Max. Desirable Limit	Test Method
		E.T.P. Outlet T.C.H	E.T.P. Outlet Garage		
1.	pH,	7.5	7.6	6.0-9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	635	660	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	23	25	100	IS-3025(P-17) : 1984
4.	Bio chemical Oxygen Demand, mg/l	08	10	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	48	53	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	B.D.L	B.D.L	10	IS-3025 (P-39):2021

*S.R. Singh*  
Sr. Chemist

Aditi R&D Services



*Dr. Anand Kumar*  
18.11.2022

Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2111

Date: 18.11.2022

## TEST REPORT OF DRINKING WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code :
  1. Canteen Jamadoba Colliery
  2. Canteen Jamadoba Washery
  3. Canteen Digwadih Colliery
  4. Canteen 6&7 Pit Colliery
- Date of Sample Collection: 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test :  
Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

### TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE				IS as per IS 10500:2012		Test Method
		Canteen Jamadoba Colliery	Canteen Jamadoba Washery	Canteen Digwadih Colliery	Canteen 6&7 Pit Colliery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	1	1	NIL	NIL	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.6	7.3	7.5	7.6	6.5-8.5	No. Relax.	IS-3025 (P-11):1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	320	368	340	310	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl <sub>1</sub> , mg/l	58	54	56	44	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl <sub>2</sub> , mg/l	NIL	NIL	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	795	760	735	715	500	2000	IS 3025 (P-16):1984
10.	Calcium as CaCO <sub>3</sub> , mg/l	41.5	46	38	32	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

Continued on Page 2

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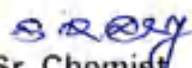
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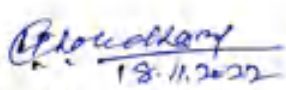
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Mobile: 09471358492, 09431512608

Sl. No.	PARAMETERS OF TEST	VALUE				IS as per IS 10500:1991		Test Method
		Jamadoba Canteen Colliery	Jamadoba Canteen Washery	Canteen Digwadih Colliery	Canteen 6&7 Pit Colliery	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO <sub>4</sub> , mg/l	48	52	62	46	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO <sub>3</sub> , mg/l	2.6	2.8	2.9	3.2	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.32	0.28	0.34	0.33	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH) mg/l	BDL	BDL	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l,	0.16	0.18	0.12	0.12	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO <sub>3</sub> , mg/l,	370	330	365	345	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boran as B, mg/l	BDL	BDL	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
18.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/ 2112

Date: 18.11.2022

## TEST REPORT OF GROUND WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code :
  1. Purnadi Joraphokhar
  2. Digwadih 10 No. F&J
  3. Kalinala Kali Mandir
  4. Upper Dungri
  5. Kenduadih Basti
  6. 6 & 7 Pit Ayodha Nagari
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 16.11.2022
- Test : Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

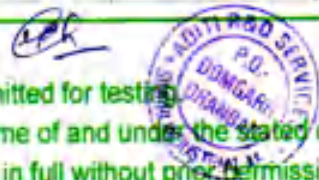
### TEST RESULT

PARAMETERS OF TEST	VALUE						IS as per IS 10500:1991		Test Method
	Purandi Joraphokhar	Digwadih 1 No. F&J	Kalinala Kali Mandir	Upper Dungri	Kenduadih Basti	6 & 7 Ayodha Nagari	Desirable	Permissible	
Colour, (Hazen Unit)	1	2	1	2	1	2	5	15	IS 3025 (P-4):2021
Temperature °C	22	24	23	24	22	23	-	-	-
Electrical Conductivity, µmhos/cm	1020	1045	1065	1080	940	1070	-	-	-
Total Dissolved Solids, mg/l	653	680	693	702	611	696	-	-	IS 3025(P-16):1984
pH	7.7	7.6	7.3	7.5	7.6	7.8	6.5-8.5	No Relax	IS-3025(P-11):1983
Total Hardness as CaCO <sub>3</sub> , mg/l	328	280	365	258	385	260	200	600	IS 3025(P-21):2009
Calcium as Ca, mg/l	67.2	59.2	73.6	51.6	77.2	52	75	200	IS 3025(P-40):1991
Magnesium as Mg, mg/l	37.2	95	42.1	30	44	30.2	30	100	IS 3025(P-46):1994
Chloride as Cl, mg/l	38	32	48	28	52	28	250	1000	IS 3025(P-32):1988
Fluoride as F <sub>2</sub> , mg/l	0.28	0.26	0.44	0.46	0.36	0.32	1.0	1.5	IS 3025(P-60):2008

Continued on Page 2

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- 2 -

Sl. No	PARAMETERS OF TEST	VALUE						IS as per IS 10500:1991		Test Method
		Purandi Joraphokhar	Digwadih 1 No. F&J	Kalinala Kali Mandir	Upper Dungri	Kendui adih Basti	6 & 7 Ayodha Nagar	Desirable	Permissible	
10	Sulphate as SO <sub>4</sub> , mg/l	42	66	70	62	58	54	200	400	IS 3025(P-24):1986
12	Nitrate as NO <sub>3</sub> , mg/l	11.8	12.4	8.2	10.4	9.8	9.4	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO <sub>3</sub> , mg/l	285	260	310	325	345	340	200	600	IS 3025(P-23):1983
14	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-47):1994
15	Zinc as Zn, mg/l	0.18	0.14	0.18	0.16	0.14	0.16	5	15	IS 3025(P-42):1992
16	Iron as Fe, mg/l	0.2	0.1	0.1	0.2	0.2	0.2	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025(P-48):1994
19	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025(P-41):1992
20	Nickel as Ni, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.02	No. Relax	IS 3025(P-37):1992
21	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-37):1988
22	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-27):1986
23	Total Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-52):2003

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2050

Date: 12.11.2022

## TEST REPORT OF AMBIENT AIR QUALITY

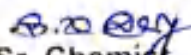
- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 07.11.2022 to 08.11.2022
- Date of Testing : 09.11.2022 to 11.11.2022
- Test Procedure : As per IS-5182

### TEST RESULTS

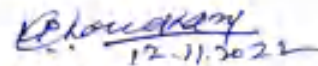
LOCATION - 6 & 7 PITS COLLOIERY OFFICE

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	29°C	Avg. Humidity 49%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	93.80	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	47.92	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	20.75	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.60	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	24.19	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	18.82	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.98	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

  
Sr. Chemist  
Aditi R&D Services



  
12.11.2022  
Quality Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2908

Date: 18.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – 6 & 7 PITS COLLIERY OFFICE

Sl No.	Particulars	Value	NAAQ - CPCB STANDARD
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	81.37	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	48.62	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	20.19	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	25.58	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	17.29	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	14.49	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.83	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

A. Das,  
Sr. Chemist  
Aditi R&D Services



Technical Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2909

Date: 18.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

LOCATION – OFFICERS COLONY, 12 NO. DIGWADIH

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	24 <sup>o</sup> C	Avg. Humidity 42%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	87.76	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	52.66	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	19.41	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.35	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	17.63	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	14.82	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	0.79	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindri

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Mobile: 09471358492, 09431512608

Ref. No.: - ARDS/22-23/2910

Date: 18.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

#### LOCATION – CENTRAL WORKSHOP AREA, JAMADOBA

SI No.	Particulars	Value	NAAQ - CPCB STANDARD
	Avg. Ambient Temperature	26°C	Avg. Humidity 39%
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	86.77	100 µg/m <sup>3</sup>
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	52.12	60 µg/m <sup>3</sup>
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	19.64	80 µg/m <sup>3</sup>
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	28.23	80 µg/m <sup>3</sup>
5.	Ozone, µg/m <sup>3</sup>	16.60	180 µg/m <sup>3</sup>
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	17.65	400 µg/m <sup>3</sup>
7.	CO, mg/m <sup>3</sup>	1.06	4 mg/m <sup>3</sup>
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>

NOTE: BDL - Below Detection Limit

A. Das,

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindr

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Ref. No.: - ARDS/22-23/2911

Date: 18.02.2023

## TEST REPORT OF AMBIENT AIR QUALITY

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 10.02.2023 to 11.02.2023
- Date of Testing : 15.02.2023 to 17.02.2023
- Test Procedure : As per IS-5182

### TEST RESULTS

#### LOCATION – TATA CENTRAL HOSPITAL

LOCATION – TATA CENTRAL HOSPITAL				
	Avg. Ambient Temperature	24 <sup>0</sup> C	Avg. Humidity	40%
Sl No.	Particulars	Value	NAAQ - CPCB STANDARD	
1.	Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	78.07	100 µg/m <sup>3</sup>	
2.	Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	45.84	60 µg/m <sup>3</sup>	
3.	SO <sub>2</sub> , µg/m <sup>3</sup>	17.68	80 µg/m <sup>3</sup>	
4.	NO <sub>2</sub> , µg/m <sup>3</sup>	26.61	80 µg/m <sup>3</sup>	
5.	Ozone, µg/m <sup>3</sup>	16.44	180 µg/m <sup>3</sup>	
6.	NH <sub>3</sub> , µg/m <sup>3</sup>	17.38	400 µg/m <sup>3</sup>	
7.	CO, mg/m <sup>3</sup>	0.89	4 mg/m <sup>3</sup>	
8.	Pb, µg/m <sup>3</sup>	BDL	1 µg/m <sup>3</sup>	
9.	As, ng/m <sup>3</sup>	BDL	6 ng/m <sup>3</sup>	
10.	Ni, ng/m <sup>3</sup>	BDL	20 ng/m <sup>3</sup>	
11.	Benzene, µg/m <sup>3</sup>	BDL	5 µg/m <sup>3</sup>	
12.	Benzoapyrene ng/m <sup>3</sup>	BDL	1 ng/m <sup>3</sup>	

NOTE: BDL - Below Detection Limit

A. Das

Sr. Chemist

Aditi R&D Services



Technical Manager

Aditi R&D Services, Sindri

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## TEST REPORT OF NOISE (AMBIENT) LEVEL MONITORING

Ref. No. & Date		NAME AND ADDRESS OF THE CLIENT			
ARDS/22-23/2862 Date: 13.02.2023		M/S TATA STEEL, JAMADOBA,			
Date of Monitoring		TATA STEEL LIMITED, JAMADOBA GROUP PLANT,			
		DIST. - DHANBAD (JHARKHAND)			
10.02.2023 TO 11.02.2023		Avg. Ambient Temperature (°C)	Average Humidity (%)	Weather Condition	Status of the plant
Work Order 4700092573/932 Dt. 20.07.2021		24	40	Clear	Running

### MONITORING RESULTS

Sl. No	Place of Monitoring	Day Time (6 AM to 10 PM) Avg. dB(A)			Night Time (10 PM to 6 AM) Avg. dB(A)			Noise level (Ambient standard) for Industrial Area as per CPCB Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S.O. 1046(E) Dt. 22.11.2020 Limit in dB(A) Leg	
		MAX	MIN	AVG. dB(A) Leq	MAX	MIN	AVERAGE dB(A) Leq	Day Time	Night Time
LOCATION								Industrial Area	Industrial Area
JAMADOBA GROUP									
1.	Central Workshop	67.4	53.2	64.55	54.4	47.5	52.2	75	70
2.	6 & 7 Pits Colliery Office	69.2	61.8	66.92	56.8	50.3	54.67		
								Residential Area	Residential Area
3.	Officer Colony 12 No. Digwadih	52.4	48.6	50.9	47.8	42.8	45.98	65	55
								Silence Zone	Silence Zone
4.	Tata Central Hospital	48.2	44.6	46.76	46.2	38.2	43.83	50	40

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Ref. No.: - ARDS/22-23/2912

Date: 18.02.2023

## TEST REPORT OF MINERALOGICAL COMPOSITION OF PARTICULATE MATTER

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Date of Sample Collection : 11.02.2023
- Date of Testing : 15.02.2023 - 17.02.2023

### TEST RESULTS

Sl No.	Particulars	Mineralogical Composition (%)			
		SiO <sub>2</sub>	FeO	Al <sub>2</sub> O <sub>3</sub>	CaO
1.	6 & 7 Pits Colliery Office	1.70	0.06	1.18	2.3
2.	Tata Central Hospital	2.08	0.12	1.26	2.78

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*[Signature]*

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Ref. No.: - ARDS/22-23/2931

Date: 20.02.2023

## TEST REPORT OF SURFACE WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Damodar River Up Stream  
2. Damodar River Down Stream
- Date of Sample Collection: 11.02.2023
- Date of Testing : 13.02.2023 To 18.02.2023
- Test : pH, TDS, Turbidity, DO, BOD, Cl, F, SO<sub>4</sub>

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		Limit as per IS 2296 Class - C	Test Method
		Damodar River Up Stream	Damodar River Dn Stream		
1.	pH	8.2	8.2	6.5 -8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	328	328	1500	IS-3025 (P-16): 1984
3.	Turbidity, NTU	01	01	-	IS-3025 (P-10):1984
4.	Dissolved Oxygen, mg/l	5.6	5.8	4.0	IS-3025 (P-38):1989
5.	Bio chemical Oxygen Demand, mg/l	2.2	2.4	3.0	IS-3025 (P-44):1994
6.	Chloride as Cl, mg/l	32	34	-	IS-3025 (P-32):1988
7.	Fluoride as F, mg/l	0.49	0.52	1.5	IS-3025 (P-60):2008
8.	Sulphate as SO <sub>4</sub> , mg/l	53	54	400	IS-3025 (P-24):1986

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Ref. No.: - ARDS/22-23/2916

Date: 18.02.2023

### TEST REPORT OF MINE WATER DISCHARGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. 2 Pit Jamadoba Colliery  
2. 3 Pit Jamadoba Colliery  
3. 2 Incline Jamadoba Colliery  
4. 6 & 7 Pits Colliery  
5. Digwadih Colliery
- Date of Sample Collection: 10.02.2023 to 11.02.2023
- Date of Testing : 13.02.2023 To 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE					Limit as per IS-2296 Class B (For Bathing)	Test Method
		2 Pit Jamadoba Colliery	3 Pit Jamadoba Colliery	2 Incline Jamadoba Colliery	6 & 7 Pits Colliery	Digwadih Colliery		
1.	pH,	7.3	8.0	7.8	6.5	7.9	6.5-8.5	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	658	699	788	683	892	-	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	36	32	36	23	34	-	IS-3025(P-17): 1984
4.	Bio chemical Oxygen Demand, mg/l	2.4	1.8	2.4	1.2	2.4	3	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	40.2	48	59.5	52	54	-	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.4	0.4	BDL	BDL	BDL	-	IS-3025 (P-39):2021

A. Das,

Sr. Chemist

Aditi R&D Services



*[Signature]*

Technical Manager

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Ref. No.: - ARDS/22-23/2917

Date: 18.02.2023

## TEST REPORT OF SEWAGE

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. S.T.P. Outlet J.C.P.P. Canteen  
2. S.T.P. Outlet Jamadoba Canteen  
3. S.T.P. Outlet Railway Colony
- Date of Sample Collection: 10.02.2023 to 11.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE			General Standards For Discharge Of Environmental Pollutants, Inland Surface Water By The MOEF&C	Test Method
		S.T.P. Outlet J.C.P.P. Canteen	S.T.P. Outlet Jamadoba Canteen	S.T.P. Outlet Railway Colony		
1.	pH,	7.7	7.9	7.5	5.5-9.0	IS-3025 (P-11):1983
2.	Total Dissolved Solids, mg/l	638	678	693	2100	IS-3025 (P-16):1984
3.	Total Suspended Solids, mg/l	28	30	38	100	IS-3025(P-17):1984
4.	Bio chemical Oxygen Demand, mg/l	13.6	12.4	14.8	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	80	73	86.8	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	BDL	BDL	1.6	10	IS-3025 (P-39):2021

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Technical Manager  
Aditi R&D Services, Sindri

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Ref. No.: - ARDS/22-23/2918

Date: 18.02.2023

## TEST REPORT OF EFFLUENT

- Name of the industry : M/S TATA STEEL, JAMADOBA,  
TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. E.T.P. Outlet T.C.H.  
2. E.T.P. Outlet Garage
- Date of Sample Collection: 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : pH, TDS, TSS, BOD, COD, OIL & GREASE.

### TEST RESULT

Sl. No.	PARAMETERS OF TEST	VALUE		General Standards For Discharge Of Environmental Pollutants, Inland Surface Water By The MOEF&C	Test Method
		E.T.P. Outlet T.C.H	E.T.P. Outlet Garage		
1.	pH,	7.3	7.2	5.5-9.0	IS-3025 (P-11): 1983
2.	Total Dissolved Solids, mg/l	890	752	2100	IS-3025 (P-16): 1984
3.	Total Suspended Solids, mg/l	28	27	100	IS-3025(P-17) : 1984
4.	Bio chemical Oxygen Demand, mg/l	8.6	9.5	30	IS-3025 (P-44):1994
5.	Chemical Oxygen Demand, mg/l	54	59	250	IS-3025 (P-58):2006
6.	Oil & Grease, mg/l	0.8	BDL	10	IS-3025 (P-39):2021

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Ref. No.: - ARDS/22-23/2932

Date: 20.02.2023

### TEST REPORT OF DRINKING WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED  
JAMADOBA GROUP PLANT,  
DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO.: : 4700092573/932 Dt. 20.07.2021
- Sample Code : 1. Canteen - Jamadoba Colliery  
2. Canteen - Digwadih Colliery  
3. Canteen - 6 & 7 Pit Colliery  
4. Canteen - Jamadoba Washery
- Date of Sample Collection: 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test :

Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

### TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE				IS as per IS 10500:2012		Test Method
		Canteen Jamadoba Colliery	Canteen Digwadih Colliery	Canteen 6 & 7 Pit Colliery	Canteen Jamadoba Washery	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	5.00	15.0	IS 3025 (P-4):2021
2.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-5):2018
3.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (P-7):2017
4.	Turbidity, NTU	NIL	NIL	NIL	NIL	1.0	5.0	IS 3025 (P-10):1984
5.	pH	7.5	8.2	7.8	8.0	6.5-8.5	No. Relax.	IS-3025 (P-11):1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	376	380	224	416	200	600	IS 3025 (P-21):2009
7.	Chloride as Cl <sub>1</sub> , mg/l	58	60	36	60	250	1000	IS 3025 (P-32):1988
8.	Res. Free chlorine as Cl <sub>2</sub> mg/l	NIL	NIL	NIL	NIL	0.20	1.0	IS 3025 (P-26):2021
9.	Total Dissolved Solids, mg/l	828	750	406	738	500	2000	IS 3025 (P-16):1984
10.	Calcium as CaCO <sub>3</sub> , mg/l	43.2	43.2	36.8	52.8	75	200	IS 3025 (P-40):1991
11.	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	0.05	1.5	IS 3025 (P-42):1992

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- 2 -

Sl. No.	PARAMETERS OF TEST	VALUE				IS as per IS 10500:1991		Test Method
		Canteen Jamadoba Colliery	Canteen Digwadih Colliery	6 & 7 Pit Colliery	Jamadoba Washery Canteen	Desirable	Permissible	
12.	Manganese as Mn, mg/l	BDL	BDL	BDL	BDL	0.10	0.30	IS 3025 (P-59):2006
13.	Sulphate as SO <sub>4</sub> , mg/l	72.7	36.6	31.3	62	200	400	IS 3025 (P-24):1986
14.	Nitrate as NO <sub>3</sub> , mg/l	3.3	3.1	2.8	2.9	45	No. Relax	IS 3025 (P-34):1988
15.	Fluoride as F, mg/l	0.38	0.32	0.34	0.28	1.0	1.5	IS 3025 (P-60):2008
16.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH) mg/l	BDL	BDL	BDL	BDL	0.001	0.002	IS 3025 (P-43):1992
17.	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025 (P-48):1994
18.	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025 (P-41):1992
19.	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-37):1988
20.	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax*	IS 3025 (P-27):1986
21.	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025 (P-47):1994
22.	Zinc as Zn, mg/l,	0.14	0.12	0.12	0.18	5	15	IS 3025 (P-42):1992
23.	Total Coliform, No./100ml	Absent	Absent	Absent	Absent	Absent	Absent	IS 3025 (P-49):1994
24.	Hexavalent Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025 (P-52):2003
25.	Mineral Oil, mg/l	BDL	BDL	BDL	BDL	0.5	No. Relax	IS 3025 (P-39):1989
26.	Alkalinity as CaCO <sub>3</sub> , mg/l,	492	500	220	492	200	600	IS 3025 (P-23):1983
27.	Aluminium as Al, mg/l	BDL	BDL	BDL	BDL	0.03	0.2	IS 3025 (P-55):2003
28.	Boran as B, mg/l	BDL	BDL	BDL	BDL	0.5	1.0	IS 3025 (P-57):2005

NOTE: BDL - Below Detection Limit

A. Das,

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*[Signature]*

Technical Manager  
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Ref. No.: - ARDS/22-23/2937

Date: 21.02.2023

## TEST REPORT OF GROUND WATER

- Name of the industry : M/S TATA STEEL, JAMADOBA, TATA STEEL LIMITED, JAMADOBA GROUP PLANT, DIST. - DHANBAD (JHARKHAND)
- Work Order Ref. NO. : 4700092573/932 Dt. 20.07.2021
- Sample Code :
  1. Moholbani Basti
  2. Jorapukhar Kushtand
  3. Bhowra 13 No
  4. Jamadoba 3 No
  5. Lower Dungri
- Date of Sample Collection : 10.02.2023
- Date of Testing : 13.02.2023 to 18.02.2023
- Test : Colour, Odour, Taste, Turbidity, pH, Total Hardness, Iron, Chloride, Res. Free chlorine, Total Dissolved Solids, Calcium, Copper, Manganese, Sulphate, Nitrate, Fluoride, Phenolic Compound, Mercury, Cadmium, Arsenic, Cyanide, Lead, Zinc, Total Coliform, Hexavalent Chromium, Mineral Oil, Alkalinity, Aluminium & Boron.

## TEST RESULT

Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Moholbani Basti	Jorapukhar Kushtand	Bhowra 13 No	Jamadoba 3 No	Lower Dungri	Desirable	Permissible	
1.	Colour, (Hazen Unit)	1	1	1	1	1	5	15	IS 3025 (P-4):2021
2.	Temperature °C	22	23	23	22	23	-	-	-
3.	Electrical Conductivity, µmhos/cm	930	1280	750	350	630	-	-	-
4.	Total Dissolved Solids, mg/l	609	835	489	232	414	-	-	IS 3025(P-16):1984
5.	pH	7.0	8.1	7.5	7.9	7.7	6.5-8.5	No Relax	IS-3025(P-11):1983
6.	Total Hardness as CaCO <sub>3</sub> , mg/l	436	544	356	140	264	200	600	IS 3025(P-21):2009
7.	Calcium as Ca, mg/l	144	81.6	72	33.6	70.4	75	200	IS 3025(P-40):1991
8.	Magnesium as Mg, mg/l	18.2	81.6	42.2	13.4	21.1	30	100	IS 3025(P-46):1994
9.	Chloride as Cl, mg/l	99.9	70	52	22	62	250	1000	IS 3025(P-32):1988
10.	Fluoride as F, mg/l	0.36	0.26	0.28	0.32	0.36	1.0	1.5	IS 3025(P-60):2008

Continued on Page -2

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# ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

(A Constituent Board of Quality Council of India)

ISO/IEC 17025:2017, ISO 9001:2015, ISO (OHSAS) 45001:2018 Certified

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2

Sl. No	PARAMETERS OF TEST	VALUE					IS as per IS 10500:1991		Test Method
		Moholbani Basti	Jorapukhar Kushtand	Bhowra 13 No	Jamadoba 3 No	Lower Dungri	Desirable	Permissible	
11	Sulphate as SO <sub>4</sub> , mg/l	75	44	58.4	45.3	21.8	200	400	IS 3025(P-24):1986
12	Nitrate as NO <sub>3</sub> , mg/l	9.8	12.4	11.3	9.4	9.8	45	No. Relax	IS 3025(P-34):1988
13	Alkalinity as CaCO <sub>3</sub> , mg/l,	328	504	312	104	184	200	600	IS 3025(P-23):1983
14	Lead as Pb, mg/l	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-47):1994
15	Zinc as Zn, mg/l,	0.14	0.16	0.12	0.10	0.16	5	15	IS 3025(P-42):1992
16	Iron a Fe, mg/l	0.1	0.1	0.08	0.08	0.1	0.3	No. Relax	IS 3025(P-53):2003
17	Copper as Cu, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	1.5	IS3025 (P-42):1992
18	Mercury as Hg, mg/l	BDL	BDL	BDL	BDL	BDL	0.001	No. Relax	IS 3025(P-48):1994
19	Cadmium as Cd, mg/l	BDL	BDL	BDL	BDL	BDL	0.003	No. Relax	IS 3025(P-41):1992
20	Nickel as Ni, mg/l	BDL	BDL	BDL	BDL	BDL	0.02	No. Relax	IS 3025(P-37):1992
21	Arsenic as As, mg/l	BDL	BDL	BDL	BDL	BDL	0.01	No. Relax	IS 3025(P-37):1988
22	Cyanide as CN, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-27):1986
23	Total Chromium as Cr, mg/l	BDL	BDL	BDL	BDL	BDL	0.05	No. Relax	IS 3025(P-52):2003

NOTE: BDL - Below Detection Limit

A. Das.

Sr. Chemist  
Aditi R&D Services



*[Signature]*  
Technical Manager  
Aditi R&D Services, Sindri

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## Executive Summery

Tata Steel Foundation is focused upon co-creating solutions, with tribal and excluded communities, to address their development challenges. Working for the overall development of community through its interventions in Health, livelihood, Education and Skill development.

Followings are the key highlights of the work carried out by Tata Steel Foundation in FY'23:

- In Public Health camp, 24968 villagers from 35 villages got free health check-up and medicines.
- A total of 79 camps were organized for Non communicable diseases (hypertension, diabetes, breast, and oral cancers) in which 2,296 beneficiaries got screened and were provided health services.
- Under the Ni-kshya Mitra program, 673 food packets were provided in Baghmara block.
- Under Cataract, 85 Nukar natak were organised to create awareness among villagers on blindness and a total of Eight camps organized in which 1,021 surgeries were successfully done.
- In Nutritional Garden, TSF Jamadoba distributed seed, plants and Agri materials to 1500 Households and wall paintings around nutrition were done at 180 places in different villages.
- Tata Steel started SPARSH centre with technical collaboration with LEPRASociety in which 1570 patients got benefitted.
- Under RISHTA project, TSF Jamadoba is working with 1465 beneficiaries through Pre and post-test.
- Total number of students enrolled in Pre-Matriculation Couching in FY'23 is 2378 in 18 centres.
- TSF Jamadoba has recently organized the `placement-drives for the job-openings at Tata Electronics Private Limited (TEPL) in which 24 candidates joined Tata Electronics.
- The total enrolment of the candidates in Community Youth coaching program for Uniform services is 64.
- Tata Steel Foundation (TSF), in collaboration with NIIT Foundation (NF), has been offering IT and English Courses in which total enrolment is 755.
- To promote paddy cultivation a total of 92 farmers (36 from Jamadoba and 56 from Sijua) of the leasehold area were supported with paddy seeds having acreage of 92 acres.
- 20 acre of horticulture plantation has been done through providing plants of Banana, papaya, Mango, coconut, guava, and lemon.
- TSF Jamadoba is supporting 140 landless families with critical inputs around various types of micro enterprises.
- Gender and Leadership for Disha, in which 240 women leaders are being developed. Out of 240, 60 women have completed training till module 4.
- Tata feeder centre, training of budding sports talent in three sporting segments i.e., Football, Archery and Athletics. As of now the total intake of the players under these sporting segments is 188.



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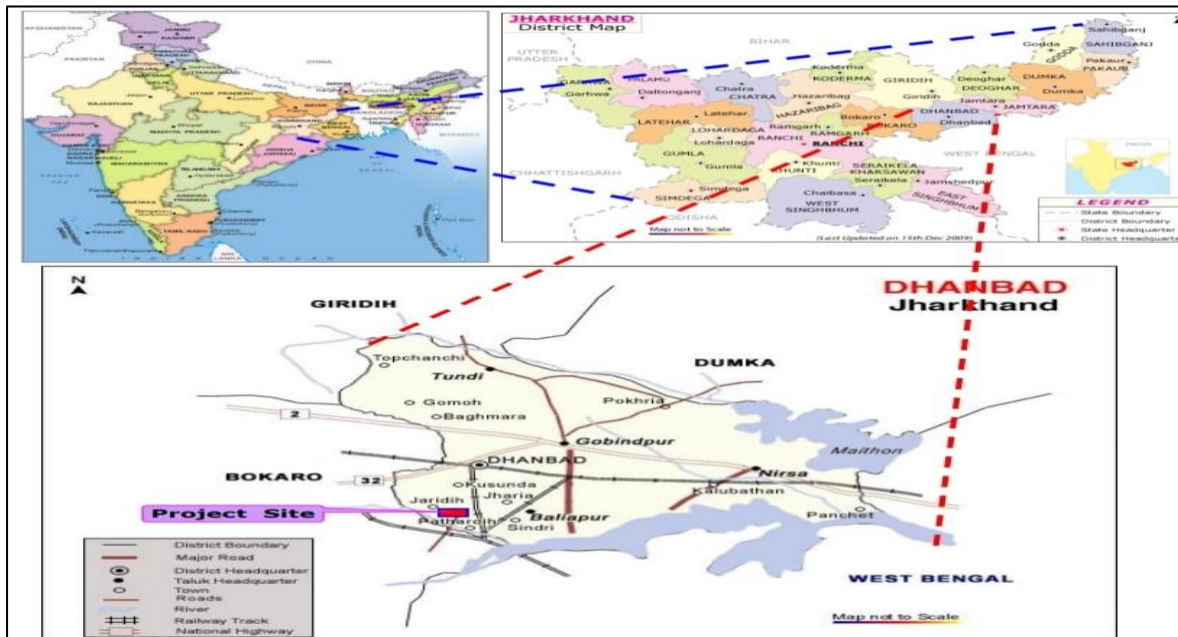
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# INTRODUCTION

Tata Steel Foundation (the Foundation), a wholly owned subsidiary of Tata Steel Limited, was incorporated on August 16, 2016, under Section 8 of the Companies Act 2013. The Foundation is focused upon co-creating solutions, with tribal and excluded communities, to address their development challenges. During this process of co-creation, the Foundation endeavours to develop and implement change models that are replicable at a national scale, enable significant and lasting betterment in the well-being of communities proximate to the Company’s operating locations and embed a societal perspective in key business decisions. The Foundation strives for excellence by ensuring that all programmes are aligned with community needs and focus on national priority areas enabling communities to access and control resources to improve the quality of their lives with dignity.



TSF, Jamadoba is working in 44 villages of three blocks (Jharia, Dhanbad and Baghmara). Working in different areas like Health, Livelihood, Education, and Infrastructural development for livelihood enhancement and make community self-sufficient.





## PUBLIC HEALTH

Tata Steel provides both curative and preventive healthcare services to improve levels of health amongst the community. Tata Steel Foundation is committed to provide best health care facility to people in Tata Steel leasehold area. TSF Jamadoba, acts as strengthening agency for awareness generation, promotion of good health and hygiene, and bridge gap between community and government health facilities.

### **Major Achievement:**

- In Public Health camp, 24968 villagers from 35 villages got free health check-up and medicines.
- Focussing the preventive aspects of public health, a total of 79 camps were organized for Non communicable diseases (hypertension, diabetes, breast, and oral cancers) in which 2296 beneficiaries got screened and were provided health services.
- Under the Ni-kshya Mitra program, 673 food packets were provided in Baghmara block.

### **Nutritional Garden:**

The kitchen/home gardens have been found to play an important role in improving food security for the poor rural household. Keeping in view the importance of vegetables in daily diets and its low availability, TSF Jamadoba has started Nutritional Garden program for villagers of Tata Steel lease hold area. TSF Jamadoba, provides seed, plants and Agri materials to villagers for Kitchen Garden and have the benefits of good quality of food without using external fertilizer or chemicals.

TSF Jamadoba, distributed seed, plants and Agri materials to 1500 Households and wall paintings around nutrition were done at 180 places in different villages.

### **Case Study of Mrs. Dhani Devi**

“Connecting with nature is connecting with God” is the story of Dhani Devi (Age -29) wife of Mr. Devan Kalindi, and resident of Harijan Tola of Patia Panchayat. TSF Jamadoba reached her during seed distribution campaign in her village. During the home visit TSF Jamadoba team came to know that they have to rely on daily wages for their livelihood as they are landless. After monitoring the troublesome and pathetic condition of the family during home visit. Mrs. Dhani Devi was suggested to do kitchen gardening and explained about the benefits of kitchen garden. Which will not only increase her family nutritional intake but also save money which they spend on buying vegetable or for medical purpose which arises due to malnourishment. Kitchen garden will also help her generate additional income if the produce is high through selling of vegetable.

She decided to own an uncultivated and useless land in her village with the consent of community and SHG members. The issue was discussed in front of village community, and she got a small piece of land. TSF Jamadoba has supported her with seed, plants and Agri materials and provided one day training session.

Now after three months, she has done one of the best kitchen gardens and promised to continue it in near future. Mrs. Dhani Devi thanked TSF Jamadoba team for their effort and handholding support.



## **CATARACT**

Tata steel has collaborated with Shankar Netralaya during the year 2017-18 to do cataract camps through Mobile Eye surgical unit (MESU) which carries out operations for the cataract infected patients. Under the program for preventable blindness a total of 85 Nukar natak were organised to create awareness among villagers on blindness because of cataract in Tata Steel lease hold area villages and a total of Eight camp organised (2 at Baghmara CHC, Rajganj, 2 at Bhelatand and 3 at Digwadih) in which 1441 patient were screened, and total surgery done is 1,021.

### **Case Study of Mr. Niranjan Mahato:**

It has been correctly said “I have a very poor eyesight, and I can’t imagine a world without my glasses or contacts”. Mr. Niranjan Mahato of Nunidih Basti, was working as a helper at Tata Steel canteen, he uses to put coal in the cooking stove. During his mid-forties he notice that his vision is getting blur. He started wearing spectacles for clear vision. His right eye vision deteriorated dramatically.

He gets to know about Tata Steel Foundation, Eye check-up camp from one of the beneficiaries residing near his house. So, he visited the camp and diagnosed with cataract. After all the screening done by doctors, operation date was given. But on the date of operation, he was diagnosed with Hypertension and was referred to TSF Medical department. He visited TSF, Jamadoba and the medical team provided all the necessary support and medicines. The next day he visited again as per the advice of TSF medical team, and he was found normal and sent for cataract surgery.

On 20.09.2022, Cataract surgery was done. And now he can see the world clearly and does all his work without any support from others. He expresses his happiness and gratitude to Tata Steel Foundation.





## RISHTA

Regional Initiative for Safe Sexual Health by Today's Adolescents, formally known as "Project RISHTA" is a consortium project on Adolescents' Reproductive and Sexual Health, which aims "to improve the sexual and reproductive health and wellbeing of adolescents in Jharia Division.

RISHTA project aims at empowering adolescents to know and exercise their adolescent rights and be sensitive to issues of adolescent health (preventive and curative). Furthermore, pregnancy during adolescence is associated with higher risk of health problems like anaemia, sexually transmitted infections, unsafe abortion, and mental disorders (like depression). Pregnant adolescents also bear negative social consequences and often have to leave school reducing their employability leading to long-term economic implications. Unmet needs for family planning especially for spacing are high among adolescents.

### Key objectives of RISHTA project

- Enable adolescents to take right decision with right information for their future.
- Inculcating the importance of adolescents' health, which otherwise remains ignored.
- Reduce Early Age of Marriage across the block
- Inducing the importance of life skills in adolescents as catalysts to cater to their life approach in a more progressive manner.
- Orienting the adolescents with adolescent rights which are powerful tools for them to exercise.



- Number of adolescents reached through ARSH sessions -1465.
- 4 number of National/International Day observed in which 567 number of participants participated.
- 4 Kishor Navdampatti samaroh was organized with 56 adolescent couple participation.



- Total 123 meeting with AWW, Asha and PRI member with 1470 participants.
- Total 3 Child marriage delayed.
- 135 Sathiya were trained around various aspects of sexual and reproductive health
- Total 13 no. of pregnancy delayed.

### **Case Study of Mohini Kumari Khetrpal**

Mohini Kumari Khetrpal is 20 years (DOB – 11/11/2002) old girl who believes that education and hard work never goes in vain. Her father Mr. Deepak Kumar Khetrpal is a daily wage labor, and her mother Mrs. Anjana Devi is a house manager. She has one younger sibling, who works as a daily wage laborer with his father. The monthly income of the family was Rs. 8000 /-. And the financial condition was not good.

She is associated with RISHTA team for last 4 years. She has completed her intermediate and wanted to help her family financially. One day Mohini came to attend RISHTA meeting in which one of the TSF staff was discussing on F&B training which is given by PACE Centre Jamshedpur. She found this training fruitful for her career growth and to make her family financial stable.



She contacted RISHTA team after few days of training to know the procedure of selection in F&B course and wanted RISHTA team to convince her parents. The team visited her house and counselled her parents and convinced them.

The team lined up with PACE training Centre for F&B training and Mohini got admission in 2 months training program. After successful completion of her training, she got placed at Ramada Hotel Jamshedpur. Now she is earning Rs. 14,500/- per month with free accommodation, which enabled her to take care of both her and her family financial need.

With regular guidance of TSF RISHTA team, she completed her graduation and now enrolled herself in Hotel Management course for departmental promotion. She and her family are very thankful to TSF Jamadoba and RISHTA team for all the support and guidance.

### **SPARSH**

In 2005, India was declared with leprosy eliminated. Vertical system comprising Non-Medical Assistants and Supervisors were abolished. Health personals dedicated for NLEP2 have been deployed in other health vertical. Rigorous screening and monitoring system became poor post 2005. Considering the fact of high endemicity in Dhanbad (adjacent to



Purulia), a joint venture namely “SPARSH centre- A healing Touch” had been started in 2009.

Above all, new cases have been found in special pockets of India through Leprosy Case Detection Campaign by NLEP, GoI (14th September to 4th October 2016). According to WHO report, India accounts for 60% of total new cases of Leprosy across the world. Many new cases have been found in Bihar, Jharkhand, and Chhattisgarh.

Tata Steel started SPARSH centre with technical collaboration with LEPRO Society, for the benefit of the Leprosy affected persons in the year 2009 (26th October) and the reconstructive surgery unit started during the year 2017. This reconstructive surgery unit which is one-of-its-kind in Eastern India will play a major role in the leprosy eradication programmes, benefitting the patients from the States of Jharkhand and Bihar.



### **Coverage Area**

The SPARSH centre caters to the patients from Jharkhand and Bihar. Till today patients from 13 blocks have been able to access health services.

### **Objective of SPARSH Centre**

- Provide healthcare facilities to leprosy affected people and helping them to cope up with the societal stigma attached to the disease.
- To correct the deformities of people suffering from Leprosy, so that they come in the mainstream society.
- Restoring livelihood opportunities for those who have undergone reconstructive surgery.

### **Services offered**

- OPD services for patients suffering from leprosy
- Providing specially designed footwear to the patients
- Raising awareness regarding leprosy through a Mobile IEC Van in 200 villages in Dhanbad district
- Capacity building of health officials in leprosy

### **Key achievements during this period**

- A total of 1570 persons suffering from leprosy and related illness were provided health facilities.

- 1,53,500 persons were covered under the IEC campaign which creates awareness around the early identification and treatment of leprosy in 200 villages of the Dhanbad district.
- 454 MCR footwear manufactured for person affected of Leprosy.
- Reconstructive surgery to correct deformity was organised in which total 23 RCS was done.

### **Case Study of Mr. Prahalad Mahato:**

Mr. Prahalad Mahato (Age – 26 years) son of Ramlochan Mahto, Resident of Nischitpur village, Baghmara. He lives in his sister's house in Baghara village due to leprosy. His wife and son left him and his father lives alone at Nischitpur village, where he works as a daily wage worker.

He was referred by PHC Baghmara for reconstructive surgery at SPARSH centre to correct left claw hand after one year treatment from MDT. During examination, SPARSH Doctors found that he is suffering with Type II(ENL) reaction with right Ulnar, bilateral lateral popliteal and posterior tibial neuritis.

Prahalad Mahato was suffering from Leprosy for last 4 year and started his treatment at Nirmal Leprosy Hospital, Gobindpur for one year. During his treatment he get Lepra reaction. Then he started his treatment at MDT, PHC Baghmara.



After examination and diagnose at SPARSH centre, the treatment started with Storied therapy for a period of one month. The reaction was subsided, and muscle power improved. Again, he gets recurrent reaction. The centre started second line drug for Lepra rection with clofazimine therapy with proper counselling for a period of 4 month. He was declared cured of ENL reaction.

The reason of reaction was psychological problem caused due to disease, family, and future. The centre counsels Prahalad and his family time to time for proper case holding and management. Finally, he copped and accepted mental health treatment and case management of SPARSH centre.



The reason of reaction was psychological problem caused due to disease, family, and future. The centre counsels Prahalad and his family time to time for proper case holding and management. Finally, he copped and accepted mental health treatment and case management of SPARSH centre.



Now he is doing good and works as a daily wage worker with his father at his hometown. He believes that his deformity will correct, and his family will live together after surgery. He is very thankful to TSF Jamadoba and SPARSH team.

## EDUCATION

### **Pre-Matriculation coaching:**

PMC (Pre-Matriculation Coaching) classes have been running since 2012 in government and private (J.A.C. Board) schools for class VI to X in the leasehold areas of Jamadoba and Sijua. PMC was started in 2011-12 with 1,025 students at 11 centres, especially for the poor students, who cannot afford private tuition classes for bringing improvement in their studies. Pre- Matriculation coaching classes have been operated in two parts from Class VIII - X and Preparatory classes for classes VI to VII.

Total number of students enrolled last year (FY22) was 1548 in 09 centres. The Pre-Matriculation Coaching class is a boon for the students as it has been observed that the students have gained a lot from this program. Due to this program, they have been able to score good marks in their academic exams. According to the survey done before starting of PMC class, the passing % of the class 10th was 70%. In FY 22, TSF Jamadoba has achieved 100% result in the matriculation exam.

The purpose of running this Pre-Matriculation Coaching class is to provide quality tuitions to the poor students in English, Math, and Science. The total number of teachers in one centre is 5 - two teachers for Classes VI-VII and three teachers for classes VIII-X. The teachers are being paid through the school committees or the SHGs (Self Help Group).

In FY 23, TSF Jamadoba have conducted PMC classes at 18 centres covering 2378 students.



### **Jyoti Fellowship Programme:**

As part of affirmative action policy and effort towards inclusive growth and development of Scheduled Caste and Scheduled Tribe community. Tata Steel Foundation awarded Jyoti Fellowship to 346 meritorious students of Jamadoba region. Total scholarship amount is Rs. 17,98,750/-.

The objective of Tata Steel Jyoti Fellowship is to ensure that meritorious student from economically- challenged SC/ ST families have an opportunity to continue and pursue their

educational goals and fulfil career aspirations. Tata Steel's Tribal Cultural Society (TCS) identifies deserving candidates from operational areas of the company on the merit-based test.

### **Language Classes:**

Language classes on `Ol-chiki` script was started for the Santali communities residing in and around Tata Steel leasehold areas that is Bhowra-parsiabad village (Jamadoba) and Bhelatand Majhi tola (Sijua location). The classes are held during the weekend. The total enrolment is 71 (JMB- 33 students and Sijua- 38 students).



## **Employability Programme**

### **Placement Drives**

With an objective to provide employment opportunity for youths. TSF Jamadoba has recently organized the `placement-drives (for the job-openings at Tata Electronics Private Limited (TEPL) in collaboration with the Model Career Centre, Jamshedpur.

The placement –drive was specially meant for the local female candidates who are aged between 18-20 years (21 for the SC/ST category) and have passed out their intermediate exam during the year 2021 and 2022.

This placement drive was attended by total 128 candidates out of which 64 were shortlisted and finally 24 female candidates from Tata Steel leasehold areas have joined Tata Electronics.



### **Community Youth coaching program for Uniform services:**

With an objective to support the youth prepare for entry into uniformed services, TSF Jamadoba is running ``Community Youth Coaching Program`` for the local youths. The coaching is provided to prepare for written as well as physical tests for clearing various competitive exam(s) of the Uniformed Services like State Police, CMPF like BSF, CRPF, ITBP, Coast Guards, Army, Navy, and Air Force etc.

As of now, the total enrolment of the candidates is 64 (31 at Jamadoba and 33 at Sijua). While this coaching program, the enrolled candidates have started appearing at the competitive exam related to the Uniformed Services.

Total 29 candidates (11 from Jamadoba, 18 from Sijua) have appeared at the SSC GD EXAM-2022 which was held in January`23. The SSC has declared the results of SSC GD Exam on 08th April,2023. Total 9 candidates (6 from Sijua and 3 from Jamadoba) have cleared the



written exam of SSC GD. The physical exam is likely to be held soon for the candidates who have cleared the written exam of SSC GD-2022.



### **Skill development centre:**

Tata Steel Foundation (TSF), in collaboration with NIIT Foundation (NF), has been offering IT and English Courses in small towns and interior villages of the Company's operational areas since FY15. This program was initiated in response to the high demand for these skills among youth. The goal is to empower communities within Tata Steel operational areas by developing IT (Information Technology) and English capabilities among them. This would include youths, women (SHG, ANM, Asha, etc), adolescents and migrant laborers.

### **Progress made during the period**

- A total of 755 enrolment has been done for FY'23.
- Out of 755 – 375 enrolled in Jamadoba and 380 in Sijua centre.
- A total of 677 students completed their course – 330 at Jamadoba and 347 at Sijua.



## **LIVELIHOOD ENHANCEMENT**

### **Support to farmers during kharif season:**

To promote paddy cultivation a total of 92 farmers (36 from Jamadoba and 56 from Sijua) of the leasehold area were supported with paddy seeds having acreage of 92 acres. The improved varieties of seeds promoted were KV21 and Purnima Gold. The farmers contributed 50% of the cost of seeds and each farmer was supported with a maximum of 1 acre. A total of 200 kg of seeds were promoted (164 kg of Purnima Gold seeds and 36 kg of KV2 seeds).

## Horticulture Development:

Horticulture development is a very useful method of income augmentation for the farmers. During the year 20 acre of horticulture plantation has been done through providing plants of Banana, papaya, Mango, coconut, guava, and lemon. Out of which the district horticulture department has also supported in this initiative by providing plants for 10 acres. In which total of 142 farmers got benefited.



## Leveraging Government Resources:

Community mobilization has been done by raising awareness levels of the farmers so that they can access the agriculture related schemes. During the year following progress has been made:

- 13 farmers have received 5350 banana and papaya plant from District Horticulture Department Dhanbad having an acreage of 6 acre of land.
- 4 animal health camps have been organized with support of district animal husbandry department in which a total of 1414 animal received medical check-up.
- TSF Jamadoba in collaboration with MSME Dhanbad has organised 30 days stitching training program in Petia Panchyat Bhawan, Petiya.
- FLD project of District Horticulture Department is being implemented in Tundi.
- 15 Diesel pump sets and 2 tractors was lesioned with govt. on 90% subsidiary under which 15 farmers got benefitted.
- 331 farmers got free elephant yam seed from District Horticulture Department.
- 160 women attended 3 days training on mushroom farming and received free Mushroom spawn.





### **Distribution of Micro-Enterprise Toolkit:**

Micro-Enterprise businesses not only help in promoting quality of life for business runners but also add value to the local economy. They produce numerous jobs at small-scale, improve income, and boost purchasing power.

TSF Jamadoba is supporting 140 landless families with critical inputs around various types of micro enterprises which will help them in self-employment and entrepreneurship.



### **Promoting Fish Farming:**

“Promoting fish farming” is one of the key initiatives towards improving the livelihood of the people living in Tata Steel leasehold area. During the FY’23, total 52 ponds were supported with fingerlings having 208 beneficiaries. Total 312 kg of fingerlings were distributed. The fingerlings were provided at 50% contribution from the pond-beneficiaries.

Besides providing fingerlings to the pond beneficiaries and build their capacities, much emphasis is given on improving the feeding practice. In this respect, TSF Jamadoba is facilitating farmers in getting proper-feed packets from the District Fishery Department at 50% subsidy.

### **Case Study of Mr. Abhimanyu Mahato:**

A young farmer Mr. Abhimanyu Mahato (Age 35), his father’s name Mr. Shankar Mahato resident of Patia Panchayat of Dhanbad district. Just a matric pass is growing rapidly with increase interest in the field of fish production. It is correctly said “The capacity to learn is a gift; the ability to learn is a skill; the willingness to learn is a choice.” With his willingness and support from TSF Jamadoba, made him earn his livelihood with dignity.

He used to support his family by doing agriculture which was not sufficient for overall development and give a dignified life to his family. Then he comes to know about Tata Steel Foundation and about its programmes from his friend. With keen interest in fish farming, he reached TSF Jamadoba office. And after knowing that TSF Jamadoba is supporting with fingerlings and capacity building on fish farming.

On the next day he meets TSF field staff and gives the application for fish farming. After that he received 5 days training on fish farming from Government Fishery Department at Ranchi.

When he returned from training, decided to start his own business of fish production. Mr. Abhimanyu Mahato improved his pond by expanding the area of pond to 1.5 acer and cleaned grass under water that can harm fishes. Then the TSF provided 100 kg fingerlings at 50% subsidy. Currently his annual income is one Lakh from Fish farming.

Mr. Abhimanyu Mahato is very happy with the support provided by TSF and said that now he can send his children for higher education and live his life with dignity. The help from TSF Jamadoba made him economically as well as socially strong.

## LIVELIHOOD EMPOWERMENT

### Disha Training:

The primary objective of Disha project is to enable women leaders through social-political empowerment by making systematic investments in community-based organizations to enhance their participation and productivity, and to create and sustain model of rural women. The project has an objective to increase knowledge, awareness, and income of women through capacity building.

Training of active SHG members on Gender and Leadership for Disha, in which 240 women leaders are being developed. Out of 240, 60 women have completed training till module 4.



## SPORTS

Organising sporting events/activities etc. has been a key strategy for ensuring the community engagement and to nurture the local young talents across Tata Steel leasehold areas. The children from the leasehold-villages will be given opportunities to take part in various sporting events/ activities towards shaping their future career in the Sports field.





During this year in the feeder centre training of budding sports talent is being done in three sporting segments i.e., Football, Archery and Athletics. As of now the total intake of the players under these sporting segments is 188.

Major achievement in Sports:

#### Achievement in Archery

S. No.	Name	Village	Medal	Event
1	Ms. Nazia Parween	Digwadih No.10	Selected	Centre for excellence (Govt. of Jharkhand), U-16
2	Ms. Madhu Kumari	Patherdih	Selected	Centre for excellence (Govt. of Jharkhand), U-16
3	Ms. Riya Kumari	Digwadih No.10	Selected	Centre for excellence (Govt. of Jharkhand), U-16
4	Ms. Pinky Kumari	Jealgora	Selected	Centre for excellence (Govt. of Jharkhand), U-16
5	Ms. Simran Kumari	Jealgora	Selected	Centre for excellence (Govt. of Jharkhand), U-16
6	Ms. Versha Chakroborty	Noonidih	Selected	Centre for excellence (Govt. of Jharkhand), U-16
7	Khusi Kumari	Digwadih	Gold	NTPC Mini National Archery Competition
8	Md. Adil	Digwadih	Selected	Tata Archery Academy

#### Achievement in Football

S. No.	Name	Village	Selection	Event
9	Mr. Pankaj Basti	Bhowra -36 No. PO Bhowra	Selected	National Camp at Bhubneshwar
10	Mr. Mrinal	Jealgora Basti	Selected	National Camp at Bhubneshwar
11	Mr. Prashant Diger	Nagina Bazar, Mohalbani	Selected	Residential sports training centre, Kumaitha Stadium Deoghar
12	Ms. Anju Sharma	Domgarh	Selected	Jharkhand state team camp u-17 at Chaibasa
13	Master Narayan Mahato	Digwadih No.10	Selected	SAIL Football Academy, Bokaro
14	Raj Kr. Mahato	Upper Dungri	Selected	CISF Delhi
15	Md. Irfan	Bhaga	Selected	Kuljeet Football Academy, Punjab
16	Mr. Vishnu Hajari	Noonidih Basti	Selected	Kuljeet Football Academy, Punjab
17	Mr. Vikky Kr. Mahato	Dumariatand	Selected	Kuljeet Football Academy, Punjab

## INFRASTRUCTURE

- 7600 people got benefitted through construction of 6,193 mts. long roads in 10 villages (Sijua 12 no., Dukhitdih, Rampur 2, Chetudih, Kanchanpur Bauritola, Upper dungri, Petiya, Banskapuria, Suyakanali, Malkera) and drain of length 1,552 mts were constructed in (Belubakhar, Lahargora, Purnadih, Sundarpur, Petiya, Kalimela, Lower Dungri, Upper Dungri, Digwadih Mahato basti, Kasiatand, Fatehpur, Rampur, Barughutu, Malkera illages) of Tata Steel intervention area.



- 1000 people got benefitted through repair of 4 deep bore well in 4 villages ((Lower Dungri, Rampur Md tola, Kapuria, Kanchanpur)



- In 11 villages (Debogram harijan tola, Debogram bangali tola, Banskapuria, Azadnagar, Belubakhar, Suyakanali, Upper dungri, Dungri no.3, Dungri no.7, Digwadih Majhi basti, Sunderpur) of Tata Steel leasehold area, 11,435 people got benefitted through installation of 8,878 mts. long piped drinking water supply.



- Renovation and construction of 282 mts long irrigation drain which is benefitting 34 farmers in 5 villages (Chattand, Petiya, Chaitudih, Kasiatand, Lower Dungri).



- In 4 villages of Sijua (Banskapuria, Rampur, Debogram, Sawaldih) deepening of 4 ponds is done to solve water crises at village level.



- 9080 people got benefitted through construction of 39 Rural infrastructure like pond steps (17), sitting platform (15), community center (3), culvert (1), community shed (2), Biswanath club.

