

By-Email

Ref.No.: MGM/P&E/225

Date: 27/05/2024

To, The Additional Director, Ministry of Environment and Forest & Climate Change, Eastern Region Office, A/3, Chandrasekharpur, Bhubaneswar-751023

Subject: Submission of half-yearly compliance report on the stipulated environmental clearance terms and conditions in respect of Tiringpahar Iron and Manganese Mine of M/s TATA Steel Ltd., for the period from October'2023 to March'2024.

Reference:

- 1) MoEFCC's Letter Ref No: J-11015/87/2004-IA. II(M) dated 17th November 2005.
- 2) MoEFCC's notification vide S.O-5845 (E), dated 28th November 2018.

Respected Sir,

We are herewith submitting the six-monthly compliance report on the status of the implementation of the conditions stipulated in environmental clearance awarded to us vide MoEFCC's Letter Ref No: J-11015/87/2003-IA. II(M) dated 17th November 2005 in respect of Tiringpahar Iron and Manganese Mine of M/s TATA Steel Ltd. for the period from October'2023 to March'2024 for your kind perusal.

This is in reference to the above referred MoEFCC's notification, the six-monthly compliance report is being submitted only in soft copy mode, shared with your good office at e-mail @ roez.bsr-mef@nic.in.

We believe the above submission is in order.

Thanking You,

Yours Faithfully,

F: TATA STEEL LTD.

Head (F

Tiringpahar Iron & Manganese Mines, Ferro Alloys Mineral Division

Encl: As above.

Copy To:

- Zonal Office Kolkata, Central Pollution Control Board, South end Conclave, Block 502, 5th and 6th Floors, 1582 Rajdanga Main Road, Kolkata, West Bengal 700107.
- 2) The Member Secretary, State Pollution Control Board, A/118, Nilakantha Nagar, Bhubaneswar, Odisha-751012.
- 3) The Regional Officer, State Pollution Control Board, Baniapat, DD College Road, Keonjhar, Odisha-758001.

TATA STEEL LIMITED

 Ferro Alloys & Manganese Division, Manganese Group of Mines, At/P.O.: Bichhakundi, Via: Joda, Dist: Keonjhar Odisha – 758 034 Tel.: 9238101370, email : mnminesadmin@tatasteel.com
 Regd. Office : Bombay House, 24 Homi Modi Street, Mumbai – 400 001 Tel 912266658282, Fax 912266657724 Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Your (Environment Clearance) application has been Submitted with following details		
Proposal No	IA/OR/MIN/11666/2005	
Compliance ID	64121875	
ompliance Number(For Tracking) EC/M/COMPLIANCE/64121875/2024		
Reporting Year	2024	
Reporting Period	01 Jun(01 Oct - 31 Mar)	
Submission Date	27-05-2024	
IRO Name	ARTATRANA MISHRA	
IRO Email	jhk109@ifs.nic.in	
State	ODISHA	
IRO Office Address	Integrated Regional Offices, Bhubaneswar	
Note:- SMS and E-Mail has been sent to ARTATRANA	MISHRA, ODISHA with Notification to Project Proponent.	

	2 01 Jun(01	ompliance Report 2024 Oct - 31 Mar) vledgment	
Proposal Name			re Mine of M/s Tata Steel, Dist. xpansion in the Production of LTPA to 0.85 LTPA)
Name of Entity / Corporat	e Office	Tata Steel	
Village(s)		N/A	
District		KENDUJHAR	
Proposal No.	IA/OR/MIN/11666/2005	Category	Non-Coal Mining
Plot / Survey / Khasra No.	N/A	Sub-District	N/A
State	ODISHA	Entity's PAN	NA
MoEF File No.	J-11015/87/2004- IA.II(M)	Entity name as per PAN	NA

Compliance Reporting Details

Reporting Year	2024
Remarks (if any)	Six Monthly EC Compliance in respect of Tiringpahar iron & Mn Mine Project: Metal Mining (Open Cast) Project Proponent: Tata Steel Limited.
Reporting Period	01 Jun(01 Oct - 31 Mar)

Details of Production and Project Area

Name of Entity / Corporate Office Tata Steel

	Project Area as per EC Granted	Annual Project Area in Possession
Private	0	1.311
Revenue Land	98.486	34.515
Forest	70.514	133.17
Others	0	0
Total	169	168.995999999999998

Production Capacity

sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
1	Manganese Ore	Tons per Annum (TPA)	31/03/2025	85000	55803	85000
Condit	ions					
	Conditions					
Sr.No.	Condition T	уре	Condition D	etails		
1	Statutory con	pliance	"Consent to C expanding min		e obtained from SPCI	3 before
Consen Plant of vide let	f 1X392 TPD and	oduction of Mn Ore a mobile crushing p /CON/190 dated 07	lant of 1X50TPH	has been accorde	d by SPCB, Odisha	Date: 27/05/2024
2	Statutory con	ıpliance	including the It be prepared an agencies/institu should be dove implementation Reserve Forest specific activit and shall not be the implementation	ndian Elephant fo d implemented in ations and with the tailed with that pu- hyproposed for the in the buffer zone ies/tasks should b e diverted for any ation of the Plan a Ministry of Envir	rvation of endangered und in and around the consultation with ide e State Forest Departu- repared/under e endangered fauna fo e of the project site. T e earmarked in the Co- other purpose. Year v and the expenditure the comment & forests, RC	mine area sha ntified nent. The Plar und in the the costs for the onservation Pla wise status of ereon should b
A site-s Chief V Follow the imp monito implem	Wildlife Warden O ing funds have bee olementation of van ring, solar fencing mentation of region	nservation plan has disha vide memo no n deposited by PP t ious provisions of s and other • Rs 35.7	b. 7724/1WL-SSP to State Forest Dep site-Specific wildl Lakhs by user ag tion as per the der	94/2015 dated 03 ot till date for - • 1 ife conservation p ency • Rs 726700	8.08.2015. Rs. 240.47 lakhs for lan like avifauna	Date: 27/05/2024
3	MINING PL	AN			ndwater. Prior permiss on to mine below wate	
As per		blied ng plan and status tl lan period will not i				Date: 27/05/2024
4	MINING PL	AN	should be subn	nitted to the Minis	ng with details of Constry of Environment & losure for approval.	
A Final under t prescril years in	he "GUIDELINES bed by Indian Bure	n (FMCP) shall be FOR PREPARAT au of Mines. As pe date of closure/life	ION OF FINAL M r the said guidelin of the mine. How	IINE CLOSURE e, FMCP is requirever presently du	PLANS" as red to be prepared 2 ring the approval of	Date: 27/05/2024

	mmunicated to the Regional office, M		·
5	Statutory compliance	Mining shall not be undertaken in areas of forestland lease for which forestry clearance has not been obtained	
The pro land an clearan forest l to only	id non-forest land prevails over 133.17 ice has been accorded vide letter no F. and. FC for balance forest area of 80.8	n & Manganese Mine is 169.0 ha. Out of which, forest 4 ha and 35.826 ha respectively. Stage-II Forest No. 8-80/2004-FC dated 28.03.2007 for 52.348 ha of 26 ha has been applied. Presently mining is restricted restland of 15.605 ha and some portions of the broken-	Date: 27/05/2024
6	GREENBELT	Topsoil should be stacked properly with proper slope site(s) with adequate measures and should be used for and rehabilitation of mined out area.	e at earmarke reclamation
No top into an earmar	y virgin land. Whenever topsoil is gen	er 2023 to March 2024 since mining has not advanced erated, it will be stacked in a designated place aring mining operation earlier has been concurrently for roadside avenue plantation.	Date: 27/05/2024
7	WATER QUALITY MONITORING AND PRESERVATION	OB and other wastes should be stacked at earmarked should not be kept active for long periods of time. Plar be taken up for soil stabilization along the slopes of the terraced after every 5-6 m of height and overall slope a maintained not exceeding 28°. Sedimentation pits shal constructed at the corners of the garland drains. Retent shall be provided at the base of the dumps.	ntation should e dump and angle shall be l be
Mining approv waste a basis. A the sloj	ed mining plan. Dedicated sites have b and/or minerals/ mineral rejects. The st All matured dumps are stabilized by bi- pes and native varieties of forestry sap slope is maintained well within 28°. E illy for the dump management aspects	vities are ensured in line with the provisions of been earmarked for storing overburden (OB) and other atus thereof is updated in the surface plan on quarterly o-reclamation with the plantation of Vetiver grass on lings. The dump is terraced at every 5-6 mtrs and chvironmental Protection Measures ensured at site are as follows: 1. Network of Garland Drains and/or s/settling pits 3. Slope stabilization by means of coir al rehabilitation measures by means of native varieties	Date: 27/05/2024
overall especia Foe W matting of fore	g and/or vetiver grass plantation 4. Final	ches of the dump. Copy of latest surface plan is	

Existing the toe, the drait the pea periodic storm v connect	so that silt/sediments in the surface ru ns and the ponds are adequately made k flow during the rainy season. The ga cally de-silted and maintained properly vater which gets collected in the lower	een constructed all along the periphery of dump at noff can be arrested. Size, gradient and length of with respect to the size of the same to take care of rland drain, catch drains and sedimentation pits are y every year before the onset of monsoon. The most areas of the leasehold, during rains, is nine pit to store the water and also recharge the	Date: 27/05/2024
9	WATER QUALITY MONITORING AND PRESERVATION	Dimension of retaining wall at the toe of OB dump within the mine to check run-off and siltation should rainfall data.	
While of protection	on as well as arresting silt and sedime	heckdams, retention walls and rain passes for slope nt during monsoon season, following factors are catchment area, gradient slope and retention hours.	Date: 27/05/2024
10	AIR QUALITY MONITORING AND PRESERVATION	Trace Metals such as Ni, Co, As and Hg should be fall and soil samples for at least one year during sun and winter seasons. If concentrations of these metals the standards then with prior approval of MOEF this monitoring could be discontinued.	nmer, monsoon s are found below
Yearly and Hg	is being carried out. So far, no such tr	t fall and soil samples for parameters like Ni, Co, As ace mineral has been detected in the collected samples iring year FY 24 is <u>enclosed herewith</u> .	Date: 27/05/2024
11	AIR QUALITY MONITORING AND PRESERVATION	Mineral and OB transportation shall be in trucks/d with tarpaulins. Vehicular emissions should be kept regularly monitored. Suitable measures should be ta fugitive emissions from haulage roads & transfer po	under control an ken to check
Minera issuanc require emissic for the point of	e of transit permits for their onward tra d to have "Pollution under Check (PuC ns form haul roads, the following mea Haul Roads 2. Mist Canons at sorting f the mines 4. Dust suppression by mea	and all the trucks are covered with tarpaulins before ansportation. All the despatch vehicles are mandatorily C)" certificate to enter the mine. To restrict the fugitive usures have been taken up: -1. Fixed Sprinkling System yards 3. Automatic Wheel wash facility at the exit ans of mobile water tanker (capacity 12K1) deployed sprinkling arrangement at railway siding	27/05/2024
12	GREENBELT	A green belt of adequate width and area of 1.9 has by planting the native species around ML area, and plantation should also be carried out along roads, OI (21.996 ha) and in other areas within the lease (47.7 total area of 71.67 ha in consultation with the local I Department. The density of the trees should be not 1 plants per ha.	in addition B dump sites 74 ha) covering DFO/ Agricultur
Plantati (PMCP implem Accord). Tata Steel Limited has developed a sentation of measures for protection an ingly, emphasis on the principles of re	e with the provisions of Progressive Mine Closure Plan site-specific biodiversity management plan for d conservation of biodiversity in and around the mine. storation is ensured by following scientific plantation native (non-exotic) forestry saplings in the scheme of	Date: 27/05/2024

measure	lings have attained self-sustaining s es undertaken at mine level is <u>enclo</u>		
13	Statutory compliance	Groundwater shall not be used for mine operations. I of CGWA shall be obtained for using groundwater.	Prior approva
There is there is table. W	any mine associated ground water	e mine. Neither any borewell water is being used; nor seepage. There is no interception of the ground water reed from the adjacent mine i.e. Bamebari Iron & Mn	Date: 27/05/2024
14	WATER QUALITY MONITORING AND PRESERVATION	Regular monitoring of ground water level and quality carried out by establishing a network of existing wells constructing new piezometers. The monitoring should quantity four times a year in pre-monsoon (April / May (August). Post-monsoon (November) and winter (Janu and for quality in May. Data thus collected should be so Ministry of Environment & Forests and the Central Gr Authority quarterly.	and be done for y), monsoon ary) seasons submitted to t
A netwo quality		ls have been identified for monitoring of GW levels and py of the abstract of GW level recorded during the	Date: 27/05/2024
15	WATER QUALITY MONITORING AND PRESERVATION	Trace metals such as Fe, Cr+6, Cu, Se, As, Cd, Hg, I at specific locations for both surface water downstream water at lower elevations from mine area, shall be peri monitored in consultation with the OSPCB and State C	n and in grou odically Ground Water
		Board. Suitable treatment measures shall be undertake are found to be higher than permissible limits.	n in case leve
Water (reports both sur compar	are submitted to SPCB from time to rface and ground water attributes, n	are found to be higher than permissible limits. ted for both surface water and ground water. Monitoring to time. So far from the water quality analysis result of so such adverse impacts have been observed when ts/standards prescribed. An abstract of water quality	Date:
Water (reports both su compar assessm	Quality parameters are regularly test are submitted to SPCB from time to rface and ground water attributes, n ed with applicable permissible limit	are found to be higher than permissible limits. ted for both surface water and ground water. Monitoring to time. So far from the water quality analysis result of so such adverse impacts have been observed when ts/standards prescribed. An abstract of water quality	Date:
Water (reports both su compar assessm	Quality parameters are regularly test are submitted to SPCB from time to rface and ground water attributes, n ed with applicable permissible limi- nent for Oct'23 to Mar'24 is <u>enclose</u>	are found to be higher than permissible limits. ted for both surface water and ground water. Monitoring to time. So far from the water quality analysis result of so such adverse impacts have been observed when ts/standards prescribed. An abstract of water quality	Date:
Water (reports both succompar assessm	Quality parameters are regularly test are submitted to SPCB from time to rface and ground water attributes, n ed with applicable permissible limi- nent for Oct'23 to Mar'24 is <u>enclose</u> Conditions	are found to be higher than permissible limits. ted for both surface water and ground water. Monitoring to time. So far from the water quality analysis result of to such adverse impacts have been observed when ts/standards prescribed. An abstract of water quality ed herewith.	Date: 27/05/2024 ng should be
Water (reports both sur- compar assessm neral (Sr.No. 1 PPs S There is out as p	Quality parameters are regularly test are submitted to SPCB from time to rface and ground water attributes, n ed with applicable permissible limitent for Oct'23 to Mar'24 is enclose Conditions Condition Type MINING PLAN Submission: Complied s no change in the mining technology	are found to be higher than permissible limits. ted for both surface water and ground water. Monitoring to time. So far from the water quality analysis result of so such adverse impacts have been observed when ts/standards prescribed. An abstract of water quality ed herewith. Condition Details No change in mining technology and scope of worki made without prior approval of the Ministry of Enviro Forests. gy and scope of working of the mines. Mining is carried out with the	Date: 27/05/2024 ng should be

Produc Mines		ed by the Mine Plan approved by Indian bureau of has been made. Total annual production achieved 85 Lakh tonnes per annum.	Date: 27/05/2024
3	AIR QUALITY MONITORING AND PRESERVATION	Four ambient air quality-monitoring stations should in the core zone as well as in the buffer zone for RPM NOx. monitoring. Location of the stations should be the meteorological data, topographical features, and and ecologically sensitive targets in consultation with Pollution Control Board. Data on ambient air quality SO2 & NOx.) should be regularly submitted to the M its Regional office at Bhubaneshwar and the State Po Board I Central Pollution Control Board once in six	M. SPM, SO2, decided based of environmentally h the State (RPM, SPM, finistry includin ollution Control
In con dedica being of spatial to SPC the but	ted Ambient Air Quality monitoring sta carried out twice a week. Photographs o coordinates have been shared with Stat CB during renewal of CTO. In addition t	llution Control Board (Keonjhar Region), 04 nos of tion have been established and regular monitoring is f fixed type platforms properly geotagged with the e Pollution Control Board and the same was accepted o this, 12 nos of locations have also been identified in ct of Ambient Air Quality monitoring result for the enclosed herewith.	Date: 27/05/2024
4	AIR QUALITY MONITORING AND PRESERVATION	Drills should be wet operated or with dust extractor blasting should be practiced.	rs and controlle
Wet du inbuilt being o engagi	DE system. Controlled blasting techniq checked for every blasts done in the mir	acticed. Exploratory drills have been provided with ue with NONEL is in practice. Ground vibrations are ne. Blasting parameters are assessed periodically by d on the recommendation of such assessments, the	Date: 27/05/2024
5	AIR QUALITY MONITORING AND PRESERVATION	Fugitive dust emissions from all the sources should regularly monitored and data recorded properly. Wat arrangements on haul roads, wagon loading, dumper & unloading points should be provided and properly	er spraying s/ trucks, loadin
Follow (cap-1 yards a facility	2KI) for Haul Roads, Dump yards and o and screening plants 3. Fixed Sprinkling	ent of fugitive dust emission: 1. Mobile water tanker other locations) 2. Mist Canons (30 LPH) for sorting system for static haul roads 4. Automatic Wheel wash mines. Photographs of the fugitive dust pollution losed herewith.	Date: 27/05/2024
6	Noise Monitoring & Prevention	Adequate measures should be taken for control of a below 85 dBA in the work environment. Workers en and drilling operations, operations of HEMM, etc. sh with ear plugs/ muffs.	gaged in blastir
Ear plu and oth before ensure ambien integra	her high noise generating equipment's. F the installation of such noise generating d for the regulation of noise pollution as nt noise survey) and workplace noise su ated sound level meter. 2. Occupational	kers working in mining operation & DG operations Provision of acoustic enclosures are invariably ensured g instruments. Following monitoring measures are ssociated impacts: 1. Monitoring of Noise level (both rvey is carried out on monthly basis using an Noise Exposure assessment is also carried out for the s on quarterly basis by sampling individual workers	Date: 27/05/2024
1		n, Ministry of Environment, Forest and Climate Change,	Page

over eight-hour durations. Noise level monitoring data for the period during October 2023 to March 2024 is <u>enclosed herewith</u>.

7	WATER QUALITY MONITORING AND PRESERVATION	In Industrial waste water (workshop and waste water mine) should be properly collected, treated so as to cor standards prescribed under GSR 422 (E) dated 19 th M 31 st December 1993 or as amended from time to time grease trap should be installed before discharge of wor effluents.	form to the ay, 1993 and . Oil and
For eff Effluer provid Separa from the any pro- retention water s	nts from Workshop/Garage: Vehicle wa ed with separate catchment drains and f ation system having skimming arrangem he mine pits: Since there is no wet proce ocess. 3. Surface runoff is channelized a on period, the same is pumped to water	ing mitigative measures are ensured at the mine level: 1. Isshing system and associated operational activities are finally the effluents are collected in Oil-Water ments for oil and grease 2. Wastewater/runoff collected ess thus no wastewater is generated at any stage from and accumulated in the mine pit. After adequate storage tank for sprinkling purposes. 4. Periodically eparation system are collected and analysed by an ance w.r.t applicable standards.	Date: 27/05/2024
8	MISCELLANEOUS	Environmental laboratory should be established with number and type of pollution monitoring and analysis of consultation with the State Pollution Control Board.	adequate equipment in
Enviro it's lab laborat	oratory recognized by Ministry of Envir	d out by engaging an NABL Accredited agency having ronment, Forest & Climate Change. Though no captive entire services is outsourced to the third party who fms from the mine.	Date: 27/05/2024
9	Human Health Environment	Personnel working in dusty areas should wear protect devices and they should also be provided with adequate information on safety and health aspects. Occupational surveillance program of the workers should be undertain periodically to observe any contractions due to exposure take corrective measures, if needed.	e training and health ken
Person applica impart employ Beside Person Arm V	ability. It is regularly ensured at the entr ed to all the workers apart from the initi yees (departmental & contractual) are co es, Occupational health surveillance asse hal Dust Sampling & Free Silica exposur- vibration & Whole Body Vibration Expo	being mandatorily used by all the workers as per ry points. Safe Operating Procedure based training is ial VT training. Periodical Medical Examination of onducted as per prescribed norms of Mines Rule, 1955. essment as mentioned below are also carried out: 1. re assessment by a DGMS approved agency. 2. Hand- osure Assessment report by a DGMS approved a medical laboratory. Copy of the Manganese Testing <u>ewith</u> .	Date: 27/05/2024
		A separate environmental management cell with suita	
	Corporate Environmental Responsibility	personnel should be set up under the control of a Senio who will report directly to the Head of the Organizatio	

11	Corporate Environmental Responsibility	The funds earmarked for environmental protection be kept in separate account and should not be diverte purpose. Year wise expenditure should be reported to	d for other
		and its Regional Office located at Bhubaneshwar.	
A dedic GL acco protection of experi	ount having a unique cost centre map on related expenditures are booked i	environmental expenditure is maintained in a separate oped in the SAP system. All sorts of environmental n the said cost centre for accounting purpose. The details ancial years is as under: • FY-2021-22: Rs. 164.7 Lakhs • 24: Rs. 227.00 Lakhs	Date: 27/05/2024
12	MISCELLANEOUS	The Regional Office of this Ministry located at Bhu monitor compliance of the stipulated conditions. The authorities should extend full cooperation to the offic Regional Office by furnishing the requisite data/ info monitoring reports.	project er (s) of the
The con statutory		eration to the officers of the Regional Office and other e data / information / monitoring reports as and when ure as well.	Date: 27/05/2024
13	PUBLIC HEARING	A copy of clearance letter will be marked to the cor Panchayat/local NGO, if any, from whom suggestion has been received while processing the proposal.	
	ubmission: Complied	a website of the Commonse Come of the elegennes letter	Date: 27/05/2024
marked	to Sarpanch, Gram Panchayat, Jajan	he website of the Company. Copy of the clearance letter g on 12.01.2006.	21/03/2021
			copy of the
14 PPs S The EC	to Sarpanch, Gram Panchayat, Jajan Statutory compliance ubmission: Complied	g on 12.01.2006. The State Pollution Control Board should display a clearance letter at the Regional Office, District Indus Collector's Office/Tehsildar's Office for 30 days. the of Regional Office, District Industry Centre and	copy of the
14 PPs S The EC	to Sarpanch, Gram Panchayat, Jajan Statutory compliance ubmission: Complied documents was displayed in the offi	g on 12.01.2006. The State Pollution Control Board should display a clearance letter at the Regional Office, District Indus Collector's Office/Tehsildar's Office for 30 days. the of Regional Office, District Industry Centre and	copy of the try Centre and Date: 27/05/2024 wo local of which shall seven days of the thas been clearance letter may also be seen s at forwarded to the
 14 PPs S The EC Collector 15 PPs S A copy 	to Sarpanch, Gram Panchayat, Jajan Statutory compliance ubmission: Complied documents was displayed in the offi or's Office/ Tehsildar's Office for 30 Statutory compliance ubmission: Complied	g on 12.01.2006. The State Pollution Control Board should display a clearance letter at the Regional Office, District Indus Collector's Office/Tehsildar's Office for 30 days. The project authorities should advertise at least in t newspapers widely circulated around the project, one be in the vernacular of the locality concerned within a issue of the clearance letter informing that the project accorded environmental clearance and a copy of the available with the State Pollution Control Board and at Web Site of the Ministry of Environment & Forest http://envfor.nic.in and a copy of the same should be Regional Office of this Ministry located at Bhubanes	copy of the try Centre and Date: 27/05/2024 wo local of which shall seven days of the thas been clearance letter may also be seen s at forwarded to the war. Date:
 14 PPs S The EC Collector 15 PPs S A copy 	to Sarpanch, Gram Panchayat, Jajan Statutory compliance ubmission: Complied documents was displayed in the offic or's Office/ Tehsildar's Office for 30 Statutory compliance ubmission: Complied of Environmental Clearance with re	g on 12.01.2006. The State Pollution Control Board should display a clearance letter at the Regional Office, District Indus Collector's Office/Tehsildar's Office for 30 days. The project authorities should advertise at least in t newspapers widely circulated around the project, one be in the vernacular of the locality concerned within a issue of the clearance letter informing that the project accorded environmental clearance and a copy of the available with the State Pollution Control Board and at Web Site of the Ministry of Environment & Forest http://envfor.nic.in and a copy of the same should be Regional Office of this Ministry located at Bhubanes	copy of the try Centre and Date: 27/05/2024 wo local of which shall seven days of the thas been clearance letter may also be seen s at forwarded to the war. Date:
 14 PPs S The EC Collector 15 PPs S A copy Oriya N 	to Sarpanch, Gram Panchayat, Jajan Statutory compliance ubmission: Complied documents was displayed in the offic or's Office/ Tehsildar's Office for 30 Statutory compliance ubmission: Complied of Environmental Clearance with re	g on 12.01.2006. The State Pollution Control Board should display a clearance letter at the Regional Office, District Indus Collector's Office/Tehsildar's Office for 30 days. The project authorities should advertise at least in t newspapers widely circulated around the project, one be in the vernacular of the locality concerned within a issue of the clearance letter informing that the project accorded environmental clearance and a copy of the available with the State Pollution Control Board and at Web Site of the Ministry of Environment & Forest http://envfor.nic.in and a copy of the same should be Regional Office of this Ministry located at Bhubanes	copy of the try Centre and Date: 27/05/2024 wo local of which shall seven days of th t has been clearance letter may also be see s at forwarded to th war.



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BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012 Phone-2561909, Fax: 2562822, 2560955 E-mail: <u>paribesh1@ospcboard.org</u>, Website: <u>www.ospcboard.org</u>

CONSENT ORDER

No.

/ IND-I-CON-190

Dt. 07.01.2022

CONSENT ORDER NO. 115

536

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No. <u>3235235, Dated 20-12-2020 and Online reply dated</u> <u>30.12.2021, Letter No. MGM/P&E/305/21 dated 31.1.2021</u>

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: TIRINGPAHAR MANGANESE MINE OF M/S. TATA STEEL LTD.

Name of the Occupier & Designation SRI AWNISH KUMAR, CHIEF AND AGENT

Address: AT/ PO: BAMEBARI, VIA: JODA, DIST: KEONJHAR

This consent order is valid for the period up to 31/03/2025 from the date of issue of this order.

This consent order supersedes the earlier consent order issued vide letter No. 3741 dated 12.03.2021.

Details of Products Manufactured

SI. No	Product	Quantity
01.	Manganese Ore	0.085 MTPA

Details of Mineral Handling Plants /Units

01	Operation of mobile screening plant 1 X 392 TPD
02	Operation of mobile crushing plant 1 x 50 TPH

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



A. Discharge permitted through the following outlet subject to the standard

Out let	Description of outlet	Point of	Quantity	Pre-scribed Standard					
No.	ouner	discharge	of discharg e KL/hr	рН	TSS (mg/l)	Oil & Grease (mg/1)	BOD (mg/1)		
01	Septic tank (Domestic effluent)	Soak pit	-	5.5-9.0	200		100		
02	Mine drainage water/ surface runoff/other wastewater	On land / inland surface water body.	4754 (max)	5.5-9.0	100 (Rainy day 50 (Non -Rainy day)	10	-		

B. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission	Prescribed Standard		54 (4
				PM (mg/Nm³)	SO ₂	NO _x
					1	

C. Disposal of solid waste permitted in the following manner

SI. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site(TPD)	Quantity to be reused off site(TPD)	Quantity disposed off (TPD)	Description of disposal site.
01	Top soil & over burden	As per approved mining plan				As per approved mining plan

GENERAL CONDITIONS FOR ALL UNITS D.

DISHA

1.

- The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act. 1981 and to make such variations as deemed fit for the purpose of the Acts
- The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and 2 quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment
- The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the 3 previous written permission of the Board.
- The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times 4 without any negligence on his part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
- The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order. 5
- The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it 6 authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
- This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural 7
- The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board. a
- 9 An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
- The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or 10 of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and
- Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance 11 and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below: 12
 - - Industrial cooling, spraying in mine pits or boiler feed, a)
 - b) Domestic purpose
 - C) Process
- The applicant shall display suitable caution board at the lace where the effluent is entering into any water-body or any other place to be 13. indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing
- Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow 14 measuring devices will be installed.
- The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-15. proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open
- The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems 16. install or used by him to achieve with the term(s) and conditions of the consent.
- Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic 17. lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made
- The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining 18 access into any drainage channel or other water courses either directly or by overflow
- The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time. 19.
- If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of 20 dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
- The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank. 21
- The effluent treatment units and disposal measures shall become operative at the time of commencement of production. 22
- 23 The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the outlet points and Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
- The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / 24
- The applicant shall not change or after either the quality or quantity or rate of emission or install, replace or after the air pollution control 25. equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the
- No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of 26



- The liquid effluent ansing out of the operation of the air pollution control equipment shall w treated in the manner and to ion of standards 27 prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
- The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time, 26
- There shall not be any fugitive or episodal discharge from the premises. 29
- In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by 30 the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
- The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, 31 stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
- Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and 32 / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurence.
- The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may 33. be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area
- The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments 34. collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.
- All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by 35
 - Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into Û. ground water or carried away with storm run-off.
 - Controlled incineration, wherever possible in case of combustible organic material, -iiì
 - iii) Composting, in case of bio-degradable material.
- Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of 36 this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
- If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation 37 (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
- The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the 38. expiry period of this consent.
- The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this 39 consent.
- Notwithstanding anything contained in this conditional letter of consent, the Board Mereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such 40 variations as deemed fit for the purpose of the Act by the Board.
- The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) 41 Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
- In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to 42 keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
- The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is 43. observed and to modify/ stipulate additional conditions as deemed appropriate.

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

- The applicant shall analyse the emissions every month for the parameters indicated in TABLE .B & C as mentioned in this order and shall furnish the report thereof to the Board by the 10th of the succeeding month. 1.
- The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphor Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monixide and monitor the same once in a 2, day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.
- The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, 3.
- temperature, humidity, rainfall, etc. and the daily reading shall be recorded and the extract sent to the Board once in a month. The applicant shall forward the following information to the Member Secretary. State Pollution Control Board, Odisha, Bhubaneswar 4 regularly.
 - Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month. a.
 - Progress on planting of trees quarterly. b.

6.

The applicant shall install mechanical composite sampling equipment and continuous flow measuring / recording devices on the effluent 5. drains of trade as well as domestic effluent. A record of daily discharge shall be maintained.

- The following information shall be forwarded to the Member Secretary on or before 10th of every month.
 - Performance / progress of the treatment plant. а.
 - Monthly statement of daily discharge of domestic and/or trade effluent. b.



a)

i)

7. Non-compliance with effluent limitations

- If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
 - i) Causes of non-compliance
 - A description of the non-compliance discharge including its impact on the receiving waters.
 - Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
 - (iii) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
 - iv) Steps to be taken by the applicant too prevent the condition of non-compliance.
- b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
- c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.
- 8. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.
- 9. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or trickling of acids or alkalies arbitrarily and utilizing poles for stirring etc. should not be resorted to.
- In the disposal of treated effluent on land for irrigation, the industry shall keep in view of the need for;
 - Rotation of crops
 - Change of point of application of effluent on land
 - A portion of land kept fallow,
- 11. The adoption of these would avoid soil becoming sick or state, the industry may ensure this in consultation with the Agriculture Department.
- 12. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent if any.
- Proper housekeeping shall be maintained by a dedicated team.
 The industry must constitute a team of accessible
 - The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned. Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.



E. SPECIAL CONDITIONS :

- 1) This consent order is subject to compliance of orders of the Hon'ble Supreme Court of India in the matter of W. P. (Civil) 114/2014.
- This consent order is subject to permission from MoEF & CC, Govt. of India and Steel and Mines Department, Government of Odisha for continuing of mining operation.
- 3) Mining operation is subject to availability of all other statutory clearances.
- 4) Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.
- 5) Controlled blasting shall be practiced to minimize generation of dust and fly rocks.
- 6) Regular water sprinkling shall be carried out in critical areas prone to air pollution such as around crushing and screening plant. Water sprinkling shall also be carried out on haul roads at frequent interval so that it should always remain in wet condition. Haulage roads shall be devoid of ruts and potholes and shall be maintained properly to avoid generation of dust during movement of vehicles.
- 7) The 50 TPH crusher plant shall be installed with its pollution control measures and shall be informed to Board for verification. The commissioning of the crusher plant shall be done only after the verification of adopted pollution control measures by Regional Officer, Keonjhar and permission from Board.
- 8) Dust suppression measures preferably dry fog system shall be provided at all appropriate places of mineral handling plants (crushing and screening plant). Loading the unloading areas including all the transfer points shall also have efficient dust suppression arrangements (dry fog system). These shall be properly maintained and operated.
- 9) Mechanized wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine. The wheel washing facility shall be integrated with complete recirculation system.
- 10) The vehicles carrying ore for transportation from the mine shall be covered with tarpaulin (both bottom & top).
- 11) Regular water sprinkling on mineral transportation roads passing through the habitation area as well as other strategic point on the National Highway shall be done jointly by the mining lessees in consultation with the Regional Officer.
- 12) Atleast four Ambient Air Quality Monitoring Stations shall be established in core zone and buffer zone for monitoring of ambient air quality at the locations of the

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stations as decided in consultation with the Regional Officer, State Pollution Control Board based on the metrological data, topographical features and environmentally and ecologically sensitive targets

- 13) The monitoring of ambient air quality shall be carried out twice in a week (24 hourly) at a particular site and the consolidated data shall be submitted to the State Pollution Control Board, once in a year.
- 14) The ambient air quality shall remain within prescribed national ambient air quality standards.
- 15) The top soil generated shall be stored at earmarked site (s) only and stabilized with plantation or shall be used for land reclamation and plantation.
- 16) The overburden generated during the course of mining shall be stacked at earmarked dump site (s) and stabilized with plantation or used for reclamation of excavated land followed by plantation.
- 17) The project proponent shall ensure that no natural watercourse and / or water resources are obstructed due to any mining operations.
- 18) Check dams and check weirs shall be constructed at appropriate places of the mine lease area to prevent direct flow of runoff to nearby water bodies. The surface runoff water from the existing runoff management system shall meet the prescribed standards as stated in Part A (SI No. 2) of the consent order.
- 19) Retention wall shall be constructed at the toe of topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps, over burden dumps and mineral stack yards terminating at settling pit to prevent direct disposal of runoff to nearby water bodies.
- 20) Garland drain and sedimentation pit shall be de-silted after monsoon or as and when required. The runoff discharge quality from runoff management system shall meet the prescribed standards as stated in Part A (SI No. 2) of the consent order.
- 21) Domestic effluents shall be treated in a sewage treatment plant (STP) and or shall be discharged to soak pit via septic tank constructed as BIS specification. The treated wastewater quality of STP shall remain within the following standards and shall be used for plantation:

рH	•	6.5 -9.0
TSS	•	<100 mg/l
BOD		30 mg/l
Fecal Coliform	.	<1000 MPN/100 ml.



- 22) ETP shall be operated at all time for workshop and wastewater generated during mining operation, if any. The quality of the treated wastewater shall conform to the prescribed standard as stated in Part A (SI No. 2) of the consent order.
- 23) Regular monitoring of water quality of upstream and downstream of surface water bodies existed if any within 5 Km shall be carried out once in every month and record shall be maintained and submitted to the State Pollution Control Board once in every year. Monitoring shall be carried out through MoEF& CC accredited laboratory.
- 24) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.
- 25) The mine shall take necessary action for compliance with the air and water quality standards as stipulated in this order.
- 26) Adequate measures shall be taken for control of noise levels in the work environment of mine area so that noise levels at the boundary line of mining lease area shall not exceed 75 dB(A) during day time (6.00 AM to 9.00 PM) and 70 dB(A) during night time (9.00 PM to 6 AM).
- 27) Adequate noise barriers shall be provided surrounding the crushing and screening plants to control noise pollution and avoid impact on wildlife due to operation of crushing and screening plants during night hours.
- 28) Online noise monitoring system shall be installed to monitor noise level during night hours.
- 29) Protective barriers shall be provided for the lights to prevent illumination towards the forest area during night hours.
- 30) Ambient air quality monitoring data, noise monitoring data and water / wastewater quality monitoring data shall be electronically displayed at the entry point of the mine or at a suitable location of the mine.
- 31) Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department.

The annual plantation details shall be submitted to the Board by 30th April every year.

- 32) A copy of the annual return (annual return submitted to IBM, Govt. of India/ Directorate of Mines, Govt. of Odisha) shall be submitted to this Board every year.
- 33) The environmental statement report for the financial year ending 31st March shall be submitted to the Board in Form -V on or before 30th September every year.

MEMBER SECRETARY STATE POLLUTION CONTROL BOARD, ODISHA

To,

SRI AWNISH KUMAR, CHIEF AND AGENT, TIRINGPAHAR MANGANESE MINE, M/S TATA STEEL LTD., AT/PO: BAMEBARI, VIA: JODA, DIST: KEONJHAR. PIN-758034.

Memo No._____ /Dt. /

Copy forwarded to :

- i) Regional Officer, State Pollution Control Board, Keonjhar.
- ii) District Collector, Keonjhar
- iii) Director of Mines, Govt. of Odisha, Bhubaneswar
- iv) Director, Environment-cum-Special Secretary, F & E. Dept. Govt. of Odisha, Bhubaneswar.
- v) D.F.O,<u>Keonjhar</u>
- vi) Deputy Director of Mines, Joda
- vii) Additional Chief Env. Engineer, Central Lab. SPCB, Bhubaneswar
- viii) Additional Chief Env. Engineer, (Hazardous waste management cell)
- ix) Consent Register

CHIEF ENV. ENGINEER (M) STATE POLLUTION CONTROL BOARD, ODISHA



GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS



CONSENT ORDER

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GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART --A : EFFLUENTS

SI.No.	Parameters	Standards								
	-	Inland surface	Public sewers	Land for irrigation	Marine Costal Areas					
		(a)	(b)	(C)	(d)					
1.	Colour&odour	Colourless/Odou rless as far as practible		See 6 of Annex-1	See 6 of Annex-1					
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.					
3.	Particular size of SS	Shall pass 850								
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0					
6.	Temperature	Shall not exceed 5°C above the receiving water temperature			Shall not exceed 5 [°] C above the receiving water temperature					
7.	Oil & Grease mg/l max.	10	20	10	20					
Β.	Total residual chlorine	1.0			1.0					
Э.	Ammonical nitrogen (as N) mg/l max.	50	50		50					
10.	Total Kajeldahl nitrogen (as NH ₃) mg/1 max.	100			100					
1.	Free ammonia (as NH ₃) mg/1 max.	5.0			5.0					
	Biochemical Oxygen Demand (5 days at (20ºC) mg/1 max.	30	350	100	100					
3.	Chemical Oxygen Demand, mg/1 max.	250			250					
	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2					
	Mercury (as Hg) mg/1 max.	0.01	0.01		0.001					
6.	Lead (as pb) mg/1 max.	01.	1.0		2.0					



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CONSENT ORDER TIRINGPAHAR MANGANESE MINE OF MIS. TATA STEEL LTD

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17.	Cardmium (as Cd) mg/1 max.	2.0	1.0		2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0		1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0		2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0		3.0
21.	Zinc (as Zn) mg/l max.	5.0	15		15
22.	Selenium (as Sc) mg/l max.	0.05	0.05		0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0	(<u>1997)</u>	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15		15
26.	Dissolved Phosphates (as P) mg/l max.	5.0		DATESTON.	
27.	Sulphide (as S) mg/l max.	2.0			5.0
28.	Phennolic compounds as (C_6H_5OH) mg/l max.	1.0	5.0		5.0
29.	Radioactive materials a. Alpha emitter micro curle/ml. b. Beta emitter micro curle/ml.	10 ⁷ 10 ⁶	10 ⁷ 10 ⁶	10 ⁸ 10 ⁷	10 ⁷ 10 ⁶
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l		2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l		3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l		0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	1000 000 000 000 000 000 000 000 000 00		20 mg/l



NATIONAL AMBIENT AIR QUALITY STANDARDS

SI. No.	Pollutants	Time		Concentrate of	of Ambient Air
		Weighed Average	Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	-Improved west and Gaeke
2.	Nitrogen Dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40	30	- Modified Jacob &Hochheiser (Na-Arsenite)
3.	Particulate Matter	Annual *		80	- Chemiluminescence
0.	(size less than 10μm) or PM ₁₀ μg/m ³	24 Hours **	60 100	60 100	-Gravimetric - TOEM - Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual * 24 Hours **	40 60	40 60	-Gravimetric - TOEM - Beta Attenuation
5.	the second se	Q [a.v== **	100		
5.	Ozone (O ₃) μg/m ³	8 Hours ** 1 Hours **	100 180	100 180	- UV Photometric - Chemiluminescence - Chemical Method
6.	Lead (Pb) µg/m ³	Annual *	0.50	0.50	-AAS/ICP method after
		24 Hours **	1.0	1.0	sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m ³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR)
8.	Ammonia (NILL)	1 Hours **	04	04	Spectroscopy
J.	Ammonia (NH₃) µg/m³	Annual* 24 Hours**	100 400	100 400	-Chemiluminescence - Indophenol Blue Method
Э.	Benzene (C ₆ H ₆) μg/m³	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m ³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m ³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m ³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA, BDA APARTMENT, 5TH FLOOR, PRAKRUTI BHAWAN, NILAKANTHA NAGAR, BHUBANESWAR-12 Ph. No.0674-2564587, FAX No.0674-2565062 (Website:odishawildlife.org, E. mail: odishawildlife@gmail.com)

Memo No. 7724 /1 WL-SSP-94/2015 Dated, Bhubaneswar, the 3 / Aug, 2015

The Principal Chief Conservator of Forests, Odisha, Bhubaneswar

Sub:

Approval of Site Specific Wildlife Conservation Plan in respect of Tiringpahar Manganese Mines of TATA Steel Ltd. in Keonjhar Forest Division

It is to inform you that M/s TATA Steel Ltd. has to implement a Site Specific Wildlife Conservation Plan for its Tiringpahar Manganese mines in Keonjhar district in compliance to Specific Condition No.(xiv) stipulated in the Environment Clearance granted by Govt. of India, MoEF vide their letter No. J-11015/87/2004-IA.II(M) dated 17.11.2005 and condition No.(ix) & (x) of the Forest Clearance granted by Govt. of India, MoEF vide their letter No. 8-80/2004-FC dated 28.3.2007.

2. The Site Specific Wildlife Conservation Plan in respect of the above project has been approved by the undersigned with financial forecast of **₹276.17 lakh** (Rupees two crore seventy-six lakh seventeen thousand) only for the following activities.

a.	For activities to be implemented by the user agency in project area	₹35 . 70 lakh
b.	For activities to be implemented by DFO, Keonjhar Division in project impact area	₹240.47 lakh
	Grand Total:	₹276.17 lakh

3. Various activities in the lease hold area will be executed by the Project proponent under the guidance of the Divisional Forest Officer, Keonjhar Division. A sum of ₹240.47 lakh only may be deposited in the CAMPA fund meant for the purpose for implementation of various activities within the project impact area by the Forest Deptt. as envisaged in the plan.

4. The User Agency may be advised to note the following conditions for future compliance.

• This Plan may be revisited after 5 years and the User Agency will give undertaking to contribute towards the revised cost of the conservation plan till the project period, if any.

- The project proponent has to prepare and submit the Conservation Plan for the next 10 years of their lease period (balance period for which forest land remains diverted) at least one year before the expiry of the present Conservation Plan and deposit the outlay amount upon its approval. In case of delay, it will be dealt as per law for violations of Forest Conservation Act, 1980 and Environment (Protection) Act, 1986.
- The project proponent has to give an undertaking to bear the differential cost in case of enhancement of wage rate during the time of implementation of this plan.

Encl: 2 copies of approved site specific WL Conservation Plan

falazi

Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden, Odisha

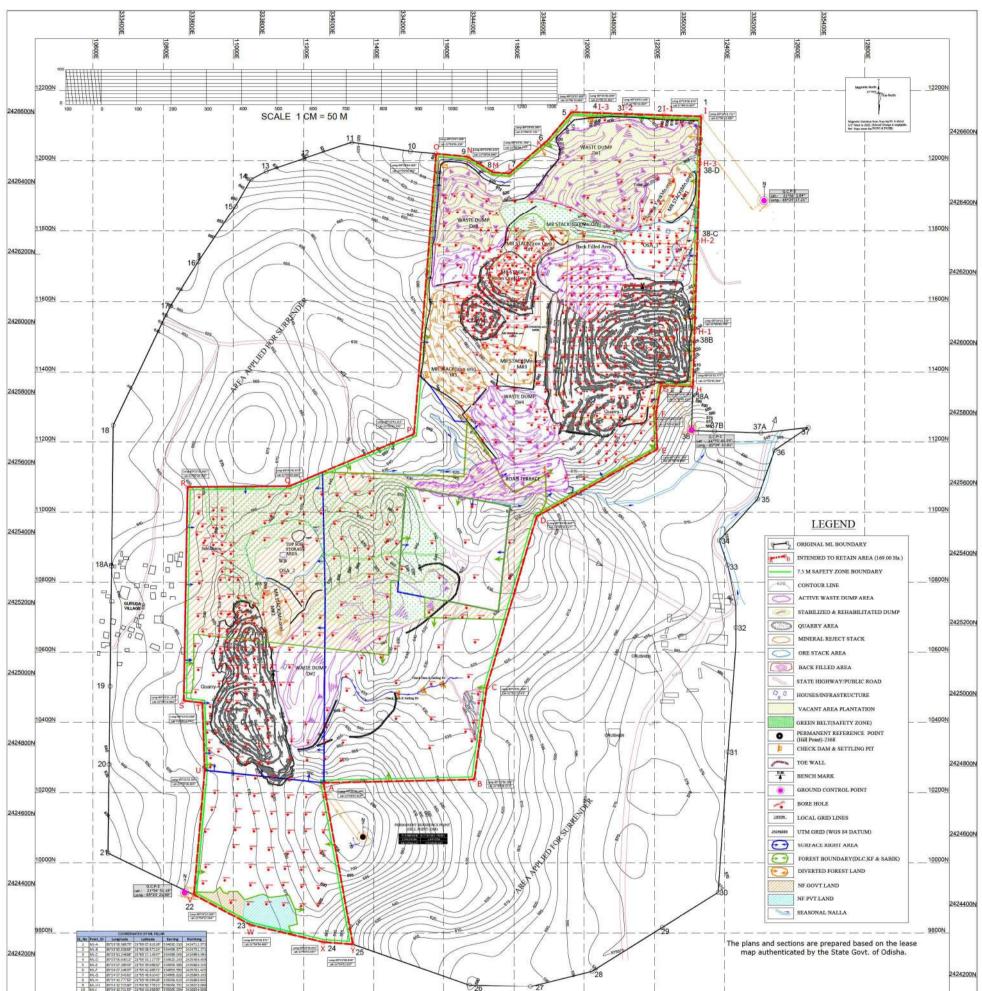
Memo No. 7725 /date 21-08:2015

Copy forwarded for information and necessary action to -

- 1. Special Secretary to Govt. of Odisha, F&E Deptt., Bhubaneswar
- 2. Regional Chief Conservator of Forests, Rourkela Circle with reference to memo No.5703 dt 16.7.2015 of the DFO, Keonjhar Division
- 3. Divisional Forest Officer, Keonjhar Division with reference to his memo No.5702 dt 16.7.2015 alongwith a copy of the approved site specific wildlife conservation plan
- 4. The Head, M/s Tiringpahar Manganese Mines (TATA Steel Ltd.), At/PO- Joda, Dist. Keonjhar alongwith a copy of the approved site specific wildlife conservation plan

-- Si-Sr--1

Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden, Odisha



9400N	23 ML6 81°27 31.18728 21°85 34 ML7 85°27 30.06527 21°55 25 ML0 85°27 31.561.27 21°55 26 ML4 85°27 32.561.27 21°55 26 ML4 85°27 32.561.27 21°56 26 ML4 85°27 32.571.07 21°56 27 ML4 85°27 38.571.07 21°54	P. A. T. SP. 226(2):36 24(5):44 20(5):37 V. J. A. DABARY 233(7):37 233(7):37 233(7):37 V. J. A. SPARY 233(7):37 234(7):37 234(7):37 V. J. A. SPARY 233(7):37 234(7):37 234(7):37 V. J. A. SPARY 233(7):37 24(7):47 234(7):37 V. J. D. Marking 233(7):37 24(7):47 234(7):37 V. J. A. SPARY 233(7):37 24(7):47 234(7):37 V. J. A. SPARY 233(7):37 24(7):47 234(7):37 V. J. A. SPARY 233(7):37 24(7):47 234(7):37 V. J. SPARY 233(7):37 24(7):47 234(7):37 V. J. SPARY 233(7):37 24(7):47 234(7):37 V. J. SPARY 24(7):47 230(7):37 24(7):47 V. J. SPARY 24(7):47 230(7):37 24(7):47 V. J. SPARY 24(7):47 25(7):37 24(7):47 V. J. SPARY 24(7):47 25(7):47 24(7):47 V. J. SPARY 24(7):47 25(7):47 <t< th=""><th></th><th>LEP SCHOOL STREET</th><th></th><th></th><th></th><th></th><th>·</th><th></th><th>ON & MANGANESE MINE FACE PLAN UDA BLOCK)</th><th></th></t<>		LEP SCHOOL STREET					·		ON & MANGANESE MINE FACE PLAN UDA BLOCK)	
	10	đ	13	±	Ę.	12	12	12	12	Drawing No DWG 5A	Scale : 1:5000	
	6008	8006	000	2008	4000	000	8008	0008	2006	Drawing No DWG 5A	UP TO DATE AS ON 01.04.2024	

	DUST FALL ANALYSIS (WINTER SEASON - FEBRUARY'24)										
		Heavy Metal concentrations (g/m ² -mo)									
Location	Arsenic	Cadmium	Copper	Hexavalent Chromium	Iron	Lead	Manganese	Mercury	Selenium	Zinc	
Guruda Pit Office, TIMM	<0.0003	<0.0003	0.046	<0.0003	1.835	<0.0003	0.546	<0.0003	<0.0003	0.0045	
Guruda Dumping Yard, TIMM	<0.0003	<0.0003	0.0283	<0.0003	2.86	<0.0003	0.547	<0.0003	<0.0003	0.0077	
Haul Road, Guruda, TIMM	<0.0007	<0.0007	0.0582	<0.0007	15.409	<0.0007	4.034	<0.0007	<0.0007	0.0473	
Guruda Shorting Yard, TIMM	<0.0010	<0.0010	0.0576	<0.0010	14.009	<0.0010	6.637	<0.0010	<0.0010	0.0968	
Guruda Screen Plant, TIMM	<0.0005	<0.0005	0.0765	<0.0005	5.993	<0.0005	1.718	<0.0005	<0.0005	0.0262	
Near Stock Yard, Guruda, TIMM	<0.0023	<0.0023	0.0237	<0.0023	31.608	<0.0023	6.993	<0.0023	<0.0023	0.0501	

DUST FALL ANALYSIS RESULT ABSTARCT

Photographs of Plantation areas of Tiringpahar Mine





Chemist:->

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M/s Khondbond Iron & Manganese Mine

(M/s TATA Steel Limited District - Kendujhar,

ound Water Table Measurement

October-2023

State - Odisha-758 034

<u>Test Report</u>

	4	မ	2	1	SI. No.
an M N	OMC Colony	Khondbond Village	Guruda Village	Ganua Village	Village Name
	17/10/2023	17/10/2023	17/10/2023	17/10/2023	Date of Measurement
14. 14.	Dugwell near road	Dugwell in field (Mr. Mothua Munda)	Dugwell near Club	Dugwell near road (Mr. Keshar Patra)	Details of location
2	3.27	3.64	4.26	3.81	Static Water Level from Measuring Point i.e. Measuring Point in Mtrs. (Level in mbmp) (magl)
) Ka	0.50	0.70	0.65	0.53	Measuring Point i.e. MP distance above ground level in Mtrs. (magl)
J.	2.77	2.94	3.61	3.28	Water level Below Ground Level in Mtrs. = mbmp - magl

-- End of Report--

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Chemist:-5

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M/s Khondbond Iron & Manganese Mine

(M/s TATA Steel Limited) District - Kendujhar,

Fround Water Table Measurement

State - Odisha-758 034.

Test Report

SI. No.	Village Name	Date of Measurement	Details of location	Static Water Level from Measuring Point in Mirs (Level in principal	Measuring Point i.e. MP distance above ground level in Mtre	Water level Bélow Ground Level in
-	Camera 87.11			mans: (never m momb)	(magl)	Mtrs. = mbmp - magl
٠	Ganua Village	17/11/2023	(Mr. Keshar Patra)	3.93	0 73	2
2	Guruda Village	17/11/2023	Durwall more CL-1		0.00	J.40
	Khondhond		Pugwen Hear Club	4.53	. 0.65	. 3 88
ω	Village	17/11/2023	Dugwell in field	3 78		0.00
4	OMC Colony	17/11 /0000	V		0.70	3.08
		C707/11/11	Dugwell near road	3.61	0.50	2 11

-End of Report-----

Authorized Signatory

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OMC Colony

15/12/2023

ω

Guruda Village Khondbond

15/12/2023

(Mr. Mothua Munda

Dugwell in field

ω

Dugwell near road

3.84

0.50

3.34

15/12/2023

Dugwell near Club

Village

N

Ganua Village

15/12/2023

Dugwell near road (Mr. Keshar Patra) Anacon Laboratories Pvt. Ltd. Nagpur Lab ♀ FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 └ + 91 8045685558 ☎ Email : info@anacon.in → https: // www.anaconlaboratories.com

Test Report

SI.

No.

Village Name

Date of Measurement

Details of location

Static Wate

Measurin Mtrs. (Levo

Chemist:- S (W

---End of Report----

Authorized Signatory

State - Odisha-758 034. (M/s TATA Steel Limited) District - Kendujhar,

M/s Khondbond Iron & Manganese Mine

Ground Water Table Measurement

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	5

ing Point i.e. itance above level in Mtrs. (magl) 0.53 0.65 0.70	.91	.72	.16	el in mbmp)	2023	Measurement	
Water level Below Ground Level in Mtrs. = mbmp - ma 3.63 4.07 3.21	0.70	0.65	0.53	Measuring Point i.e. MP distance above ground level in Mtrs. (magl)	2	ment	
d a	3.21	4.07	3.63	Water level Below Ground Level in Mtrs. = mbmp - magl			•

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Anacon Laboratories Pvt. Ltd. Nagpur Lab

moo.seitotsrodslnoosns.www \\ :eqtif @ ni.noosns@oini : lism3 🕿 8223882408 re + 🤳 MIDC Butibori, Nagpur, Maharashtra, India - 441 122 FP-34, 35, Food Park, Five Star Industrial Estate,

Authorized Signatory

Laboratories

Angcon

NODANA

M/s Khondbond Iron & Manganese Mine

(M/s TATA Steel Limited) District - Kendujhar,

Test Report

Ground Water Table Measurement

State - Odisha-758 034.

---End of Report-----

Chemist:-5

ä	
Water Level fro suring Point in (Level in mbm)	Static Water Level from Measuring Point in Mtrs. (Level in mbmp)Measuring Point i.e. MP distance above ground level in Mtrs.
Date La	Measu MP di ground



Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making aure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuing that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.



Angcon Laboratories

4

ω

Khondbond

Village

N

Guruda Village

13/02/2024

Dugwell near Club

5.47

4.62

0.53(magl)

4.09

0.65

4.82

13/02/2024

Mr. Mothua Munda

Dugwell in field

4.26

0.70

3.56

0.50

3.69

Ganua Village

13/02/2024

Dugwell near road

(Mr. Keshar Patra)

Anacon Laboratories Pvt. Ltd. Nagpur Lab ♥ FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 ≤+ 91 8045685558 Email : info@anacon.in O https://www.anaconlaboratories.com

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M/s Khondbond Iron & Manganese Mine State - Odisha-758 034. (M/s TATA Steel Limited) District - Kendujhar,

Ground Water Table Measurement

February-2024

Test Report

No

Village Name

Measurement

Date of

Details of location

Static Water Level from

Mtrs. (Level in mbmp) **Measuring Point in**

> ground level in Mtrs Measuring Point.i.e. MP distance above

Mtrs. = mbmp - magl

Water level Below Ground Level in

Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.

-End of Report-----

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	est Repor	<u>t</u>			
	Water level Below Ground Level in Mtrs. = mbmp - magl	4.15	4.86	3.67	3.76
ment	Measuring Point i.e. MP distance above ground level in Mtrs. (magl)	0.53	0.65	0.70	0.50
District - Kendujnar, State - Odisha-758 034. Ground Water Table Measurement <u>March-2024</u>	Static Water Level from Measuring Point in Mtrs. (Level in mbmp)	4.68	5.51	4.37	4.26
State - Oc Ground Wate	Details of location	Dugwell near road (Mr. Keshar Patra)	Dugwell near Club	Dugwell in field (Mr. Mothua Munda)	Dugwell near road
	Date of Measurement	20/03/2024	20/03/2024	20/03/2024	20/03/2024
	Village Name	Ganua Village	Guruda Village	Khondbond Village	OMC Colony
	SI. No.	-	2	e	4

--End of Report--

Chemist:- / X

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Mitra S. K. Private Limited

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline: MSKPL/FD/2023-24/74FA5B 12/02/2024 MSKNB/FD/2023-24/02/14322B 03/02/2024 03/02/2024 - 12/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000002271F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	Surface Water
3. Unique Identification of sample(if any)	NA
4. Date of sampling	02/02/2024
5. Place of sampling	Palasa (KHA) Pond
6. Environmental conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS 17614 (P-23) 2021
8. Identification of the personnel performing sampling by MSK	Mukesh Haiburu, Akash Ku. Sethy, Pratik Ku. Mantri

Report No.: MSKPL/FD/2023-24/74FA5B

Sample No.: MSKNB/FD/2023-24/02/14322B

RESULT

chemical				
SI No.	Parameter	UOM	Method	Result
1	Arsenic as As	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
2	Boron as B	mg/l	IS 3025 (Part 2)	BDL(DL:0.25)
3	Cadmium as Cd	mg/l	IS 3025 (Part 2)	BDL(DL:0.001)
4	Colour	Hazen	IS 3025 (Part 4)	BDL(DL:1.0)
5	Copper as Cu	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
6	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	BDL(DL:0.02)
7	Fluoride as F	mg/l	IS 3025 (Part 60)	1.02
8	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52) Sec2	BDL(DL:0.01)
9	Lead as Pb	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
10	Manganese as Mn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
11	Mercury as Hg	mg/i	IS 3025 (Part 48)	BDL(DL:0.0002)
12	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500-NO3- B	1.05
13	Zinc as Zn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)

---- END ------

Opinion:

NA

Statement of Conformity NA

Reviewed By:		
Signature	Abayle Saw P. Yoy ut	
Name	: Mis. Alrayee Saha, Ms. Piali Ganguly	
Designation	Sr. Exe. Chemist, Executive Chemist	

Authorized Signatory Signature Name Dr. Soumyedeep M Designation Lab in charge

Head Office: Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email : info@mitrask.com Website : www.mitrask.com Page 1 of 2





Mitra S. K. Private Limited

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal

Tel.: +91 7044036120 Email: udayanlab@mitrask.com





Doc No.: MSK/GEN/19/07

TESTING • INSPECTION

MSK

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ULR: TC-695024000002271F

Reviewed By:

Abrake Soon P. Genzo Signature Ms. Atravee Saha, Ms. Piali Ganguly Name Sr. Exe. Chemist, Executive Chemist Designation

Authorized Signatory Signature Name : Dr. Soumyadeep M op Designation : Lab In charge

Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tet. : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email : info@mitrask.com Website : www.mitrask.com

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com

Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West



TESTING . INSPECTION

Doc No .: MSK/GEN/19/07



Scan for Portal

ULR: TC-695024000002271F

TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/74FA5B 12/02/2024 MSKNB/FD/2023-24/02/14322B 03/02/2024 03/02/2024 - 08/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	
3. Unique Identification of sample(if any)	Surface Water
4. Date of semaliar	NA
4. Date of sampling	02/02/2024
5. Place of sampling	Palasa (KHA) Pond
6. Environmental conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS 17614 (P-25) 2022
8. Identification of the personnel performing sampling by MSK	Mukesh Haiburu, Akash Ku. Sethy, Pratik Ku. Mantri

Report No. : MSKPL/FD/2023-24/74FA5B

NA

Sample No. : MSKNB/FD/2023-24/02/14322B

RESULT

Micro Biology				
SI No.	Parameter	UOM	Method	Result
1	Total coliform	MPN/100ml	Standard methods for the examination of water & waste water, 24th edtn, 9221B	4.5

Opinion :

Statement of Conformity NA

- END -----

Name Ms. Maitreyee Chakraborty Designation Executive Microbiologist

Reviewed By

Signature

Authorized Signatory Signature Name Ms. Maitreyee Chakraboriy

> Designation : **Executive Microbiologist**

The results relate only to the item(s) tested.

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Head Office:

Shrachi Centra (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email : info@mitrask.com Website : www.mitrask.com

At/P.O.:BARBIL Ward No-6 Dist.: Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T :+91 94370 09815,94370 09820,94370 75269

E : barbil@mitrask.co.in

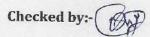
W: www.mitrask.com

Report No. MSKGL/ED/2023-24/005025

	ANALYSIS REPORT OF SURFACE WATER
Name of the Client	M/s. TATA STEEL LIMITED
Name of the Mines	Bamebari Iron & Manganese Mines (BIMM)
Date of sampling	02.02.2024
Location	Palasa Kha Village Pond (BIMM)

CHEMICAL ANALYSIS OF WATER

Sl. No.	Test Parameters	Unite	Method	Max. Tolerance Limit as per CPCB	Results
1	Biochemical Oxygen Demand (as BOD)	mg/l	APHA (24th Edition), 5210B	30	9.1
2	Calcium (as CaCo3)	mg/l	APHA (24th Edition), 2340 C		36
3	Chemical Oxygen Demand (COD)	mg/l	APHA (24th Edition), 5220B	250	
4	Chloride (as Cl)	mg/l	APHA (24th Edition), 4500 -Cl B	230	32
5	DO	mg/l	APHA 24th Edition, 2023 4500-0-C/G		5.6
6	Electrical conductivity	us/cm	APHA (24th Edition), 2510B		5.0
7	Iron (as Fe)	mg/l	APHA (24th Edition), 3500 Fe B	3	0.37
8	Magnesium (as Mg)	mg/l	APHA (24th Edition), 3500 Mg B		22
9	Odour	mg/l	APHA (24th Edition), 2150B	Agreeable	Agreeable
10	Oil and Grease	mg/l	APHA (24th Edition), 5520B	10	<5.0
11	Phenolic Compounds (as C6H5OH)	mg/l	APHA (24th Edition), 5530C (Chloroform Extraction)	1	<0.001
12	Salinity	PSU	APHA (24th Edition), 2520B		0.300
13	Sulphate (as SO4)	mg/l	APHA (24th Edition), 4500 SO42-E		17.3
14	Total Alkalinity	mg/l	APHA (24th Edition), 5210B		
15	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C		190
16	Total Hardness (as CaCO3)	mg/l	APHA (24th Edition), 2340 C		344
17	Total Suspended Solid (as TSS)	mg/l	APHA (24th Edition),2540D	50/100	128
18	pH value at 19.2 deg C	None	APHA 24th Edition, 2023 4500-H+B	5.5-9.0	60 7.6



For Mitra S. K. Private Limited BRaudhary Authorized Signatory

H. O.: Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W: www.mitrask.com



Date: 16.02.2024

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline: MSKPL/FD/2023-24/3GFCBG 26/02/2024 MSKNB/FD/2023-24/02/1T12AA 15/02/2024 15/02/2024 - 26/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003014F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	Drinking Water
3. Unique Identification of sample(if any)	NA
4. Date of sampling	14/02/2024
5. Place of sampling	Guruda shorting yard (TIMM) R O water
6. Environmental conditions during sampling & Transport	(2 -5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS:17614(P-5) 2022
8. Identification of the personnel performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/3GFCBG

Sample No.: MSKNB/FD/2023-24/02/1T12AA

RESULT

Chemical						
SI No.	Parameter	UOM	Method	Acceptable Limit	Permissible Limit	Result
1	Cadmium as Cd	mg/l	IS 3025 (Part 2)	0.003	No Relaxation	BDL(DL:0.001
2	Arsenic as As	mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
3	Copper as Cu	mg/l	IS 3025 (Part 2)	0.05	1.5	BDL(DL:0.02)
4	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	0.05	No Relaxation	BDL(DL:0.02)
5	Fluoride as F	mg/l	IS 3025 (Part 60)	1.0	1.5	BDL(DL:0.2)
6	Lead as Pb	mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
7	Manganese as Mn	mg/l	IS 3025 (Part 2)	0.1	0.3	BDL(DL:0.02)
8	Mercury as Hg	mg/l	IS 3025 (Part 48)	0.001	No Relaxation	BDL(DL:0.000
9	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No Relaxation	BDL(DL:0.01)
10	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500- NO3- B	45	No Relaxation	0.78
11	Selenium as Se	mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
12	Silica (as SiO2)	mg/l	IS 3025 (Part 35)	Not Specified	Not Specified	BDL(DL:0.1)
13	Silver as Ag	mg/l	IS 3025 (Part 2)	0.1	No Relaxation	BDL(DL:0.005
14	Total Chromium as Cr	mg/l	IS 3025 (Part 2)	0.05	No Relaxation	BDL(DL:0.01)
15	Zinc as Zn	mg/l	IS 3025 (Part 2)	5	15	BDL(DL:0.02)
16	Colour	Hazen	IS 3025 (Part 4)	5	15	BDL(DL:1.0)

Reviewed By:

Head Office:

Signature Alsauge Jahr Ms. Atayee Saha, Ms. Piali Ganguly Name

Designation : Sr. Exe. Chemist, Executive Chemist

Authorized Signatory

Signature Name Dr. Soumyadee Designation : / Lab In charge

Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email : info@mitrask.com Website : www.mitrask.com



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ULR: TC-695024000003014F

Doc No.: MSK/GEN/19/07

TESTING . INSPECTION

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity NA

Opinion:

--- END ------



Atraja Sun F.y Signature Ms. Atravee Saha, Ms. Piali Ganguly Name

Authorized Signatory

Signature

Name Dr. Soumye Lab In charge Designation :

Designation : Sr. Exe. Chemist, Executive Chemist

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The reserved part of sample(s) for chemical analysis (Soil, Solid & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

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leep Mukhopadhya

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Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West

Tel.: +91 7044036120 Email: udayanlab@mitrask.com



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ULR: TC-695024000003014F

TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/3GFCBG 26/02/2024 MSKNB/FD/2023-24/02/1T12AA 15/02/2024 15/02/2024 - 16/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

2. Description of sample	Water & Residue in Water
3. Unique Identification of sample(if any)	Drinking Water
4. Date of sampling	NA
5. Place of sampling	14/02/2024
6. Environmental conditions during sampling & Transport	Guruda shorting yard (TIMM) R O water
. Sampling Plan & Method used	(2 -5) deg C Cold chain maintained
Identification of the personnel as f	IS:17614(P-25) 2022
8. Identification of the personnel performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/3GFCBG

Sample No. : MSKNB/FD/2023-24/02/1T12AA

RESULT

Micro Biology SI No. Parameter UOM Method Acceptable Limit Permissible Limit 1 Result Total Coliform Bacteria /100ml IS 15185 Not Detectable Not Applicable 2 E. coli Not Detected /100ml IS 15185 Not Detectable Not Applicable Not Detected

Opinion:

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity NA

--- END -----

Reviewed Rv

Signature

Name Ms. Maitreyee Chakraborty Designation : Executive Microbiologist

Authorized Signatory: Signature Name Ms. Mailreyee Chakraborty Designation Executive Microbiologist

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ead Office:

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Report No. MSKGL/ED/202	3-24/005028	
ANALYSIS REPORT OF DRINKING WATER		Date: 25.02.2024
Name of the Client	M/s. TATA STEEL LIMITED	
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)	
Date of sampling	14.02.2024	
Location	Guruda Shorting Yard R O Water	

CHEMICAL ANALYSIS OF WATER AS PER IS: 10500 - 2012

SI. No.		Unite	Method	Norms as per IS: 10500- 2012		T
				Desirable Limit	Permissible Limit	Results
	Ammonical Nitrogen	mg/l	APHA (24thEdition),4500-NH3-F	0.5	No Relaxation	
2	Calcium (as Ca)	mg/l	APHA (24th Edition),3500 Ca B	75	200	-1.0
3	Chloride (as Cl)	mg/l	APHA (24th Edition),4500 -CI B	250		29
4	Odour	Hazen			1000	22
5	Electrical conductivity	us/cm	3025 (Part-5)-1983;Rffm:2012	Agreeable	Agreeable	Agreeable
6	Iron (as Fe)		APHA (24th Edition),2510B			250
7		mg/l	APHA (24th Edition),3500 Fe B	0.3	No Relaxation	< 0.05
	Magnesium (as Mg)	mg/l	APHA (24th Edition), 3500 Mg B	30	100	
8	Phenolic Compound (asC6H5OH)	mg/l	APHA (24th Edition), 5530C (Chloroform Extraction)	0.001	0.002	9 <0.001
9	Potassium (as K)	mg/l	APHA (24th Edition), 3500 K B			40.001
10	Salinity	PSU	APHA (24th Edition), 2520B		4	<1.0
11	Sodium (as Na)	mg/l	APHA (24th Edition), 3500 Na B			0.128
12	Sulphate (as SO4)					3.9
13	Taste	mg/l	APHA (24th Edition) 4500 SO42-E	200	400	<1.0
14		None	IS 3025 (Part 8)-1983 Rffm:2012_(0)	Agreeable	Agreeable	Agreeable
	Total Alkalinity (as CaCO3)	mg/l	APHA (24th Edition), 2320B	200	600	
15	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C	500	2000	92
16	Total Hardness (as CaCO3)	mg/l	APHA (24th Edition), 2340 C	200		150
17	Total Suspended Solid (as TSS)	mg/l	APHA (24th Edition),2540D		600	108
18	Turbidity	N.T.U				<2.5
19	pH value at 18.2 deg C		APHA (24th Edition), 2130B	1	5	<1.0
	pri value at 10.2 deg L	None	APHA 24th Edition, 2023,4500,H+B	6.5-8.5	No Relaxation	7.44

Checked by:-

For Mitra S. K. Private Limited

BRaudhay Authorized Signatory

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TEST REPORT

Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/QMFCBD 26/02/2024 MSKNB/FD/2023-24/02/8R1292 15/02/2024 15/02/2024 - 26/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023

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ULR: TC-695024000003015F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	
3. Unique Identification of sample(if any)	Drinking Water
4. Date of sampling	
5. Place of sampling	14/02/2024
6. Environmental conditions during sampling & Transport	B S Mineing rest shelter guruda (TIMM) R O water
7. Sampling Plan & Method used	(2 -5) deg C Cold chain maintained
Identification of the personnel as for the second	IS:17614(P-5) 2022
8. Identification of the personnel performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/QMFCBD

Sample No. : MSKNB/FD/2023-24/02/8R1292

Chemical

RESULT

Chemical					Constant States	
SI No.	Parameter	UOM	Method	Acceptable Limit	Permissible Limit	Result
1	Arsenic as As	mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.00
2	Zinc as Zn	mg/l	IS 3025 (Part 2)	5)
3	Colour	Hazen	IS 3025 (Part 4)	5	15	BDL(DL:0.02
4	Copper as Cu	mg/l	IS 3025 (Part 2)	0.05	15	BDL(DL:1.0)
5	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	0.05	1.5	BDL(DL:0.02)
6	Fluoride as F	mg/l	IS 3025 (Part 60)	1.0	No Relaxation	BDL(DL:0.02)
7	Lead as Pb	mg/l	IS 3025 (Part 2)		1.5	BDL(DL:0.2)
8	Manganese as Mn			0.01	No Relaxation	BDL(DL:0.005
		mg/l	IS 3025 (Part 2)	0.1	0.3	BDL(DL:0.02)
9	Mercury as Hg	mg/l	IS 3025 (Part 48)	0.001	No Relaxation	BDL(DL:0.000
10	Nickel (as Ni)	mg/l	IS 3025 (Part 2)	0.02	No Relaxation	2) BDL(DL:0.01)
11	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500- NO3- B	45	No Relaxation	0.58
12	Selenium as Se	mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
13	Silica (as SiO2)	mg/l	IS 3025 (Part 35))
14	Silver as Ag	and the second second		Not Specified	Not Specified	BDL(DL:0.1)
15		mg/l	IS 3025 (Part 2)	0.1	No Relaxation	BDL(DL:0.005
	Total Chromium as Cr	mg/l	IS 3025 (Part 2)	0.05	No Relaxation	BDL(DL:0.01)
16	Cadmium as Cd	mg/l	IS 3025 (Part 2)	0.003	No Relaxation	BDL(DL:0.001

Reviewed By Signature

Head Office:

Name

Ms. Atrayee Saha, Ms. Piali Ganguly

Designation · Sr. Exe. Chemist, Executive Chemist

Authorized Signatory Signature Name nvadeep ML Designation : Lab In charge

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Report No. :

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

NA

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com





Doc No.: MSK/GEN/19/07

TESTING • INSPECTION

MSK

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Opinion:

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity

----- END -----.....

Reviewed By: Signature Atrayu Sula T: K Ms. Atjeyee Saha, Ms. Piali Ganguis Name Designation : Sr. Exe Chemist, Executive Chemist

Authorized Signatory: Signature Dr/Soumyadeep Mukhopadhyay Name

Designation : /Lab In charge

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Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West





Doc No .: MSK/GEN/19/07

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ULR: TC-695024000003015F

TEST REPORT

Report No. :
Date :
Sample No. :
Date of receipt of sample:
Date(s) of performance:
Location of performance of
Reference No. & Date :
Discipline:

MSKPL/FD/2023-24/QMFCBD 26/02/2024 MSKNB/FD/2023-24/02/8R1292 15/02/2024 15/02/2024 - 16/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results: 1 Groun

2. Description of sample	Water & Residue in Water
3. Unique Identification of sample(If any)	Drinking Water
4. Date of sampling	NA
5. Place of sampling	14/02/2024
Environmental conditions during sampling & Transport	B S Mineing rest shelter guruda (TIMM) R O water
. Sampling Plan & Method used	(2 -5) deg C Cold chain maintained
Identification of the personnel performing sampling by MSK	IS:17614(P-25) 2022
bersonnel performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/QMFCBD

Sample No. : MSKNB/FD/2023-24/02/8R1292

RESULT

Micro Biology SI No. Parameter UOM Method Acceptable Limit Total Coliform Bacteria Permissible Limit Result /100ml IS 15185 2 Not Detectable Not Applicable E. coli Not Detected /100ml IS 15185 Not Detectable Not Applicable Not Detected

Opinion:

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity NA

--- END ----

Reviewed By: Signature

Name Ms. Maitreyee Chakraborty Designation : Executive Microbiologist

Authorized S	ign	atory:
Signature	:	-FIC-
Name	1	Ms. Maitreyee Chakraborty
Designation	÷	Executive Microbiologist

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	ANALVSIS PEDODT OF DOWN	25.02.2024
Name of the Client	ANALYSIS REPORT OF DRINKING WATER	
Name of the Mines	M/S. TATA STEEL LIMITED	
Date of sampling	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)	
	14.02.2024	
Location	BS Mining Rest Shelter R O Water	

CHEMICAL ANALYSIS OF WATER AS PER IS: 10500 - 2012

51. No.		Unite	Method	Norms as per IS: 10500- 2012		
1				Desirable Limit		Results
2		mg/l	APHA (24thEdition),4500-NH3-F	0.5	Limit No Relaxation	+
2	Calcium (as Ca)	mg/l	APHA (24th Edition),3500 Ca B			<1.0
3	Chloride (as Cl)	mg/l		75	200	27
4	Odour	+	APHA (24th Edition),4500 -Cl B	250	1000	12
5		Hazen	3025 (Part-5)-1983;Rffm:2012	Agreeable	Agreeable	
	Electrical conductivity	us/cm	APHA (24th Edition),2510B	0	Ingreeable	Agreeable
6	Iron (as Fe)	mg/l	APHA (24th Edition),3500 Fe B			249
7	Magnesium (as Mg)	mg/l		0.3	No Relaxation	0.07
8	Phenolic Compound	mg/1	APHA (24th Edition), 3500 Mg B	30	100	11
0	(asC6H5OH)	mg/l	APHA (24th Edition), 5530C	1		11
9	Potassium (as K)	mg/l	(Chloroform Extraction)	0.001	0.002	<0.001
10	Salinity	1	APHA (24th Edition), 3500 K B			<1.0
11		PSU	APHA (24th Edition), 2520B			
	Sodium (as Na)	mg/l	APHA (24th Edition), 3500 Na B			0.127
12	Sulphate (as SO4)	mg/l	APHA (24th Edition) 4500 SO42-E			3.9
13	Taste	None		200	400	<1.0
14	Total Alkalinity (as CaCO3)		IS 3025 (Part 8)-1983 Rffm:2012_(0)	Agreeable	Agreeable	Agreeable
15		mg/l	APHA (24th Edition), 2320B	200	600	
	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C	500		96
6	Total Hardness (as CaCO3)	mg/l	APHA (24th Edition), 2340 C		2000	148
7	Total Suspended Solid (as TSS)	mg/l		200	600	112
8	Turbidity		APHA (24th Edition),2540D			2.7
9		N.T.U	APHA (24th Edition), 2130B	1	5	
1	pH value at 18.2 deg C	None	APHA 24th Edition, 2023,4500,H+B	6.5-8.5		<1.0
	30			0.0-0.0	No Relaxation	7.84

Checked by:-Shit

For Mitra S. K. Private Limited

BRaudhaw Authorized Signatory

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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/P1FCB6 26/02/2024 MSKNB/FD/2023-24/02/EB128K 15/02/2024 15/02/2024 - 26/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023

Chemical

Sample No.: MSKNB/FD/2023-24/02/EB128K

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	Drinking Water
3. Unique Identification of sample(if any)	NA
4. Date of sampling	14/02/2024
5. Place of sampling	
6. Environmental conditions during sampling & Transport	Guruda pit office (TIMM) R O water
7. Sampling Plan & Method used	(2 -5) deg C Cold chain maintained
B Identification of the personnel of the	IS:17614(P-5) 2022
8. Identification of the personnel performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/P1FCB6

100	gene of		8	-
- 14	ES			•
	Nature Name	~	See.	

hemical						
SI No.	Parameter	UOM	Method	Acceptable Limit	Permissible Limit	Result
1	Arsenic as As	mg/l	IS 3025 (Part 2)	0.01		BDL(DL:0.00
2	Zinc as Zn	mg/l	IS 3025 (Part 2)		No Relaxation)
3	Colour	Hazen	IS 3025 (Part 4)	5	15	BDL(DL:0.02
4	Copper as Cu	mg/l	IS 3025 (Part 2)	5	15	BDL(DL:1.0)
5	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	0.05	1.5	BDL(DL:0.02
6	Fluoride as F	mg/l		0.05	No Relaxation	BDL(DL:0.02)
7	Lead as Pb		IS 3025 (Part 60)	1.0	1.5	BDL(DL:0.2)
		mg/l	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
8	Manganese as Mn	mg/l	IS 3025 (Part 2)	0.1	0.3) BDL(DL:0.02)
9	Mercury as Hg	mg/l	IS 3025 (Part 48)	0.001	No Relaxation	BDL(DL:0.002)
10	Nickel (as Ni)	mg/l	IS 3025 (Part 2)			2)
11	Nitrate as NO3		APHA (24th EDITION) 4500-	0.02	No Relaxation	BDL(DL:0.01)
	The second s	mg/i	NO3- B	45	No Relaxation	0.64
12	Selenium as Se	mg/I	IS 3025 (Part 2)	0.01	No Relaxation	BDL(DL:0.005
13	Silica (as SiO2)	mg/l	IS 3025 (Part 35))
14	Silver as Ag	mg/l		Not Specified	Not Specified	BDL(DL:0.1)
15	Total Chromium as Cr	-	IS 3025 (Part 2)	0.1	No Relaxation	BDL(DL:0.005
		mg/l	IS 3025 (Part 2)	0.05	No Relaxation	BDL(DL:0.01)
16	Cadmium as Cd	mg/l	IS 3025 (Part 2)	0.003	No Relaxation	BDL(DL:0.001

Reviewed By:

P. Gengal Atrayee Sana Signature : Ms. Atrayee Saha, Ms. Piali Ganguly Name

Designation : Sr. Exe. Chemist, Executive Chemist

Authorized Signatory Signature Name Sounvadeen Designation : /Lab In charge

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NA

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TC-6950



Opinion:

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity

--- END -----

Reviewed By: Atrayer Sava P. Genzaly Signature : Ms. Atrayee Saha, Ms. Piali Ganguly Name Designation : Sr. Exe. Chemist, Executive Chemist

Authorized Signatory. Signature Name Dr. Soumyad ep Mu Designation : Jab In charge

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Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West





Doc No .: MSK/GEN/19/07

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TEST REPORT

Report No. :
Date :
Sample No. :
Date of receipt of sample:
Date(s) of performance:
Location of performance of
Reference No. & Date :
Discipline:

MSKPL/FD/2023-24/P1FCB6 26/02/2024 MSKNB/FD/2023-24/02/EB128K 15/02/2024 15/02/2024 - 16/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

2. Description of sample	Water & Residue in Water
3. Unique Identification of sample(if any)	Drinking Water
4. Date of sampling	NA
5. Place of sampling	14/02/2024
6. Environmental conditions during sampling & Transport	Guruda pit office (TIMM) R O water
7. Sampling Plan & Method used	(2 -5) deg C Cold chain maintained
3. Identification of the personnel performing sampling by MSK	IS:17614(P-25) 2022
better performing sampling by MSK	PRANAB SETHI

Report No. : MSKPL/FD/2023-24/P1FCB6

Sample No. : MSKNB/FD/2023-24/02/EB128K

Vicro Biol	logy		RESULT			
SI No.	Parameter	UOM	Method			
1	Total Coliform Bacteria	/100ml		Acceptable Limit	Permissible Limit	Result
2	E. coli	E coli IS 15185 Not Detectable		Not Detectable	Not Applicable	Not Detected
		7100111	IS 15185	Not Detectable	Not Applicable	Not Detected

Opinion :

Acceptable limit & Permissible limit are as per IS:10500:2012

Statement of Conformity NA

-- END -----

Signature Name

Reviewed By

Ms. Maitreyee Chakraborty Designation : Executive Microbiologist

Authorized Signatory Signature Name Ms. Maitreyee Chakraborty

Designation : Executive Microbiologist

The results relate only to the item(s) tested.

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W: www.mitrask.com

Report No. MSKGL/ED/202	3-24/005032
	Date: 25.02.202 ANALYSIS REPORT OF DRINKING WATER
Name of the Client	M/s. TATA STEEL LIMITED
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)
Date of sampling	14.02.2024
Location	Guruda Pit Office R O Water

CHEMICAL ANALYSIS OF WATER AS PER IS: 10500 - 2012

SI. No.	Io. Test Parameters	Unite	Method	Norms as per IS: 10500- 2012		
1				Desirable Limit	Permissible Limit	Results
		mg/l	APHA (24thEdition),4500-NH3-F	0.5	No Relaxation	<1.0
2	Calcium (as Ca)	mg/l	APHA (24th Edition),3500 Ca B	75	200	
3	Chloride (as Cl)	mg/l	APHA (24th Edition),4500 -Cl B	250	1000	32
4	Odour	Hazen			1000	22
5	Electrical conductivity		3025 (Part-5)-1983;Rffm:2012	Agreeable	Agreeable	Agreeable
		us/cm	APHA (24th Edition),2510B			286
6	Iron (as Fe)	mg/l	APHA (24th Edition),3500 Fe B	0.3	No Relaxation	<0.05
7	Magnesium (as Mg)	mg/l	APHA (24th Edition), 3500 Mg B	30	100	
8	Phenolic Compound (asC6H5OH)	mg/l	APHA (24th Edition), 5530C (Chloroform Extraction)	0.001	0.002	6
9	Potassium (as K)	mg/l	APHA (24th Edition), 3500 K B			-0.001
10	Salinity	PSU	APHA (24th Edition), 2520B			<1.0
11	Sodium (as Na)	mall				0.136
12	Sulphate (as SO4)	mg/l	APHA (24th Edition), 3500 Na B			4
		mg/l	APHA (24th Edition) 4500 SO42-E	200	400	<1.0
13	Taste	None	IS 3025 (Part 8)-1983 Rffm:2012_(0)	Agreeable	Agreeable	
14	Total Alkalinity (as CaCO3)	mg/l	APHA (24th Edition), 2320B	200	600	Agreeable
15	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C			96
16	Total Hardness (as CaCO3)	mg/l		500	2000	158
17	Total Suspended Solid (as TSS)		APHA (24th Edition), 2340 C	200	600	104
18		mg/l	APHA (24th Edition),2540D			<2.5
	Turbidity	N.T.U	APHA (24th Edition), 2130B	1	5	
.9	pH value at 18.2 deg C	None	APHA 24 th Edition, 2023,4500,H+B	6.5-8.5	No Relaxation	<1.0

Checked by:- (89)

For Mitra S. K. Private Limited

Brandhamy Authorized Signatory

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Name & Address of Customer :

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Tata Steel Ltd.(MGM)_Joda West





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ULR: TC-695024000002010F

TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/TTED63 07/02/2024 MSKNB/FD/2023-24/01/2PA22Y 05/01/2024 05/01/2024 - 15/01/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Michael B. David and Mark
2. Description of sample	Water & Residue in Water
	SURFACE WATER
3. Unique Identification of sample(if any)	NA
4. Date of sampling	04/01/2024
5. Place of sampling	
6. Environmental conditions during sampling & Transport	BBL-4363 Jalahari Nala Jarouli Water
7. Compliance Conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS 17614 (P-23) 2021
8. Identification of the personnel performing sampling by MSK	Akash Kr Sethi, Pratik Kr. Mantri

Report No. : MSKPL/FD/2023-24/TTED63

Sample No. : MSKNB/FD/2023-24/01/2PA22Y

RESULT

chemical				
SI No.	Parameter	UOM	Method	Danulk
1	Arsenic as As	mg/l		Result
2	Boron as B	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
3	Cadmium as Cd	The second s	IS 3025 (Part 2)	BDL(DL:0.25)
4		mg/l	IS 3025 (Part 2)	BDL(DL:0.001)
5	Colour	Hazen	IS 3025 (Part 4)	BDL(DL:1.0)
	Copper as Cu	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
6	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	BDL(DL:0.02)
7	Fluoride as F	mg/l	IS 3025 (Part 60)	and the second se
8	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52) Sec2	0.38
9	Lead as Pb			BDL(DL:0.01)
10	Manganese as Mn	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
11		mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
	Mercury as Hg	mg/l	IS 3025 (Part 48)	BDL(DL:0.0002)
12	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500-NO3- B	0.80
13	Zinc as Zn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)

Opinion:

NA

Statement of Conformity NA

Reviewed By

Head Office:

vara San Signature Name Ms. Atrayee Saha, Ms. Piali Ganguly

Designation . Sr. Exe. Chemist, Executive Chemist

- END -----

Authorized Signatory Signature Name Dr. Soumyade p Mukhopadinyay Designation Lab In charge

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Reviewed By:

P -Alsaure Sana Signature Ms. Atrayee Saha, Ms. Piali Ganguly Name

Designation : Sr. Exe. Chemist, Executive Chemist Authorized Signatory: Signature Dr. Sp Name ep mya Designation Lab In charge

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Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West



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TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/TTED63 07/02/2024 MSKNB/FD/2023-24/01/2PA22Y 05/01/2024 05/01/2024 - 10/01/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	SURFACE WATER
3. Unique Identification of sample(if any)	NA
4. Date of sampling	04/01/2024
5. Place of sampling	BBL-4363 Jalahari Nala Jarouli Water
6. Environmental conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS 17614 (P-25) 2022
8. Identification of the personnel performing sampling by MSK	Akash Kr Sethi, Pratik Kr. Mantri

Report No. : MSKPL/FD/2023-24/TTED63

NA

Sample No. : MSKNB/FD/2023-24/01/2PA22Y

RESULT

licro Biology				
SI No.	Parameter	UOM	Method	Result
1	Total coliform	MPN/100ml	Standard methods for the examination of water & waste water, 24th edtn, 9221B	14

Opinion :

Statement of Conformity NA

END ----

Reviewed By: Signature Name Mr. Sukanta Palu Designation : Technical In charge Authorized Signato Signature Name Mr. Sukanta Palu 1 Designation : Technical In charge

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T

Report No. MSKGL/ED/202	3-24/004436	
ANALYSIS REPORT OF SURFACE WATER		Date: 10.02.2024
Name of the Client	M/s. TATA STEEL LIMITED	
Name of the Mines	Tiringpahar Iron & Manganese Mines (TIMM)	
Date of sampling	04.01.2024	
Location	Jalhari Nala Jurudi (TIMM)	

CHEMICAL ANALYSIS OF WATER

Sl. No.	Test Parameters	Unite	Method	Max. Tolerance Limit as per CPCB	Results
1	Biochemical Oxygen Demand (as BOD)	mg/l	APHA (24th Edition), 5210B	30	<2.0
2	Calcium (as CaCo3)	mg/l	APHA (24th Edition), 2340 C		
3	Chemical Oxygen Demand (COD)	mg/l	APHA (24th Edition), 5220B	250	16
4	Chloride (as CI)	mg/l	APHA (24th Edition), 4500 -Cl B	250	<4.0
5	DO	mg/l	APHA 24th Edition, 2023 4500-O-C/G		6
6	Electrical conductivity	-			5.4
7		us/cm	APHA (24th Edition), 2510B		122
890)	Iron (as Fe)	mg/l	APHA (24th Edition), 3500 Fe B	3	0.45
8	Magnesium (as Mg)	mg/l	APHA (24th Edition), 3500 Mg B		6.7
9	Odour	mg/l	APHA (24th Edition), 2150B	Agreeable	
10	Oil and Grease	mg/l	APHA (24th Edition), 5520B	10	Agreeable
11	Phenolic Compounds (as C6H5OH)	mg/l	APHA (24th Edition), 5530C (Chloroform Extraction)	1	<5.0
12	Salinity	PSU	APHA (24th Edition), 2520B		0.063
13	Sulphate (as SO4)	mg/l	APHA (24th Edition), 4500 SO42-E		
14	Total Alkalinity	mg/l	APHA (24th Edition), 5210B		<1.0
15	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C		48
16	Total Hardness (as CaCO3)	mg/l	APHA (24th Edition), 2340 C		76
17	and the second				68
8	Total Suspended Solid (as TSS)	mg/l	APHA (24th Edition),2540D	50/100	6.3
	pH value at 19.2 deg C	None	APHA 24th Edition, 2023 4500-H+B	5.5-9.0	6.02

Checked by:- (8)

For Mitra S. K. Private Limited

- Son **Authorized Signatory** RARBIL

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TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/JHED6F 07/02/2024 MSKNB/FD/2023-24/01/TAP205 05/01/2024 05/01/2024 - 15/01/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	
3. Unique Identification of sample(if any)	SURFACE WATER
4. Date of sampling	NA
5. Place of sampling	04/01/2024
6. Environmental conditions during sampling & Transport	BBL-4365 Tindharia Down Stream Baitarni Rilver
7. Sampling Plan & Method used	(2 - 5) deg C Cold chain maintained
	IS 17614 (P-23) 2021
8. Identification of the personnel performing sampling by MSK	Akash Kr Sethi, Pratik Kr. Mantri

Report No. : MSKPL/FD/2023-24/JHED6F

Sample No.: MSKNB/FD/2023-24/01/TAP205

RESULT

chemical				
SI No.	Parameter	UOM	Method	Popult
1	Arsenic as As	mg/l	IS 3025 (Part 2)	Result
2	Boron as B	mg/l		BDL(DL:0.005)
3	Cadmium as Cd	mg/l	IS 3025 (Part 2)	BDL(DL:0.25)
4	Colour		IS 3025 (Part 2)	BDL(DL:0.001)
5	Copper as Cu	Hazen	IS 3025 (Part 4)	BDL(DL:1.0)
6	Cyanide as CN	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
7		mg/i	IS 3025 (Part 27) Sec1	BDL(DL:0.02)
8	Fluoride as F	mg/l	IS 3025 (Part 60)	BDL(DL:0.2)
9	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52) Sec2	BDL(DL:0.01)
	Lead as Pb	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
10	Manganese as Mn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
11	Mercury as Hg	mg/l	IS 3025 (Part 48)	BDL(DL:0.0002)
12	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500-NO3- B	0.94
13	Zinc as Zn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)

- END -----

Opinion:

NA

Statement of Conformity NA

Reviewed By

Head Office:

Signature trayer Sana P. Ms. Atravee Saha, Ms. Piali Ganguly Name

Designation Sr. Exe. Chemist, Executive Chemist

Authorized Signatory: Signature Name Mukhopadhyay Dr. umy Designation . Lab In charge

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Reviewed By

Atrayer Saha P-Go Signature 1 Ms. Atrayee Saha, Ms. Piali Ganguly Name Designation : Sr. Exe. Chemist, Executive Chemist

Authorized Signatory:

Signature Dr. Sounyadeep Name Muthopadhyay Designation Lab In charge

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Name & Address of Customer :

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Tata Steel Ltd. (MGM)_Joda West



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TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/JHED6F 07/02/2024 MSKNB/FD/2023-24/01/TAP205 05/01/2024 05/01/2024 - 10/01/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Biological

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water
2. Description of sample	SURFACE WATER
3. Unique Identification of sample(if any)	NA
4. Date of sampling	04/01/2024
5. Place of sampling	BBL-4365 Tindharia Down Stream Baitarni Riiver
6. Environmental conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained
7. Sampling Plan & Method used	IS 17614 (P-25) 2022
8. Identification of the personnel performing sampling by MSK	Akash Kr Sethi, Pratik Kr. Mantri

Report No. : MSKPL/FD/2023-24/JHED6F

NA

Sample No. : MSKNB/FD/2023-24/01/TAP205

RESULT

licro Biology				
SI No.	Parameter	UOM	Method	Result
1	Total coliform	MPN/100ml	Standard methods for the examination of water & waste water, 24th edtn, 9221B	17

- END

Opinion:

Statement of Conformity NA

Reviewed By: Signature Name Designation : Technical In charge

Mr. Sukanta Palui

Authorized Signatory Signature

Name

Mr. Sukenta Palui

Designation : Technical In charge

The results relate only to the item(s) tested.

This rescue only to the transpire and the transpire and the permission of Mitra S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days The reserved part of sample(s) for chemical analysis (Soil, Solid & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Head Office: Email : info@mitrask.com Website : www.mitrask.com

MSK **TESTING** • INSPECTION

Doc No : MSK/GEN/19/07

At/P.O.:BARBIL Ward No-6 Dist.: Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T : +91 94370 09815,94370 09820,94370 75269

E : barbil@mitrask.co.in

W: www.mitrask.com

Report No. MSKGL/ED/2023-24/004439

Date: 10.02.2024

	ANALYSIS REPORT OF SURFACE WATER
Name of the Client	M/s. TATA STEEL LIMITED
Name of the Mines	Tiringpahar Iron & Manganese Mines (TIMM)
Date of sampling	04.01.2024
Location	Tindharia Down Stream Baitarani River (TIMM)

CHEMICAL ANALYSIS OF WATER

SI. No.	Test Parameters	Unite	Method	Max. Tolerance Limit as per CPCB	Results
1	Biochemical Oxygen Demand (as BOD)	mg/l	APHA (24th Edition), 5210B	30	<2.0
2	Calcium (as CaCo3)	mg/l	APHA (24th Edition), 2340 C		9.6
3	Chemical Oxygen Demand (COD)	mg/l	APHA (24th Edition), 5220B	250	
4	Chloride (as Cl)	mg/l	APHA (24th Edition), 4500 -Cl B	200	<4.0
5	DO	mg/l	APHA 24th Edition, 2023 4500-0-C/G		4.0
6	Electrical conductivity	us/cm	APHA (24th Edition), 2510B		83
7	Iron (as Fe)	mg/l	APHA (24th Edition), 3500 Fe B	3	0.48
8	Magnesium (as Mg)	mg/l	APHA (24th Edition), 3500 Mg B		3.8
9	Odour	mg/l	APHA (24th Edition), 2150B	Agreeable	Agreeable
10	Oil and Grease	mg/l	APHA (24th Edition), 5520B	10	<5.0
11	Phenolic Compounds (as C6H5OH)	mg/l	APHA (24th Edition), 5530C (Chloroform Extraction)	1	<0.001
12	Salinity	PSU	APHA (24th Edition), 2520B		0.38
13	Sulphate (as SO4)	mg/l	APHA (24th Edition), 4500 SO42-E		
14	Total Alkalinity	mg/l	APHA (24th Edition), 5210B		<1.0
15	Total Dissolved Solids (as TDS)	mg/l	APHA (24th Edition), 2540C		32
16	Total Hardness (as CaCO3)	mg/l	APHA (24th Edition), 2340 C		50
17	Total Suspended Solid (as TSS)	mg/l	APHA (24th Edition),2540D		40
18	pH value at 19.2 deg C	None	APHA 24th Edition, 2023 4500-H+B	50/100	5.1
				5.5-9.0	6.67

Checked by:-

For Mitra S. K. Private Limited

<35m Authorized Signatory BARBIL 女

H. O.: Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata – 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W: www.mitrask.com



Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com

Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West



Doc No.: MSK/GEN/19/07

TESTING . INSPECTION

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ULR: TC-695024000002014F

TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/FD/2023-24/1AED6T 07/02/2024 MSKNB/FD/2023-24/01/ZNA1EV 05/01/2024 05/01/2024 - 15/01/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Water & Residue in Water	
2. Description of sample	SURFACE WATER	
3. Unique Identification of sample(if any)	NA	
4. Date of sampling	04/01/2024	
5. Place of sampling	BBL-4367 Gurruda Baitarni River Water	
6. Environmental conditions during sampling & Transport	(2 - 5) deg C Cold chain maintained	
7. Sampling Plan & Method used	IS 17614 (P-23) 2021	
8. Identification of the personnel performing sampling by MSK	Akash Kr Sethi, Pratik Kr. Mantri	

Report No. : MSKPL/FD/2023-24/1AED6T

Sample No. : MSKNB/FD/2023-24/01/ZNA1EV

RESULT

Chemical				
SI No.	Parameter	UOM	Method	Result
1	Arsenic as As	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
2	Boron as B	mg/l	IS 3025 (Part 2)	BDL(DL:0.25)
3	Cadmium as Cd	mg/l	IS 3025 (Part 2)	BDL(DL:0.001)
4	Colour	Hazen	IS 3025 (Part 4)	BDL(DL:1.0)
5	Copper as Cu	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
6	Cyanide as CN	mg/l	IS 3025 (Part 27) Sec1	BDL(DL.0.02)
7	Fluoride as F	mg/l	IS 3025 (Part 60)	BDL(DL:0.2)
8	Hexavalent Chromium (as Cr+6)	mg/l	IS 3025 (Part 52) Sec2	BDL(DL:0.01)
9	Lead as Pb	mg/l	IS 3025 (Part 2)	BDL(DL:0.005)
10	Manganese as Mn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)
11	Mercury as Hg	mg/l	IS 3025 (Part 48)	BDL(DL:0.0002)
12	Nitrate as NO3	mg/l	APHA (24th EDITION) 4500-NO3- B	0.85
13	Zinc as Zn	mg/l	IS 3025 (Part 2)	BDL(DL:0.02)

END ----

Opinion:

NA

Statement of Conformity NA

Reviewed By:

Atrayee Sana A Signature Ms. Atrayee Saha, Ms. Piali Ganguly Name

Designation : Sr. Exe. Chemist, Executive Chemist

Authorized Signatory: Signature Name Dr. Se nya, Designation ÷ Lab In charge

Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax : 91 33 22650009 **Head Office:** Email : info@mitrask.com Website : www.mitrask.com

AMBIENT AIR MONITORING REPORT

Mitra S. K. Private Limite	-	Мэк
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	TESTING + INSPECTION Scan for Portal ULR: TC-695024000004676F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/R1517G
Tata Steel Ltd.(MGM)_Joda West	Date :	20/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/Q1143F 11/03/2024
	Date(s) of performance:	11/03/2024 - 20/03/2024
	Location of performance of Reference No. & Date :	Permanent Facility
	Discipline:	3000156017/056, Date - 16/09/2023 Chemical
In hereby nertify that the data		- wither stude

We hereby certify that the following sample Drawn by us has been analyzed with the following results: 1 Group

1, Group	A fear of a first state of a state of the st
2. Description of sample	Atmospheric Pollution
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	07/03/2024
	Guruda Pit Office
6. Environmental conditions during sampling & Transport	1) Temperature :14-27 deg C 2) Baromatric Dress ray 742
7. Sampling Plan & Method used	
8. Identification of the personnel performing sampling by MSK	IS:5182(P-11,12) & USEPA
9. Field Equipments Used	LALIN NAYAK
to the edulation of a	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/R1517G

RESULT

Sample No. : MSKNB/ED/2023-24/03/Q1143F

Parameter UOM Method Limit Arsenic as (As) na/m3 LISEPAJO 2.4 June

2	(Decomposition)		oour Arto S.4, June	6 (Annual)	BDL(DL:1.0)
-	Benzene	micro gm/m3	IS 5182 (Part 11)	ElAcousti	
3	Benzo(a)Pyrene	ng/m3	Contraction of the local division of the loc	5 (Annual)	BDL(DL:4.2)
4	and an and a second		IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June		BDL(DL:0.01)
6	Nickel as Ni		and the second se	Not Specified	BDL(DL:0.01)
0.1.1	Autonicit des Tai	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)
Opinion :	Limit as per CPC	S notification New Pull	18th Blowmhandoon A		DUL(ULD.U)

Limit as per CPCB notification, New Delbi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Chemical SI No.

1

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END-

Reviewed By	
some Stranger.	Authorized Signatory:
Name : Dr. Devotam Bandroe	sprane Spann
Designation : Tecohnical In Charge	Name : Dr. Devoltan Baneg
States and a second sec	Designation : Tecchricel In Charge

The results relate only to the item(s) tested. This Test Report status on the report status on the report decept in full, without the permission of Minx S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Weter) shall be relained for 15 days from the date of issue of the Test Report. Perishable sample(s) analysis (Non - perishable sample(s) shall be relained for 15 days from the date of issue of the Test Report. Perishable sample(s) analysis (Sold, Sold & Liquid Wester) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Sold, Sold & Liquid Wester) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Wester, Sasied Melter, Sasied Tood) shall be retained for 15 days from the date of issue of the Test Report. Period 4 of the Test Report.

Shrachi Contra (50) Floor), 748, A.J.C. Bosa Road, Kototta - 700016, West Bangal, India. Tel. 91 33 40143000 / 22650007 Fax: 91 33 22550008 Email: info@minask.com Website : www.mitrask.com

Result

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Sheel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005418

 Date :
 21/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00328

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiningpahar Iron & Mn. Mines (TIMM)
4. Date of sampling	07/03/2024
5. Place of sampling	Near Guruda PIT Office TIMM
5. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/005418

Sample No. : MSKGL/ED/2023-24/03/00328

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	1
1	Ammonia (NH3)	micro gm/m3			Result
2	the second se	and the second sec	IS 5182 (Part 25)	400 24 HR,	14.3
	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.46
3	Nitrogen Dioxide (NO2)	miczo gm/m3	IS: 5182 (Part 6) (O)	80 24 HR	22.5
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR.	
8	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	and the second division of the second divisio	167
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	60 24 HR. 80 24 HR.	83

---- END -----

Report Verified By /

For Mitra S. K. Private Limited

Authorised Signatory

Head Office: Shachi Centre (In Place, 740, A.J.C. Bole Rood, Kalkata - 700016, West Bengal, India Tel.: 19132 40143000 / 22650007 Fax: 19133 (2265000) Erhall: Inte@mittaak.com Website: www.mittaak.com

Mitra S. K. Private Limite	d	Doc No.: MSK/GEN/19/07
Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/81517D
Tata Steel Ltd.(MGM)_Joda West	Date :	20/03/2024
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/BQ147V 11/03/2024
	Date(s) of performance:	11/03/2024 - 20/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical

We hereby cartily that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	07/03/2024
5. Place of sampling	Guruda View Point
6. Environmental conditions during sampling & Transport	 Temperature :14-27 deg C 2) Barometric Pressure: 713 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	LALIN NAYAK
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/81517D

Sample No.: MSKNB/ED/2023-24/03/8Q147V

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.02
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.33
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	18.7

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

END ----

Reviewed By Danny Sightuna : Dr. Devottam Banerjee Name Designation : Tecchnical In Charge

Authorized Signatory Signature Demanue Name Dr. Devoitam Banerie Designation : Tecchnical In Charge

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Head Office: Shrach Centre (5th Floor), 74B, A.J.G. Bose Road, Rokata -700016, West Bengal, India. Tel. 91 33 40143000 / 20550007 Fas: 91 33 22550008 Email: MogEnthack.com Webste : www.mitrast.com

Address of Branch :

P.O. Barbil Dt Keon/har Orissa 758 635



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TEST REPORT

Name & Address of Customer :

Teta Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005408

 Date :
 21/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00326

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following semple Drawn by us has been analyzed with the following results:

2. Description of sample	AIR
3. Unique Identification of sample(If any)	Ambient Air
4. Date of sampling	Tiringpahar Iron & Mn. Mines (TIMM)
5. Place of sampling	07/03/2024
Environmental conditions during sampling & Transport	Neer Guruda View Point-TIMM
7. Sampling Plan & Method used	Clear & Sunny
	NA

Report No. : MSKGL/ED/2023-24/005408

Analysis Develop

Sample No. : MSKGL/ED/2023-24/03/00326

RESULT

SI No.	Parameter	UOM		T master	
1	Ammonia (NH3)		Method	Limit	Result
2	and the second se	micro gm/m3	1S 5182 (Part 25)	400 24 HR	15,4
-	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR	
	Nitrogen Dioxide (NO2)	micro gra/m3	IS: 5182 (Part 6) (O)	and the second s	0.45
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	80 24 HR.	23.3
5	Particulate Matter (<10um)	micro gm/m3		180 1 HR.	BDL(DL 20.0)
6	Particulate Matter (<2.5um)	micro gm/m3	IS: 5182 (Part 23) (O)	100.24 HR.	175
7	Sulphur Dioxide (SO2)	and the second s	IS 5182 (PT-24),2019 (O)	60 24 HR.	87
	Contrast Provide (SCIS)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR	7.5

END-

Report Verified By

For Mitra S. K. Private Limited

2250

Authorised Signatory

Head Office: Shouth Covers (5th Floor), 748, A.J.C. Bose Road, Kolusta - 700018, West Bengal, India. Tel., 51 33-40143000 / 22800007 Flax, 91 33 22850000 Encel : bhoginiteack.com Wabala : www.mitrask.com

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate,	TELES	() мэк
3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com		TESTING + INSPECTIO
	TC-6950	Scan for Portal
	TEST REPORT	ULR: TC-695024000004671F
Name & Address of Customer : Tats Steel Ltd.(MGM)_Joda West	Report No. : Date :	MSKPL/ED/2023-24/81517X 20/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/0K145G 11/03/2024
Ve hereby certify that the following sample Drawn by us has t	Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	11/03/2024 - 20/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

	Atmospheric Pollution
2. Description of sample	
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	07/03/2024
	Guruda Shorting Yard
6. Environmental conditions during sampling & Transport	1) Temperature :14-27 deg C 2) Barometric Pressure: 713 mm of Hg 3) Rain fail : No & Cold Chain Maintained
7. Sampling Plan & Method used	No & Cold Chain Maintained
P Identification and	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	LALIN NAYAK
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/81517X

RESULT

Sample No. :	MSKNB/ED/2023-24/03/0K145G
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Chemical			HEODET		
SI No.	Parameter	UOM	Method	Limit	1
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June		Result
2	Benzene	micro gm/m3	and the second	6 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	A CONTRACTOR OF THE	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
8	and the second sec	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.13
pinion :	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

- END ----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By:	Second Second		
Signature	Danning		
Nome	Dr. Devottam Banarjee	3	
Designation	Teochysical in Charge		

Authorized Signalory: a Bany ye Signature Name Dr. Devottam Bianargee

Designation : Technical in Charge

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This Test Report shall not be reproduced except in full, without the permission of Mire S.K. Private Limited.
The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Weter) shall be retained for 15 days from the date of insue of the Test Report. Perishable sample(s) shall be retained 2 days
from the date of sample(s) for chemical analysis (Sol, Sold & Liquid Wester) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s)) Food, Seeled Wester, Seeled Yood) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s)) Food, Seeled Wester, Seeled Yood) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s)) Food, Seeled Wester, Seeled Yood) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s)) Food, Seeled Wester, Seeled Yood) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Seeled Wester, Seeled Yood) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) West Haccool levia

Head Office: Shrachi Centre (Stri Floor), 740, A.J.C. Bose Road, Koluda - 700016, West Bengal, India. Tel. 191 33 40143000 / 22050007 Fax: 91 33 22650008 Email: Info@mitrask.com Website: www.uhirask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035





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Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005413

 Date :
 21/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00325

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

 2. Description of sample
 AIR

 3. Unique Identification of sample(if any)
 Ambient Air

 4. Date of sampling
 Tringpahar iron & Mn. Mines (TIMM)

 5. Place of sampling
 07/03/2024

 6. Environmental conditions during sampling & Transport
 Clear & Sunny

 7. Sampling Plan & Method used
 NA

TEST REPORT

Report No. : MSKGL/ED/2023-24/005413

Sample No. : MSKGL/ED/2023-24/03/00325

RESULT

Analysis Result of Ambient Air SI No. Parameter NOU Method 1 Ammonia (NH3) Limit Result micro gm/m3 IS 5182 (Part 25) 2 Carbon Monoxide (CO) 400 24 HR. 14.5 mg/m3 IS: 5182 (Part 10)_(O) 3 Nitrogen Dioxide (NO2) 2 8HR micro gm/m3 0.48 IS: 5182 (Part 6)_(O) 4 Ozone (O3) 80.24 HR. micro gm/m3 19,4 IS 5182 (Part 9) 5 Particulate Matter (<10um) 180 1 HR. BDL(DL:20.0) micro gm/m3 IS: 5182 (Part 23)_(O) 6 Particulate Matter (<2.5um) 100 24 HR. 192 micro gm/m3 IS 5182 (PT-24).2019_(O) 7 Sulphur Dioxide (SO2) 60 24 HR. 101 micro gm/m3 IS: 5182 (Part 2) (O) 80 24 HR. 7.8

- END ----

Report Verified By

Head Office: Stracki Centre (Str. Filor), 748, A.J.C. Bose Road, Kokuta - 700016, West Bengal, India. 14. 91 33-40143000 / 22050007 Fax: 91 33 22050005 Erroll: Info@mbrack.com Wybahe www.mbrack.com For Mitra S. K. Private Limited

-50

Authorised Signatory

Address of Laboratory :		()) мsк
Building No. P- 48; Udayan Industrial Estate, 3; Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	TESTING + INSPECTION Scan for Portal ULR: TC-695024000004681F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/L1517K
Tata Steel Ltd. (MGM)_Joda West	Date :	20/03/2024
Al/Po Joda. Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/CK141T 11/03/2024
	Date(s) of performance:	11/03/2024 - 20/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmanuel of Parket	
2. Description of sample	Atmospheric Pollution	
3. Unique Identification of sample(if any)	Ambient Air	
4. Date of sampling	NA	
5. Place of sampling	08/03/2024	
6. Environmental conditions during sampling & Transport	Near Guruda PIT Office TIMM 1) Temperature :15-32 deg C 2) Barometric Pressure: 713 mm of Hg 3) Rain fall No & Cold Chain Multitude C 2) Barometric Pressure: 713 mm of Hg 3) Rain fall	
7. Sampling Plan & Method used	i.u.u.c.uuu cousti maintained	
Identification of the personnel performing sampling by MSK	IS:5182(P-11,12) & USEPA Pranab Setti, Mukesh Highburu	
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10	

Report No. : MSKPL/ED/2023-24/L1517K

RESULT

Sample No. : MSKNB/ED/2023-24/03/CK141T

Chemical					
SI No.	Parameter	UOM	Method	Limit	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June		Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	6 (Annual) 5 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	The second secon	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	1 (24 Hours)	0.04
6	Nickel as Ni	na/m3	USEPA-IO 3.4, June	Not Specified	0.38
pinion :	Limit as per CPC	and the second se	19th Monarchar 2000 for t	20 (Annual)	41.5

END -

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

B. 20 1.4

Reviewed By	
Signature	Danija.
Name	Dr. Devotern Banariae
Designation	Teochnical in Charge

Authorized Sig	natory
	@ Bany's
Name	Dr. Devotam Banorjea
Designation	Technoral in Phases

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The reserved part of semple(s) for chemical analysis (Non - perishable semple(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perinatable semple(s) shall be retained 2 days
the reserved part of semple(s) for MicroScience analysis (Soil, Solid & Liquid Water) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.
The reserved part of semple(s) for MicroScience analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soci) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of semple(s) for MicroScience(analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soci) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of semple(s) for MicroScience(analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soci) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of semple(s) for MicroScience(analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soci) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of semple(s) for MicroScience(analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soci) shall be retained for 15 days from the date of issue of the Test Report.
Private Report is the test Report is the test Report is the test Report is the test Report.

Head Office: Streets Carter (Sh Floor), 748, A.J.C. Bose Road, Kalata - 700016, West Bengal, India. Tel.: 01 33:40143000 / 20050007 Fax: 91 33:22080008 Email: Integmitzask.com Website: www.mitrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035





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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005411

 Date :
 21/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00335

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby cartily that the following sample Drawn by us has been analyzed with the following results:

2. Description of sample	AIR
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	Tiringpahar Iron & Mn, Mines (TIMM)
5. Place of sampling	08/03/2024
6. Environmental conditions during sampling & Transport	Near Guruda PIT Office TIMM
7. Sampling Plan & Method used	Clear & Sunny
A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O	NA

Report No. : MSKGL/ED/2023-24/005411

Sample No. : MSKGL/ED/2023-24/03/00335

RESULT

SI No.	Parameter	UOM			
1	Ammonia (NH3)		Method	Limit	Result
2	Carbon Monoxide (CO)	micro gra/m3	IS 5182 (Part 25)	400 24 HR.	14.8
3	Nitrogen Dioxide (NO2)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.44
.4	Ozone (03)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR	19.7
5	Particulate Matter (<10um)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BOL(DL 20.0
6	Particulate Matter (<2.5um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR	176
7	Sulphur Diaxide (SO2)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	79
	Southeast Correction (SCIS)	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR	7.5

- END -----

Report Verified By

Head Office:



Authorised Signatory

Strachi Centre (Str. Feor), 748; A.J.C. Bose Rood, Kollats - 700018; West Bengal, India, Tel.: 91 33 40143000 / 22650007 Fax: 91 33 22000008 Email: Infagentreak.com Withole: www.mittask.com

Address of Laboratory :		() мык
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayaniab@mitrask.com	K	TESTING + INSPECTION Scan for Portal
	TC-6950	ULR: TC-695024000004679F
And the second	TEST REPORT	
Name & Address of Customer : Tats Steel Ltd. (MGM)_Joda West	Report No. : Date :	MSKPL/ED/2023-24/G15171 20/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/8U1458 11/03/2024
	Date(s) of performance: Location of performance of	11/03/2024 - 20/03/2024 Permanent Facility
Ve hereby certify that the following sample Drawn by us has t	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023 Chemical

1, oroup	Atmospheric Pollution
2. Description of sample	
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	08/03/2024
	Near Guruda View Point-TIMM
5. Environmental conditions during sampling & Transport	1) Temperature 15-32 deg C 2) Barometric Pressure: 712 mm et the 21 m
Sampling Plan & Method used	Denterrative www.wewer.enserv.
Identification of the nemoraal and and	IS:5182(P-11,12) & USEPA
 Identification of the personnel performing sampling by MSK Field Equipments Used 	Pranab Setti, Mukesh Highburu
A line chabineurs 0860	MSK/BBL/FIELD/RDS-7

Report No. : MSKPUED/2023-24/G15171

RESULT

Sample No. : MSKNB/ED/2023-24/03/8U1458

Chemical

B. B. 7.4.

SI No.	Parameter	UOM	Method		1
1	Arsenic as (As)			Limit	Result
2	and the second se	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BOL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	- and the state	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	the second s	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	and the second s	USEPA-IO 3.4, June	1 (24 Hours)	0.02
6	and a second	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.23
pinion :	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	6.6

Limit as per CPCB notification, New Dethi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By: 2 Bany 4 Signature Nerno Dr. Devotlam Benerie Designation Tecchnical in Charge

Authorized Signatory: @ banny y Signature Nome Dr. Devoltam Banerje Designation Teconnical In Charge

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The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Welter) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days
from the date of issue of the Test Report. Perishable sample(s) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
Page 1 of 1

Stracht Centre (5th Floor), 748, A J C. Bose Road, Kolkata - 700016, West Bengel, Inde. Tet.: 91 33 40143000 / 20550007 Fax:: 91 33 20550008 Email: Info@mitrask.com Webalte: www.mitrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035





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TEST REPORT Name & Address of Customer : Report No. : Tata Steel Ltd.(MGM)_Joda West Date : At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin Sample No. :

Reference No. & Date :

21/03/2024 MSKGL/ED/2023-24/03/00333 3000156017/056, Date - 15/09/2023

MSKGL/ED/2023-24/005415

We hareby cartify that the following sample Drawn by us has been analyzed with the follow 1. Gro

2. Description of sample	AIR
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	Tiringpahar Iron & Mn. Mines (TIMM)
5. Place of sampling	08/03/2024
6. Environmental conditions during sampling & Transport 7. Sampling Plan & Moth	Near Gurude View Point-TIMM
7. Sampling Plan & Method used	Clear & Sunny
a contraction used	NA

Report No. : MSKGL/ED/2023-24/005415

Sample No. : MSKGL/ED/2023-24/03/00333

RESULT

Analysis Result of Ambient Air SI No. Parameter UOM Method ×. Ammonia (NH3) Limit Result micro gm/m3 IS 5182 (Part 25) 2 Carbon Monoxide (CO) 400 24 HR. 16.2 mg/m3 IS: 5182 (Part 10)_(O) 3 Nitrogen Dioxide (NO2) 2 8HR. micro gm/m3 0.50 IS: 5182 (Part 6) (O) 4 Ozone (O3) 80.24 HR micro gm/m3 21.8 IS 5182 (Part 9) 5 Particulate Matter (<10um) 180 1 HR. BDL(DL:20.0) micro gm/m3 IS: 5182 (Part 23)_(O) 6 Particulate Matter (<2.5um) 100 24 NR. 185 micro gm/m3 IS 5162 (PT-24).2019 (O) 7 Sulphur Dioxide (SO2) 60 24 HR. micro gm/m3 93 IS: 5182 (Part 2) (0) 80 24 HR. 7.7

END -

Report Verified By

Head Office:



For Mitra S. K. Private Limited

234 Authorised Signatory

Shoachi Gentre (Mr. Floor), 748, A.J.C. Bote Road, Kolkela - 700016, West Bengat, India. Tel: 191.33.40143050 / 22050007 Fait: 91.33.22650008 Timal - info@mitueik.com Wabate - www.mitraek.com

Mitra S. K. Private Limite Address of Laboratory :	d	Doc No: MSK/GEN/19/07
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/Y1517E
Tata Steel Ltd.(MGM)_Joda West	Date :	20/03/2024
AUPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/29142Y 11/03/2024
	Date(s) of performance:	11/03/2024 - 20/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023

We hereby certify that the following sample Drawn by us has been enalyzed with the following results. 14.0

1. Group	Atmospheric Pollution
2. Description of sample	The second se
3. Unique Identification of sample(if any)	Ambient Air NA
4. Date of sampling	08/03/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
5. Environmental conditions during sampling & Transport	1) Temperature :15-32 deg C 2) Barometric Pressure: 713 mm of Lis 2) Data 4 m
. Sampling Plan & Method used	No.& Cold Chain Maintained IS:5182(P-11,12) & USEPA
Identification of the personnel performing sampling by MSK	Prenab Setti, Mukesh Highburu
9. Field Equipments Used	MSK/BBL/FIELD/ROS-9

Report No. : MSKPL/ED/2023-24/Y1517E

RESULT

Sample No. : MSKNB/ED/2023-24/03/29142Y

Chemical					
SI No.	Parameter	UOM	Method	Limit	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June		Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	6 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	1S 5182 (Part 12)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annuai)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4; June	1 (24 Hours)	BDL(DL:0.01)
6	Nickel as Ni	ng/m3	the second se	Not Specified	0.13
Opinion :	and the second sec	Contraction of the second s	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

END ----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By.	
Signature	Damyre.
Nano	Or. Devotiam Banarpe
Designation	Technical In Charge

Authorized Signatory: Signature Danny Name Dr. Devotiam Banerje Designation : Teochristel in Charge

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Head Office: Strachi Centre (Sto Floor), 745, A.J.C. Bose Road, Kokate - 700016, West Bengal, India. Tel.: 91 33:40143000 / 22550007 Fax: 91 33:22550008 Email: info@mitrask.com Website: www.mitrask.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT Report No. :

Date :

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Sample No. : Reference No. & Date :

MSKGL/ED/2023-24/005414 21/03/2024 MSKGL/ED/2023-24/03/00332 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results: 1 George

2. Description of sample	AIR
3. Unique Identification of sample(if any)	Ambiant Air
4. Date of sampling	Tiringpahar Iron & Mn. Mines (TIMM)
5. Place of sampling	08/03/2024
. Environmental conditions during sampling & Transport	Near Gusuda Shorting Yard- TIMM
Sampling Plan & Method used	Clear & Sunny
Trail i lair a maning deed	NA

Report No. : MSKGL/ED/2023-24/005414

A

Sample No. : MSKGL/ED/2023-24/03/00332

RESULT

Analysis	Result of Ambient Air				
SI No.	Parameter	UOM		1	_
1	Ammonia (NH3)	-	Method	Limit	Result
2	Carbon Monoxide (CO)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	15.2
3		mg/m3	IS: 5182 (Part 10)_(O)	2 8HR	0.53
4	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	and the second second
	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	the second se	21.3
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	180 1 HR.	8DL(DL:20.0)
6	Particulate Matter (<2.5um)	micro gm/m3		100 24 HR	186
7	Sulphur Dioxide (SO2)	and the second se	15 5182 (PT-24),2019 (O)	60.24 HR.	94
1.0	Contrast Crewine (20%)	micro gm/m3	iS: 5182 (Part 2)_(O)	80.24 HD	1 70

END -

Report Verified By

Shrachi Centre (Shi Faco), 74B. A.J.C. Bose Road, Kolusta - 750016. West Bengal, India. Tel.: 91 33 40143000 / 225500017 Fax: 91 33 22650001 Email: Info@mitrask.com Webalte: www.intrask.com Head Office:

For Mitra S. K. Private Limited

-250 Authorised Signatory

Address of Laboratory : Building No. P. 48, Udayan Industrial Estate. 3, Pagladanga Road, Kolkata 700015 West Bengal Tet. : +91 7044036120 Email: udayaniab@mitrask.com	TC-6950	Scan for Portal ULR: TC-695024000005204F
Name & Address of Customer : Tata Steel Ltd. (MGM)_Joda West At/Po Joda, Dist Keonjhar, Odisha - 758034 India We hereby certify that the following sample Drawn by us has 1. Group	TEST REPORT Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	MSKPL/ED/2023-24/X1604E 26/03/2024 MSKNB/ED/2023-24/03/KE250X 18/03/2024 18/03/2024 - 26/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical
Group G	Atmospheric Pollution Amblent Air	

3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	14/03/2024
6. Environmental conditions during sampling & Transport	Near Guruda PIT Office (TIMM) 1) Temperature 19-34 dec C 3) Press
7. Sampling Plan & Method used 8. Identification of the personnel performing sampling by MSK 9. Field Equipments (lead	 Temperature :19-34 deg C 2) Barometric Pressure: 709 mm of Hg 3) Rain fail : No & Cold Chain Maintained IS:5182(P-11, 12) & USEPA
9. Field Equipments Used	Akash Kumar Setti MSK/BBL/FIELD/FDS-10

Report No. : MSKPUED/2023-24/X1604E

Chemical			RESULT		
SI No.	Parameter	UOM			
1	Arsenic as (As)		Method	Limit	Result
2	Benzene	ng/m3	USEPA-IO 3.4, June	6 (Annual)	8DL(DL:1.0)
3	Benzo(a)Pyrene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	and the second s
6	Nickel as Ni	micro gm/m3	USEPA-IO 3.4: June	Not Specified	BDL(DL:0.01)
pinion :		B polification New Dec	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:0.01) BDL(DL:5.0)

Limit as per CPCB notification, New Dethi, 18th November 2009, for Ambient air quality

- END -

Statement of Conformity

NA

Reviewed By:

Signature Name Ms. Piel Garguly

Designation : Executive Chemist

Authorized Signatory: Signature Nama Dr. Sout 19445 Designation : Lab In charge

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chinary

Sample No. : MSKNB/ED/2023-24/03/KE250X

Address of Branch :

P.O. Barbil Dt Keonjhar Orlssa 758 035





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TEST REPORT

Name 8 & data	LOT KEFURI	
Name & Address of Customer :	Report No. :	
Tata Steel Ltd. (MGM)_Joda West	Date :	
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	
	Reference No. & Date :	

MSKGL/ED/2023-24/005564 27/03/2024 MSKGL/ED/2023-24/03/00617 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

2. Description of sample	AIR
3. Unique Identification of sample(if any)	Ambient Water
4. Date of sampling	Tiringpahar iron & Mn, Mines (TIMM)
5. Place of sampling	14/03/2024
Environmental conditions during	Near Guruda PIT Office (TIMM)
5. Environmental conditions during sampling & Transport 7. Sampling Plan & Method used	Clear & Sunny
	NA

Report No. : MSKGL/ED/2023-24/005564

Sample No. : MSKGL/ED/2023-24/03/00617

RESULT

Analysis Result of Ambient Air					
SENo.	Parameter	UOM	Method	1 00000	-
1.	Ammonia (NH3)	micro gm/m3		Limit	Result
2	Carbon Monoxide (CO)	malm3	IS 5182 (Part 25)	400 24 HR.	15.2
3	Nitrogen Dioxide (NO2)	Contraction of the second	IS: 5182 (Part 10) (O)	2 8HR.	0.48
4	Ozone (O3)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	21.8
5	the second statement of the se	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	and the second sec
6	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR.	BDL(DL-20.0)
	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	the second se	173
1	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	60 24 HR 80 24 HR	85

---- END -----

Report Verified By



For Mitra S. K. Private Limited

Authorised Signatory

Head Office: Shark's Centre (3th Root), 740, AJ C. Bose Road, Kolluns - 700016, West Bengel, India, Tel., 91 33 40143000 / 22650007 Fax: 91 33 20100000 Emile: Info@mileask.com Website: www.millinsk.com

Address of Laboratory :		Dec No: MSWGENTERST
Building No. P. 48, Udayan Industriai Estate, 3, Pagledanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayaniab@mitrask.com	TC-6950	Scan for Portal
	TEST REPORT	ULR: TC-695024000005203F
Name & Address of Customer :	Report No. :	
Tata Steel Ltd.(MGM)_Joda West	Date :	MSKPL/ED/2023-24/S1604C 26/03/2024
AMPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample Date(s) of performance: Location of performance Reference No. & Date : Discipline:	MSKNB/ED/2023-24/03/JM24CV 18/03/2024 18/03/2024 - 26/03/2024 of Permanent Facility 3000156017/056, Date - 16/09/2023
le hereby certify that the following sample Drawn by us has i . Group	been analyzed with the C.	Chemical
Description of sample	Atmospheric Pollution	
. Unique Identification of sample(if any)	Ambient Air NA	

Ambient Air
NA
14/03/2024
Near Guruda Shorting Yard (TIMM)
1) Temperature 19-34 deg C 2) Parametera De
IS:5182(P-11,12) & USEPA
Akash Kumar Setti
M\$K/BBL/FIELD/RDS-9

Report No. : MSKPUED/2023-24/S1604C

RESULT

Sample No. : MSKNB/ED/2023-24/03/JM24CV

Chemical SI No. Parameter UOM Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 2 6 (Annual) BDL(DL:1.0) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) 3 BDL(DL:4.2) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) 4 BDL(DL:0.5) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) 5 Manganese as Mn BDL(DL:0.01) micro gm/m3 USEPA-IO 3.4: June Not Specified 6 0.13 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) Opinion : BDL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END ---

The results relate only to the term(s) tested.

The nexults relate only to the liten(s) tested. This Test Report shall not be reproduced except in full, without the permission of Mins S.K. Private Limited. The resource part of sample(s) for chemical analysis (Nori - portable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Portabable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Nori - perishable earsple(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Strachi Centre (Sth Floor), 748, A.J.C. Bose Road, Kokate - 700016; West Bengal, India Tel. 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email : Info@mitrask.com Webale : erwe mitrask.com



Authorized Signatory

Dr.

Designation 1 Lab In charge

Signature

Neena

Reviewed By: Signature Name Ms. Pial Gaoguly Designation Executive Chemist

Address of Branch :

P.O. Barbil Dt Keonjhar Orisse 758 035



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TEST REPORT

Name & Ad	dress of	Customer :
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Tato Steni Ltd.(MGM)_Joda West

....

 Report No. :
 MSKGL/ED/2023-24/005559

 Date :
 27/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00616

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pan

We hereby certify that the following sample Drawn by us has been analyzed with the following results

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	
4. Date of sampling	Tiringpahar Iron & Mn. Mines (TIMM) 14/03/2024
5. Place of sampling	
6. Environmental conditions during sampling & Transport	Near Guruda Shorting Yard (TIMM)
7. Sampling Plan & Method used	Clear & Sunny
	NA

Report No. : MSKGL/ED/2023-24/005559

Sample No. : MSKGL/ED/2023-24/03/00616

RESULT

Analysis Result of Ambient Air

SI No.	Paramoter	UOM	Method	Limit	1000
1	Ammonia (NH3)	micro gm/m3	10 5100 (0-4 00)		Result
2	Carbon Monoxide (CO)	maim3	IS 5182 (Part 25)	400 24 HR	14.2
3	Nitrogen Dioxide (NO2)	the second se	IS: 5182 (Part 10) (O)	2 8HR	0.52
	and the second sec	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	22.1
	Ozone (03)	micro gm/m3	IS 5182 (Part 9)	180.1 HR.	BDL/DL 20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR	
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	a reasonable inter-	207
7	Sulphur Dioxide (SO2)	micro gm/m3	the second se	60.24 HR.	98
	service and and the service of the s	micro gnenia	IS: 5182 (Part 2)_(O)	80.24 HR,	7.5

---- END -----

Report Verified By

Head Office:



Car. Authorised Signatory

For Mitra S. K. Private Limited

Straudd Cavere (5th Floor), 746, A.J.C. Brain Road, Kolkute - 750036, West Bampat, India. Tet : 91 30 40143000 (22050007 Fist : 91 33 22650008 Umat : Info@imfraak.com Website : www.mitraak.com

Address of Laboratory : Building No. P. 48, Udayan Industrial Estate,		Doe No: MSKOGENTISHT
3, Pagladanga Road, Kolkata 700015 West Bengal TeL: +91 7044036120 Email: udayanlab@mitrask.com	······································	TESTING • IRSPECTION Scan for Portal
	TEST REPORT	ULR: TC-695024000005202F
Name & Address of Customer : Tata Steel Ltd. (MGM)_Joda West	Report No. : Date :	MSKPL/ED/2023-24/Y1604Y 26/03/2024
AbPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/H524D7 18/03/2024
	Date(s) of performance: Location of performance of Reference No. & Date :	18/03/2024 - 26/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023
e hereby certify that the following sample Drawn by us has t , Group	Discipline:	Chemical

2. Description of sample	Almospheric Pollution
3. Unique Identification of sample/if anyl	Ambient Air
4. Date of sampling	NA
5. Place of sampling	14/03/2024
6. Environmental conditions during sampling & Transport	Near Guruda View Point (TIMM)
 Sampling Plan & Method used 	 Temperature : 19-34 deg C 2) Barometric Pressure: 709 mm of Hg 3) Rain fail No. & Cold Chain Maintained
8. Identification of the personnel performing sampling by MSK 9. Field Equipments Lised	IS:5182(P-11,12) & USEPA
8. Field Equipments Used	Akash Kumar Setti
	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/Y1604Y

RESULT

Sample No. : MSKNB/ED/2023-24/03/H524D7

Chemical SI No. Parameter UOM Method Limit 1 Arsenic as (As) Result ng/m3 USEPA-IO 3.4, June 2 6 (Annual) Benzene BOL(DL:1.0) micro gm/m3 IS 5182 (Part 11) 3 5 (Annual) Benzo(a)Pyrene BDL(DL:4.2) ng/m3 IS 5182 (Part 12) 4 Lead (as Pb) 1 (Annual) BDL(DL:0.5) micro gm/m3 USEPA-IO 3.4, June 5 Manganese as Mn 1 (24 Hours) 0.05 micro gm/m3 USEPA-IO 3.4: June 6 Not Specified Nickel as Ni 0.33 ng/m3 USEPA-IO 3.4, June Opinion : Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality 20 (Annual) 5.5

Statement of Conformity NA

8.024

-- END -----

Reviewed By

P. Goyny Signature Nome Ms. Piel Ganguly

Designation Executive Chemist

Authorized Signatory: Signature Name Dr. Sound

Designation | Lab In charge

Its results relate only to the kem(s) tested, is Test Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Limited is reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Water) shall be initiated for 15 days from the date of saue of the Test Report. Perishable sample(s) shall be relained 2 days in reserved part of sample(s) for chemical analysis (Soil, Soild & Lead Water) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. In reserved part of sample(s) for chemical analysis (Soil, Soild & Lead Water) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.

Shrachi Centre (Sh Floor), 740, A.J.C. Bose Road, Kokate - 700016, West Bengel, India. Tel. 91 33 40143000 / 22550007 Fax: 91 33 22550008 Email : infogenitrask.com Website : www.milrask.com

Matriceday

Address of Branch : P.O. Berbit Dt Keonjhar Orissa 758 035



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TEST REPORT

Name a	& Address	01	Customer	z

Tata Steel Ltd. (MGM)_Joda West

Report No. : MSKGL/ED/2023-24/005568 Date : 27/03/2024 Sample No. : MSKGL/ED/2023-24/03/00615 Reference No. & Date : 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Water	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines (TIMM)	
4. Date of sampling	14/03/2024	
5. Place of sampling	Near Guruda View Point (TIMM)	
5. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/005568

Sample No. : MSKGL/ED/2023-24/03/00615

RESULT

Analysis Result of Ambient Air SI No. Parameter UOM Method Limit Result 3 Ammonia (NH3) micro gm/m3 iS 5182 (Part 25) 400 24 HR. 16.1 2 Carbon Monoxide (CO) mg/m3 IS: 5182 (Part 10)_(O) 2 8HR. 0.52 3 Nitrogen Dioxide (NO2) micro gm/m3 IS: 5182 (Part 6)_(O) 80 24 HR. 22.8 ×. Ozone (O3) micro gm/m3 IS 5182 (Part 9) 180 1 HR. BDL(DL:20.0) Particulate Matter (<10um) 5 micro gm/m3 IS: 5182 (Part 23)_(O) 100 24 HR. 182 8 Particulate Matter (<2.5um) IS 5182 (PT-24),2019 (O) micro gm/m3 60 24 HR. 88 7 Sulphur Dicoide (SO2) micro gm/m3 IS: 5182 (Part 2)_(0) 80 24 HR. 7.6

END-

Report Verified By

For Mitra S. K. Private Limited

200 Authorised Signatory

Page 1 of 1

Head Office:

Silvachi Centre (Str. Roor), 748, A.J.C. Bose Road, Kolkata - 700016, West Bongel, India. Tel. ; R1 33:40143000 / 22550007 Fax ; 81 33:22850008 Email: Info@mitnask.com Website : www.mbrauk.com

Address of Laboratory :		() мък
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	**	TESTING + INSPECTION Scan for Portal
	TEST REPORT	ULR: TC-695024000005211F
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of	MSKPL/ED/2023-24/J1604X 26/03/2024 MSKNB/ED/2023-24/03/NM24BC 18/03/2024 18/03/2024 - 26/03/2024 Permanent Facility
Ve hereby certify that the following sample Drawn by us has t	Reference No. & Date : Discipline:	3000156017/056; Date - 16/09/2023 Chemical

2. Description of sample	Atmospheric Pollution
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	15/03/2024
ALC SE ZERDERARDER AND THE SECOND AND THE	Near Guruda PIT Office (TIMM)
Environmental conditions during sampling & Transport	1) Temperature :18-33 deg (C2) Barometric Destaure 744
7. Sampling Plan & Method used	
8. Identification of the personnel performing sampling by MSK	IS:5182(P-11,12) & USEPA
9. Field Equipments Used	Lalin Kumar Naik
The second s	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/J1604X

Sample No. : MSKNB/ED/2023-24/03/NM24BC

Chemical					
SI No.	Parameter	UOM	Method		1
1	Arsenic as (As)	ng/m3	70102000	Limit	Result
2	Benzene	micro gm/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
3	Berizo(a)Pyrene	1	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
6		micro gm/m3	USEPA-IO 3.4: June	Not Specified	BDL(DL:0.01)
Opinion :	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

mit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By: Signature Name Ms. Piek Ganguly Designation Executive Chamist

Authorized Signalory. Signature Namo Dr. Designation : Lab In charge

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Bhruchy Centre (Str. Floor), 74B, A.J.C. Bote Road, Kolkate - 700015, West Bengal, India. Tel. 191 33 40143000 / 22650007 Fax - 91 33 22650008 Email - info@mitrask.com Website : www.mitrash.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address	of Customer:	i
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Tata Steel Ltd.(MGM)_Joda West

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 Report No. :
 MSKGL/ED/2023-24/005569

 Date :
 27/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00624

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following result

1. Group 2. Description of sample	AIR
3. Unique Identification of sample(if any)	Ambient Water
4. Date of sampling	Tiringpahar Iron & Mn. Mines (TIMM)
5. Place of sampling	15/03/2024
5. Environmental conditions during sampling & Transport	Near Guruda PIT Office (TIMM)
7. Sampling Plan & Method used	Clear & Sunny
and the second of the second second	NA

Report No. : MSKGL/ED/2023-24/005569

Sample No. : MSKGL/ED/2023-24/03/00624

RESULT

Result of Ambient Air		RESULT		
Parameter	UOM	Manua	1	
Ammonia (NH3)	100 CONTRA		Limit	Result
and the second s			400 24 HR.	15.6
	and the second s		2 8HR.	0.43
	and a state of the	IS: 5182 (Part 6)_(O)	80 24 HR	21.9
the second s	and the second se	IS 5182 (Part 9)	180 1 HR	BDL(DL:20.0)
	and the second s	IS: 5182 (Part 23)_(O)	and the second se	and the second se
	micro gm/m3	IS 5182 (PT-24),2019 (O)	and the second sec	178
Sulphur Dioxide (SO2)	micro gmim3		and the second second second	88
		Parameter UOM Amenonia (NH3) micro gm/m3 Carbon Monoxide (CO) mg/m3 Nibrogen Dioxide (NO2) micro gm/m3 Ozone (O3) micro gm/m3 Particulate Matter (<10um)	Result of Ambient Air Parameter UOM Method Amnonia (NH3) micro gmim3 IS 5182 (Part 25) Carbon Monoxide (CO) mg/m3 IS 5182 (Part 10)_(O) Nitrogen Dioxide (NO2) micro gmim3 IS 5182 (Part 5)_(O) Ozone (O3) micro gmim3 IS 5182 (Part 9) Particolate Matter (<10um)	Result of Ambient Air Parameter UOM Method Limit Amenonia (NH3) micro gm/m3 IS 5182 (Part 25) 400 24 HR. Carbon Monoxide (CO) mg/m3 IS 5182 (Part 10). (O) 2 8HR. Nitrogen Dioxide (NO2) micro gm/m3 IS 5182 (Part 6). (O) 80 24 HR. Ozone (O3) micro gm/m3 IS 5182 (Part 9) 180 1 HR. Particulate Matter (<10um)

--- END -----

Report Verified By



Authorised Signatory

Head Office: Shach Centre (Sh Floor), 748, AJC, Bose Road, Kolium - 700016, West Bengel, India Tel., 91 33 40143000 / 22850007 Fax, 51 33 22850008 Email : Integratures, care Website : weie Interest.com

Mitra S. K. Private Limite Address of Laboratory : Building No. P. 48, Udayan Industrial Estate, 3. Pagindrama		Dec No: MSK/GEN/1907
3. Pagladanga Roed, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-8850	TESTING + INSPECTIO Scan for Portal
Name & Address of Customer :	TEST REPORT	ULR: TC-695024000005210F
Tata Steel Ltd. (MGM)_Joda West	Report No. : Date :	MSKPL/ED/2023-24/R1604K 26/03/2024
Al/Po Joda, Dist Keonijhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/E124DP 18/03/2024
	Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	18/03/2024 - 25/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023
We hereby certify that the following sample Drawn by us has t 1. Group	been analyzed with the following results:	Chemical

2. Description of sample	Atmospheric Pollution
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	15/03/2024
6. Environmental conditions during sampling & Transport	Near Guruda Shorting Yard (TIMM)
7. Sampling Plan & Method used	1) Temperature :18-33 deg C 2) Barometric Pressure: 711 mm of Hg 3) Rain fail : No & Cold Chain Maintained
8. Identification of the personnel performing sampling by MSK 9. Field Equipments Used	IS:5182(P-11,12) & USEPA
9. Field Equipments Used	Lalin Kumar Naik MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/R1804K

RESULT

Sample No. : MSKN8/ED/2023-24/03/E124DP

SI No.	Parameter	UOM			-
1	Arsenic as (As)		Method	Limit	Result
2	Benzene	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL-0.5)
5	Manganese as Mn	micro grn/m3	USEPA-IO 3.4, June	1 (24 Hours)	and the second s
6	Nickel as Ni	micro gm/m3	USEPA-IO 3.4: June	Not Specified	BDL(DL:0.01)
inion :	Contraction of the Annual A	ng/m3	USEPA-IO 3.4, June	100 10	0.14 BDL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

26

END -

Reviewed By

Signature Natio Ms. Pial Ganguly Designation Executive Chemist

Authorized Signatory Signature Name Dr.

Designation ; Life in charge

The results relate only to the item(a) fasted. This Tool Report shall not be rependened except in full, without the permission of Mitre S.K. Private Limited. The resolved part of aampte(s) for chemical analysis (Non - peristrates sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Teel Report. The reserved part of sample(s) for therein al analysis (Sold & Liquid Water) shall be retained for 15 days from the date of issue of the Teel Report. The reserved part of sample(s) for Microbiological analysis (Non - peristrates sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Teel Report. The reserved part of sample(s) for Microbiological analysis (Non - peristrates sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Teel Report. The reserved part of sample(s) for Microbiological analysis (Non - peristrate) sample(s) Food. Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Teel Report. Period of the Teel Report.

Shrecht Centre (Str. Floor), 748, A.J.C. Bose Road, Kokate -700016, Weel Bengal, India. Tel. 191.33 40143000 / 22850007 Fax: 91.33 2255008 Email : info@mitnek.com Website : www.mitnek.com

(dead)

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of	Customer :
-------------------	------------

Tata Steel Ltd.(MGM)_Joda West

100

 Report No. :
 MSKGL/ED/2023-24/005572

 Date :
 27/03/2024

 3034 India Pin
 Sample No. :
 MSKGL/ED/2023-24/03/00623

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1, Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpeher Iron & Mn. Mines (TIMM)
4. Date of sampling	15/03/2024
5. Place of sampling	Near Guruda Shorting Yard (TIMM)
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/005572

Sample No. : MSKGL/ED/2023-24/03/00623

RESULT

Analysis Result of Ambient Air

1 2 3 4		MON	Method	1000	1 100
2 3 4	Ammonia (NH3)	miner out the		Limit	Result
3 4	the second s	micro gm/m3	IS 5182 (Part 25)	400 24 HR	14.8
3 4	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10), (O)	2 8HR	0.57
4	Nitrogen Dioxide (NO2)	micro grwm3	IS: 5182 (Part 6) (O)	80 24 HR.	
	Ozone (O3)	micro gra/m3	IS 5182 (Part 9)	180 1 HR.	22.4
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	and a second sec	BDL(DL:20.0
	Particulate Matter (<2.5um)	on a constant of	and a second sec	100 24 HR,	202
7	the second se	micro.gm/m3	IS 5182 (PT-24),2019 (O)	60.24 HR.	100
-	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR.	7,4

- END -

Report Verified By

For Mitra S. K. Private Limited

CEAn. Authorised Signatory

Head Office: Shrachi Centre (3h Ficer), 740, A.J.C. Bole Road, Kollada - 700016, Weat Bengel, India. Tek. 91 33 40143000 / 22800007 Fax: 91 33 22800008 Enail: Info@mitroiek.com Webele: www.mbrask.com

Address of Laboratory : Building No. P. 46, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044035120 Email: udayanlab@mitrask.com	(SSE)	Scan for Portal
	TEST REPORT	ULR: TC-895024000005209F
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	MSKPL/ED/2023-24/V16044 26/03/2024 MSKNB/ED/2023-24/03/D624CF 18/03/2024 18/03/2024 - 26/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

a fe	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	15/03/2024
5. Place of sampling	
6. Environmental conditions during sampling & Transport	Near Guruda View Point (TIMM) 1) Temperature :18-33 deg C 2) Barometric Pressure: 711 mm of Hg 3) Rain fall : No & Cold Chein Maintenant
. Sampling Plan & Method used	- I TAK W. WARK WIRELING
 Identification of the personnel performing sampling by MSK 	IS:5182(P-11,12) & USEPA
9. Field Equipments Used	Lalin Kumar Naik
MA 110.000	MSK/BBL/FIELD/FDS-7

Report No. : MSKPL/ED/2023-24/V16044

RESULT

Sample No. : MSKNB/ED/2023-24/03/D524CF

Chemical SI No. Parameter NOU Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BOL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BOL(DL:0.5) 4 Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) 8DL(DL:0.01) 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.27 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) BDL(DL:5.0) Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END ----

Reviewed By:

Signature

Name Mr. Pial Garguly Designation : Executive Chemist

Authorized Signatory Signature Nam De Designation Labino

The results relate only to the item(s) tested.

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Shrachi Certine (Sth Floor), 74B, A. J.C. Bose Road, Kokata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22650007 Fax: 91 33 22660008 Email: erfo@mitrask.com Viebsite : www.mitrask.com

Address of Branch : P.O. Barbi Dt Keonjhar Orissa 758 035



TESTING #INSPECTIO

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TEST REPORT

Name & Address of Customer	1
----------------------------	---

Tata Steel Ltd (MGM)_Joda West

 Report No. :
 MSKGL/ED/2023-24/005565

 Date :
 27/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00622

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certily that the following sample Drawn by us has been analyzed with the following results:

1, Group	AIR
2. Description of sample	Ambient Water
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines (TIMM)
4. Date of sampling	15/03/2024
5. Place of sampling	Near Guruda View Point (TIMM)
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/005565

Sample No. : MSKGL/ED/2023-24/03/00622

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	
2	Carbon Moncoide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	15.9
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	22.4
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL-20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR	186
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)	60 24 HR.	90
7	Sulphur Diaxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	7,8

----- END -----

Report Verified By



For Mitra S. K. Private Limited

C26 Authorised Signatory

Head Office: Shacks Centre (59: Floor), 748; A J.C. Bose Roest, Kolkars - 200156, West Bengel, Index Tel. : 91:30:40143000 / 22650007 Flax : 91:30 22650008 Email : into@mitrask.com Wateste / www.mitrask.com

Address of Laboratory :		())M5K
Building No. P- 48, Udayan Industrial Estate, 3, Pegladanga Road, Kolkata 700015 West Bengal	(Mrs)	TESTING - INSPECTION
Tel. : +91 7044036120 Emeil: udayanlab@mitrask.com		
	Diana Z	Scan for Portal
	TC-6950	ULR: TC-695024000005979F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2024-25/HZF22V
Tata Steel Ltd. (MGM)_Joda West	Date :	03/04/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/MS36F4 26/03/2024
	Date(s) of performance:	26/03/2024 - 03/04/2024
	Location of performance of	Permanent Facility
Ve franks male is a s	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023 Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results: 1 Cen

1. Group	Atmospheric Control
2. Description of sample	Atmospheric Pollution
3. Unique Identification of sample(if any)	Amblent Air
4. Date of sampling	NA 21/03/2024
5. Place of sampling	Near Guruda PIT Office (TIMM)
Environmental conditions during sampling & Transport	1) Temperature :19-31 deg C 2) Barometric Pressure: 712 mm of the 3) Duty for
. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPA
Identification of the personnel performing sampling by MSK	Mukesh Highburu
Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2024-25/HZF22V

RESULT

Sample No. : MSKNB/ED/2023-24/03/MS36F4

Chemical					
SI No.	Parameter	UOM	Method	Limit	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	and the second se	BDL(0L:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4; June	1 (24 Hours)	BDL(DL:0.01)
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	Not Specified	0.09
Doinlon :	Lind as an ODC		OSEPAHO 3.4, June	20 (Annual)	BDL(DL:5.0)

END ----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By:

Signature None

Ma Pial Gan

Designation : Executive Chemist

Authorized Signatory Signature Name Dr. Sola Designation | Lab Incharge

The results relate only to the term(a) toeted.
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The reserved part of semple(s) for dominal analysis (Non - pershable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Portshable sample(s) shall be rotained 2 days
from the date of serve (s) for dominal analysis (Non - pershable sample(s) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.
The reserved part of sample(s) for discribility (Non - pershable sample(s) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Vater Brood, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Vater Brood, Vater Brood,

Head Office: Stracts Centre (Sth Floor), 748, A.J.C. Bose Road, Kokuta - 700016, West Bengel, India. Tel.: 91 33:40143000 / 22650007 Fax: 91 33:22650008 Email: Info@mitrask.com Website: www.mitrask.com

R.R.iem

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035





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TEST REPORT

Report No. :

Sample No. :

Date :

Name & Address of Customer :	
Tata Steel Ltd.(MGM) Joda West	

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Reference No. & Date :

MSKGL/ED/2023-24/005629 30/03/2024 MSKGL/ED/2023-24/03/00878 3000156017/056, Date - 15/09/2023

We hereby certily that the following sample Drawn by us has been analyzed with the following results:

2 Decederation	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Tiringpahar Iron & Mn, Mines (TIMM)
5. Place of sampling 6. Environmental conditions during sampling & Transport	21/03/2024
	Near Guruda PIT Office (TIMM)
7. Sampling Plan & Method used	Clear & Sunny
Sampling r lan a matrice used	NA

Report No. : MSKGL/ED/2023-24/005629

Sample No. : MSKGL/ED/2023-24/03/00878

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	1229/00	1
1	Ammonia (NH3)			Limit	Result
2	Carbon Monoxide (CO)	micro gen/m3	IS 5182 (Part 25)	400.24 HR.	15.3
3		mg/m3	IS: 5182 (Part 10) (O)	2 8HR	0.49
	Nibrogen Dioxide (NO2)	micro.gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	
4	Ozone (O3)	micro gm/m3	(\$ 5182 (Part 9)	and the second sec	22.3
5	Particulate Matter (<10um)	micro gra/m3	IS: 5182 (Part 23)_(O)	180 1 HR.	BOL(DL:20.0
6	Particulate Matter (<2.5um)	micro gm/m3		100 24 HR.	179
7	Sulphur Dicxide (SO2)	and the second s	IS 5182 (PT-24),2019_(O)	60 24 HR.	93
	Contract Station (OCC)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	<6.0

---- END -----

Report Verified By

Head Office: Structs Caste (Sh Floot), 748; A.J.C. Bose Read, Kokata - 700016; West Bengal, India. Tel. ; 91 33-40143300 / 2010007 Fax: 91 33-2010000 F Email : Info@mitrask.com Weballe : www.retrask.com For Mitra S. K. Private Limited

Authorised Signatory

Address of Laboratory :	-	
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	TESTING + INSPECTION Scan for Portal
	TEST REPORT	ULR: TC-695024000005978F
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West	Report No. : Date :	MSKPL/ED/2024-25/R4E228 03/04/2024
AVPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/03/K538C7 26/03/2024
Ve hereby certify that the following sample Drawn by us has b	Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	26/03/2024 - 03/04/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

1 Grown

Almospheric Pollution
Amblent Air
NA
21/03/2024
Near Guruda Shorting Yard (TIMM)
1) Temperature :19-31 deg C 2) Barometric Dressure: 712 mm of the strength
IS:5182(P-11,12) & USEPA
Mukesh Highburu
MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2024-25/R4E226

RESULT

Sample No. : MSKNB/ED/2023-24/03/K536C7

Chemical					
SI No.	Parameter	UOM	Method	t Inste	1
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	Limit	Result
2	Benzene	micro gm/m3	the second se	6 (Annual)	BDL(DL:1.0)
3	Benzo(s)Pyrene		IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.02
6	Nickel as Ni	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.13
pinion :	and the second se	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

END -

Limit as per CPCB notification, New Dethi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By Signature Name Ms. Pial Ganguly

Designation Executive Chemist

Authorized Signatory Signature Name Dr. S Designation : Lab Is charge

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Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Report No. :

Sample No. :

Date :

Name & Address of Customer :

Tata Steel Ltd. (MGM)_Joda West

Reference No. & Date :

MSKGL/ED/2023-24/005628 30/03/2024 MSKGL/ED/2023-24/03/00877 3000156017/056, Dale - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that line following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines (TIMM)
4. Date of sampling 5. Place of sampling	21/03/2024
	Near Guruda Shorting Yard (TIMM)
Environmental conditions during sampling & Transport Sampling Plan & Method used	Clear & Sunny
seempening Prairi & method used	NA

Report No. : MSKGL/ED/2023-24/005628

Sample No. : MSKGL/ED/2023-24/03/00877

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM		1 00000	
1	Ammonia (NH3)		Method	Limit	Result
2	and the second s	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	14.9
-	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	0.49
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR	
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	and the second sec	22.6
5	Particulate Metter (<10um)	micro gm/m3	and the second se	180 1 HR.	BDL(DL:20.0
6	Particulate Matter (<2.5um)	miaro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	211
7	Sulphur Dioxide (SO2)	and the second se	IS-5182 (PT-24),2019_(O)	60 24 HR.	109
- Alianda in the second	sould us currently (SCVS)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	8,0

END ----

Report Verified By

Head Office: Strucht Gente (Sin Floor), 745; A.J.C. Bose Roet, Kokata - 700016; West Bengal, India. Tel.: 91 33 40143050 / 22550007 Fax: 91 33 22550008 Email: 1stogenetrask.com Website : www.entrusk.com For Mitra S. K. Private Limited <-5

Authorised Signatory

AMBIENT AIR QUALITY MONITORING REPORT

Address of Laboratory :	ANN	(1)MSK
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengał Tel. : +91 7044036120 Ernait: udayanlab@mitrask.com	333	TESTING + INSPECTION Scan for Portal
	TC-6950	ULR: TC-695024000003064F
Second and the second sec	TEST REPORT	
Name & Address of Customer :	Report No. :	M5KPL/ED/2023-24/F13113
Tata Steel Ltd.(MGM)_Joda West	Date :	27/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	MSKNB/ED/2023-24/02/KJ1CEV 15/02/2024 15/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

1. Group	Atmospheric Pollution
2. Description of sample	- Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	12/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	 Temperature :13-26 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fall : No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Lalin Naik, Dhambrudhar Das
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/F13113

RESULT

Sample	No.:	MSKNB/ED/2023-24/02/KJ1CEV
--------	------	----------------------------

Chemical SI No. Parameter UOM Method Limit Result 4 Arsenic as (As) USEPA-IO 3.4, June ng/m3 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 USEPA-IO 3.4, June Lead (as Pb) micro gm/m3 1 (24 Hours) SDL(DL:0.01) 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified BDL(DL:0.01) 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) BDL(DL:5.0)

END -

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By:

Signature

Ms. Pial Genpuly Designation Executive Chemist

Authorized Signatory Signature Name D/ Designation Leb in charge

The results relate only to the item(s) bedied.

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The reserved part of semplex) for chemical analysis (Sol, Solid & Liquid Weste) shell be retained for 15 days as per CPCB guidelins & (Air) 1 month from the date of issue of the Test Report. The reserved part of semple(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Shrachi Cantre (Sh Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bangel, India. Tel.: 91 33 40143000 / 22850007 Fax: 91 33 22550008 Entel: Info@mitrusk.com Website: www.mitrusk.com Head Office:

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035





TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034. India Pin

 Report No. :
 MSKGL/ED/2023-24/004935

 Date :
 22/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00498

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique identification of sample(if any)	Tiringpatur Iron & Mn. Mines	
4. Date of sampling	12/02/2024	
5. Place of sampling	Near Guruda PIT Office TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/004935

Sample No. : MSKGL/ED/2023-24/02/00498

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	16.1
2	Carbon Monoxide (CO)	rog/m3	15: 5182 (Part 10)_(O)	2 8HR.	0.54
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	21.3
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR,	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	149
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	71
7	Sulphur Dioxide (SO2)	micro gm/m3	15: 5182 (Part 2)_(O)	80 24 HR.	7.5

-END -

Report Verified By (



For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

Head Office: Shunchi Centre 15th Roori, 748, A.J.C. Sose Rosel, Kolkate - 700016, West Bengel, India. Tel.: 91 33-40143000 / 22650007 Fax: 91 39 22650008 Email: Info@mitzaik.com Webuite: www.mitzaik.com

	COTTO DO	(())MSK
Building No. P- 48, Udayan industrial Estate, 5, Pagladanga Road, Kolkata 700015 West Bengal fel. : +91 7044036120 imail: udayaniab@mitrask.com	(TESTING + INSPECTION
	TC-8950	ULR: TC-695024000003063F
	TEST REPORT	
lame & Address of Customer :	Report No. :	MSKPL/ED/2023-24/D1311H
ata Steel Ltd. (MGM)_Joda West	Date :	27/02/2024
VPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/02/E51CCE 15/02/2024
	Date(s) of performance:	15/02/2024 - 27/02/2024
	Location of performance of Reference No. & Date :	Permanent Facility
	Discipline:	3000156017/056, Date - 16/09/2023 Chemical
hereby certify that the following sample Drawn by us has		Server Loval

1. Group	Atmospheric Pollution	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	NA	
4. Date of sampling	12/02/2024	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	
6. Environmental conditions during sampling & Transport	1) Temperature :13-26 deg C 2) Barometric Pressure: 706 mm of Ho 3) Rain fall	
7. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPA	
8. Identification of the personnel performing sampling by MSK	Lalin Naik, Dhambrudhar Das	
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9	

Report No. : MSKPL/ED/2023-24/D1311H

RESULT

Sample No. : MSKNB/ED/2023-24/02/E61CCE

Authorized Signatory

Dr. Setero

Leb is charge

Signature

Designation

Name

Chemical SI No. Parameter UOM Method Limit Result ÷ Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BOL(DL:0.5) 4 Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) BDL(DL:0.01) 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.14 Nickel as Ni 6 USEPA-IO 3.4, June ng/m3 20 (Annual) BOL(DL:5.0)

- END -----

Opinion :

Reviewed By:

Signature

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

Designation 1 Executive Chemiat

Ms Pial Ganguly

The results relate only to the isen(s) tested. This Test Report shall not be reproduced except in full, without the permission of Mitro S.K. Private Limited. The reserved part of sample(s) for chemical snatyres (Non - perturbable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perlahable sample(s) shall be retained 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Soll, Sold & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. Head Office:

Strachi Cester (Str. Floor), 748, A.J.C. Bore Road, Koluste - 700016, West Bergel, India. Tel. : 91 33:40143000 / 22550007 Fax : 91 33:22550008 Email : Info@mitriek.com Website : www.mitraek.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035





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TEST REPORT

Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Tata Steel Ltd.(MGM)_Joda West

Report No. ; Date : Sample No. : Reference No. & Date ;

MSKGL/ED/2023-24/004922 22/02/2024 MSKGL/ED/2023-24/02/00497 3000156017/056, Date - 15/09/2023

We hereby cartify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines	
4. Date of sampling	12/02/2024	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	
5. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/004922

Sample No. : MSKGL/ED/2023-24/02/00497

RESULT

Analysis Result of Ambient Air

SI No.	Parametor	MOU	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	15.2
2	Carbon Monexide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.51
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	19.8
4	Ozone (O3)	micro gm/m3	iS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	216
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	105
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	7.4

___ END -----

Report Verified By



For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

Office: Shrech Centre (9h Floor), 748, A.J.C. Bose Rood, Activata - 700016, West Bengal, India. Tal.: 91 33 40143000 (2060007 Fax: 91 33 2260008) Email: intoge-thosk.com Website : www.mitraek.com

Head Office:

Address of Laboratory :		M5K
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	TESTING + INSPECTIO Scan for Portal ULR: TC-695024000003062F
Lange the second second	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/U1311C
Tata Steel Ltd. (MGM)_Joda West	Date :	27/02/2024
AUT	Sample No. :	MSKNB/ED/2023-24/02/DE1CFG
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:	15/02/2024
	Date(s) of performance:	15/02/2024 - 27/02/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
We hereby certify that the following sample Drawn by us has I	9907 analyzed with the following mouths	and the state of t
1. Group	Atmospheric Pollution	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	NA	

a beachpion of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	12/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :13-26 deg C 2) Baromatric Pressure: 706 mm of Us 2) During the
7. Sampling Plan & Method used	
8. Identification of the personnel performing sampling by MSK 9. Field Equipments Used	IS:5182(P-11,12) & USEPA Lalin Naik, Dhambrudhar Das
er neid cquipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/U1311C

RESULT

Sample No. : MSKNB/ED/2023-24/02/DE1CFG

Chemical SI No. Parameter UOM Method Limit Result 4 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) A Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) 0.02 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.36 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) 20.1 Opinion : Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

he results relate only to the Nem(s) tested. Ins Test Report shall not be reproduced except in full, without the permission of Mins S.K. Private Limited. In reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Weber) shall be retained for 15 days from the date of asus of the Test Report. Perishable sample(s) shall be retained 2 days on the date of asus of the Test Report. and the dates or make or the free rest register. We reserved part of sample(s) for Microbiological analysis (Solt & Liquid Waster) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report, he reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food. Sealed Water, Sasted food) shall be relained for 15 days from the date of issue of the Test Report.

Shrach Centre (Str Floor), 748, A.J.C. Bose Road, Kolkata - 700356, West Bengel, India. Tel. : 81 33 40143000 / 22930007 Fax - 91 33 2050009 Email - Info@mitrask.com Webste - www.mitrask.com

Authorized Signatory Signature Name 10

Designation : Lab In charge

Genouiv Designation Executive Chemist

Reviewed By

Signature

Name

Address of Branch : P.O. Barbil Dt Keonghar Orissa 758 035





Scan for Portal

TEST REPORT

Name & Address of Customer :

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Piri

Tata Steel Ltd.(MGM)_Joda West

Report No. : Date : Sample No. : Reference No. & Date :

MSKGL/ED/2023-24/004937 22/02/2024 MSKGL/ED/2023-24/02/00496 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiningpahar Iron & Mn. Mines
4. Date of sampling	12/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	Clear & Surmy
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004937

Sample No. : MSKGL/ED/2023-24/02/00496

RESULT

Analysis Result of Ambient Air

SI No.	Parametor	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	18.8
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.37
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	24.3
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	192
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	94
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR.	7.8

END

Report Verified By

For Mitra S. K. Private Limited 000

Authorised Signatory

Page 1 of 1

Strucchi Centre (Mr Root, 740, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 91 33:40143000 / 22050007 Fax : 91 33:22050008 Email: Indig@mlitesik.com Websile : www.mlitesik.com

Head Office:

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com

Name & Address of Customer :

At/Po. - Joda, Dist. - Keon/har, Odisha - 758034 India

Tata Steel Ltd.(MGM)_Joda West

TC-8950

TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/N1311M 27/02/2024 MSKNB/ED/2023-24/02/BT1F2P 15/02/2024 15/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/08/2023

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ULR: TC-695024000003069F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	13/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :16-29 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Akash Kr. Setty Pratick Kr. Mantri
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/N1311M

Sample No. : MSKNB/ED/2023-24/02/8T1F2P

Chemical

DECLUT

			RESULT		
Chemical	al				
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	8DL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	8DL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.02
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.36
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	41.6

Opinion :

C

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed fly

Marrie

Senature Designation Executive Chemist

Authorized Stanatory Signature Namo Dr. So Designation Lab in the

The results rotate only to the item(s) tested.

The Test Report shall not be reproduced except in full, writout the permission of Mitre S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - perehable sample(s) Fock, Waker) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) and be retained 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for the monitor analysis (Soil, Soild & Liquid Waste) shall be retained for 15 days as per CPCB guidaline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - peristable sample(s) Food, Sealed Water, Sealed tood) shall be retained for 15 days from the date of issue of the Test Report.

Strach/ Gentre (55: Floor), 748, A.J.C. Scale Road, Kolkata - 700016, West Bengel, India. Tet.: 91 33:40143000 / 22650007 Fax: 91 33:22550008 Email: info@nihrask.com Website: www.nitrask.com Head Office:

TESTING # INSPECTION

Doc No. MSK/GEN/19/07



Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004925

 Date :
 22/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00503

 Reference No. & Date :
 30001560177056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	_
2. Description of sample	Ambient Air	_
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mo. Mines	_
4. Date of sampling	13/02/2024	_
5. Place of sampling	Near Guruda View Point-TIMM	-
6. Environmental conditions during sampling & Transport	Clear & Sunny	_
7. Sampling Plan & Method used	NA	_

Report No. : MSKGL/ED/2023-24/004925

Sample No. : MSKGL/ED/2023-24/02/00503

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	17.9
2	Carbon Monoxide (CO)	mg/m3	15: 5182 (Part 10) (O)	2 8HR.	0.55
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	25.7
4	Ozone (03)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR	192
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	94
7	Sulphur Dioxide (SO2)	En/eng orbim	IS: 5182 (Part 2) (O)	80 24 HR.	7.8

----- END ------

Report Verified By

For Mitra S. K. Private Limited

Authorised Signatory

Head Office: Strads Canter (Sh Fixer), 746, A.J.C. Bose Road, Koliula - 700018, West Bergal, India. Tel. 95 33 49143000 / 22950007 Fair (91 33 2295000) Email: Info@mitreak.com Webuile : www.mimark.com

Doc No:: MSK/GEN/19/07

TESTING # INSPECTION

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/ED/2023-24/V1312Q 27/02/2024 MSKNB/ED/2023-24/02/CD1EDT 15/02/2024 15/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003070F

We hereby cartify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	13/02/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	 Temperature :16-29 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11, 12) & USEPA
8. Identification of the personnel performing sampling by MSK	Akash Kr. Setty Pratick Kr. Mantri
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/V1312Q

Sample No. : MSKNB/ED/2023-24/02/CD1EDT

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.13
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	8DL(DL:5.0)

Opinion :

Limit as per CPC8 notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END-

Reviewed By

Signature

Designation : Executive Chemiat

Authorized Signatory. Signature Name DV-S idei gik Designation Job In charge

The results relate only to the item(s) tested.

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The reserved part of sample(s) for otherrical analysis (Soli, Solid & Liquid Weste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Wester, Sealed food) shall be retained for 15 days from the date of asse of the Test Report.

Shraidh Centre (Sti Floor), 748, A.J.C. Bele Road, Kokata - 700016, West Bengal, India. Tel.: 91:33:40143000 / 22550007 Fax: 91:33:22550000 Email: Inloginitrats.com Webste : www.mitrask.com Head Office:

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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3000156017/056, Date - 15/09/2023

TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004926
Tata Steel Ltd.(MGM)_Joda West	Date :	22/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/00504

Reference No. & Date :

We hareby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	_
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines	_
4. Date of sampling	13/02/2024	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	_
5. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	-

Report No. : MSKGL/ED/2023-24/064926

E

Sample No. : MSKGL/ED/2023-24/02/00504

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	14.3
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 BHR.	0.49
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR	19.8
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR.	185
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR,	
7	Salphur Dicoide (SO2)	micro gm/m3	(S: 5182 (Part 2) (O)	80 24 HR	91 7.3

---- END -----

Report Verified By

Head Office: Stradis Centre (5th Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, Indu. Tel. : P1 33:40143000 / 22/50007 Fax : 91 33:22/55006 Email: Info@mitraak.com Wobsite: week.rsttrack.com For Mitra S. K. Private Limited

< 30 -Authorised Signatory

Dec No.1 MSKGENPIGO2

TESTING + INSPECTION

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM) Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/L13124 27/02/2024 MSKNB/ED/2023-24/02/DK1EE7 15/02/2024 15/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003071F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

Atmospheric Pollution
Ambient Air
NA
13/02/2024
Near Guruda PIT Office TIMM
 Temperature :16-29 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall No. & Cold Chain Maintained
IS:5182(P-11,12) & USEPA
Akash Kr. Setty Pratick Kr. Mantri
MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/L13124

Sample No. : MSKNB/ED/2023-24/02/DK1EE7

RESULT

Chemical						
SI No.	Parameter	UOM	Method	Limit	Result	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	8DL(DL:4.2)	
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)	
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)	
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	BDL(DL:0.01	
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BOL(DL:5.0)	

END ----

Opinion :

¢

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

Reviewed By

Signature

Name λh.

Executive Chemid Designation

Authorized Signatory Signature Mushopadh Name 0 Designation : Lab in charge

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The reserved part of sample(s) for chemical analysis (Soil, Solid & Liquid Weste) shell be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Miorobiological analysis (Non - penshable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Bhrachs Genine (5th Floor), 748, A J C. Bose Road, Kokate - 700016, West Bengal, India. Tel. : 91 33:40143000 / 22050007 Fax : 91 33:22550008 Email : Info@mikrask.com Webste : www.mitmak.com Head Office:

Address of Branch : P.O. Barbil Dt Keonghar Orissa 758 035



Date - 15/09/2023

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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004932
Tata Steel Ltd.(MGM)_Joda West	Date :	22/02/2024
A&Po Joda, Dist Keonihar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/00505
Carlos and The Hard and Anna Toolog Inde Fill	Reference No. & Date :	3000156017/058. Date - 15/09/2

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mo. Mines
4. Date of sampling	13/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

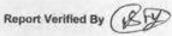
Report No. : MSKGL/ED/2023-24/004932

Sample No. : MSKGL/ED/2023-24/02/00505

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Asnmonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	<10.0
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR	0.61
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	20.9
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
6	Particulate Motter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	168
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	82
7	Sulphur Dicxide (SO2)	micro gm/m3	(S: 5182 (Part 2) (O)	80 24 HR.	7.9

END -



For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

Shracht Cantra (56) Floor), 748, A.J.C. Bose Road, Kofkata - 700018, West Bengal, India. Tel.: 91 53:40143000 / 22650007 Fax: 91 53:22650008 Email : Info@mitrask.com Webate : www.mitrask.com Head Office:

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

AVPo. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/013A91 02/03/2024 MSKNB/ED/2023-24/02/X1372U 22/02/2024 22/02/2024 - 02/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

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ULR: TC-695024000003197F

Disc No.1 MERCICENINGRO

TESTING # INSPECTION

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution		
2. Description of sample	Ambient Air		
3. Unique Identification of sample(if any)	NA		
4. Date of sampling	19/02/2024		
5. Place of sampling	Near Guruda Pit Office-TIMM		
8. Environmental conditions during sampling & Transport	 Temperature :19-29 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fall : No & Cold Chain Maintained 		
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA		
8. Identification of the personnel performing sampling by MSK	Pratik Kumar Mantri		
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10		

Report No. : MSKPL/ED/2023-24/013A91

S ŧ.

RESULT

ampie No. :	MSKNB/EU/2023-24/02/X13/20

Chemical					
Parameter	UOM	Method	Limit	Result	
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	8DL(DL:1.0)	
Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)	
Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)	
Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)	
Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	8DL(DL:0.01)	
Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	8DL(DL:5.0)	
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4; June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4; June Not Specified	

- END -

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By (a) kanny Signature 13 Name Dr. Devotiam Baneviee Designation 1 Technical In charge

Authorized Sign Signature Dann (North u. Nome : Dr. Devoitem Banerjee Designation Technical In sharpe

The results relate only to the fiend(s) tested. This Test Report shall not be reproduced except in 5all, without the permission of Mitra S.X. Private Limited. The reserved port of settie(s) for chemical analysis (Non - periphable sample(s) Food, Viater) shall be related for 15 days from the date of issue of the Test Report. Periphable sample(s) afail be related 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Sol, Solid & Liquid Wate) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Strecht Centre (Sin Fisor), 746, A.J.C. Bose Road, Kotuata - 700016, West Bergal, India. Tel.: 91 33 40143000 / 22550007 Fax: 91 33 22650008 Email: info@mitrask.com Webste : www.mtrask.com Head Office:

Address of Branch :

P.O. Barbil Dt Keonjhar Orlasa 758 035



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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004955
Tata Steel Ltd.(MGM) Joda West	Date :	26/02/2024
	Sample No. :	MSKGL/ED/2023-24/02/00881
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Reference No. & Date :	3000156017, Date - 28/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines
4. Date of sampling	19/02/2024
5. Place of sampling	Near Guruda Pit Office-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004955

Sample No. : MSKGL/ED/2023-24/02/00881

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	12.1
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.58
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	20.8
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	157
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	75
7	Sulphur Dioxide (SO2)	micro gm/m3	(S: 5182 (Part 2) (O)	80 24 HR.	6.9

END ----

Report Verified By

For Mitra S. K. Private Limited

Authorised Signatory

Strucht Cenere (38: Filor), 748, A.J.C. Bose Road, Kokute - 700018, West Bengal, India. Tel.: 91:33:401403001 / 22650007 Fax: 91:33:22550008 Email: info@mthisk.com Website : www.mbreak.com Head Office:

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate. 3. Pagladanga Road, Kolksta 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com

TC-6950

TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/513A97 02/03/2024 MSKNB/ED/2023-24/02/RL36CD 22/02/2024 22/02/2024 - 02/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

Atmospheric Pollution
Ambient Air
NA
19/02/2024
Near Guruda Shorting Yard-TIMM
 Temperature :19-29 deg C 2) Barometric Pressure: 703 mm of Hg 3) Rain fall : No & Cold Chain Maintained
IS:5182(P-11,12) & USEPA
Pratik Kumar Mantri
MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/513A9Z

Sample No.: MSKNB/ED/2023-24/02/RL36CD

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	rig/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Banzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.10
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BOL(DL:5.0)

END --

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By Signature Baninnu. Dr. Dovottem Banerjee Name Designation : Technical In charge

Authorized Signatory 2 barry re. Signature Dr. Devotiam Banerjee Name Designation Yechnical In charge

The results relate only to the item(s) leated.

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Head Office: Shrachi Canine (5h Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bergel, India. Tel.: 91 33 40143000 / 22550007 Fax: 91 33 22550008 Email : info@mitrask.com Website : www.mitrask.com



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Address of Branch :

P.O. Barbi Dt Keonjhar Orissa 758 035





TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004954
Tata Steel Ltd.(MGM) Joda West	Date :	26/02/2024
	Sample No. :	26/02/2024 MSKGL/ED/2023-24/02/00880
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Reference No. & Date :	3000156017, Date - 28/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpehar Iron & Mn. Mines
4. Date of sampling	19/02/2024
5. Place of sampling	Near Gurude Shorting Yard-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004954

Sample No. : MSKGL/ED/2023-24/02/00880

RESULT

SJ No.	Parameter	UOM	Method	Limit	Result
4	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	15.3
2	Carbon Monoxide (CO)	mo/m3	IS: 5182 (Part 10) (O)	2 8HR.	0.53
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	19.4
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gre/m3	IS: 5182 (Part 23)_(O)	100 24 HR	198
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24).2019_(O)	60 24 HR.	95
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	7.5

- END -----

Report Verified By

For Mitra S. K. Private Limited

< 250 Authorised Signatory

Page 1 of 1

Shaachi Centre (5th Flaor), 749, A.J.C. Rose Reed, Kotkata - 760715, West Bengel, India. Tel.: 91 33 40143000 / 22650007 Fax: 91 33 22850008 Essail : Info@mittosk.com Website : www.intrask.com Head Office:

Mitra S. K. Private Limited	u	(D) MSK
Address of Laboratory : Building No. P-48, Udayan Industrial Estate, 3, Pagladanga Road, Kolksta 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal ULR: TC-695024000003195F
	TEST REPORT	
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date :	MSKPL/ED/2023-24/Q13A9C 02/03/2024 MSKNB/ED/2023-24/02/KP36F1 22/02/2024 22/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023

1. Group	Atmospheric Pollution
2. Description of sample	Amblent Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	19/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :19-29 deg C 2) Barometric Pressure: 707 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kumar Mantri
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/Q13A9C

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annuai)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.04
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.30
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

- END -----

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA.

Reviewed By: Domenya. Signature : Dr. Devotiam Banorjee Name Designation Technical In charge

Authorized Signatory Domy v. Signature : Dr. Devoltam Banegee Nerte Designation Technical In charge

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them the date of state is the lists respon. The reserved part of ample(s) for chemical analysis (Soli, Solid & Liquid Weste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Strach Centre (Str Picor), 748, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tet. : 91 33 40143000 / 22550007 Fax : 91 33 22550008 Email : info@mithack.com Website : www.mitrask.com Head Office:

Sample No. : MSKNB/ED/2023-24/02/KP36F1

DESUI 1

		RESULI		
Parameter	UOM	Method	Limit	Result
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.04

Address of Branch :

P.O. Barbil Dt Keonjher Orissa 758 035



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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004953	
Tata Steel Ltd.(MGM) Joda West	Date :	26/02/2024	
	Sample No. :	MSKGL/ED/2023-24/02/00879	
ApPo Joda, Dist Keonjhar, Odisha - 758034 India Pin	Reference No. & Date :	3000156017, Date - 28/09/2023	

We hareby cartify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	_
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines	
4. Date of sampling	19/02/2024	_
5. Place of sampling	Near Guruda View Point-TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/004953

Sample No. : MSKGL/ED/2023-24/02/00879

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	17.A
2	Carbon Monexide (CO)	mg/m3	1S: 5182 (Part 10)_(O)	2 8HR.	0.48
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	.23.6
4	Ozone (C3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	184
8	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	88
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR.	8.3

----- END -----

Report Verified By

For Mitra S. K. Private Limited

2312 Authorised Signatory

Head Office: Shachi Centre (5th Root), 740, A.J.C. Bose Hoad, Kolkata - 700016, West Bangel, India. Tel., 91 33 40343000 (22550007 Fax: 91 33 2265000) Email: Jelo@mitsak.com Website: www.mitsak.com

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM) Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/P13A9N 02/03/2024 MSKNB/ED/2023-24/02/SP370H 22/02/2024 22/02/2024 - 02/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003204F

Doc No : MSK/GEN/19/07

TESTING + INSPECTION

MSI

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	20/02/2024
5. Place of sampling	Near Guruda Pit Office-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :20-30 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fail: No & Cold Chain Maintaired
7. Sampling Plan & Method used	18.5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/P13A9N

Sample No. H

RESULT

ampie No. :	MSKNB/EU/2023-24/02/SP370

themical						
Parameter	UOM	Method	Limit	Result		
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BOL(DL:1.0)		
Benzene	micro gm/m3	IS 5182 (Part 11)	Contract of the State of State	BDL(DL:4.2)		
Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	and an and a second	BDL(DL:0.5)		
Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June		BDL(DL:0.01)		
Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June		BDL(DL:0.01)		
Nickel es Ni	ng/m3	and the second se	and the second s	BDL(DL:5.0)		
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4, June Not Specified		

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By Signature Many M Name Dr. Devottan Ba Designation 1 Technical In charge

Authorized Signalory Danny Signature Name Dr. Devoitem Barke **Designation** Technical In charge

The results relate only to the dem(s) tested.

This Test Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Limited The reserved part of sample(s) for chamical analysis (Hon - perichable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days from the date of issue of the Test Report.

The meanved part of sample(s) for chemical analysis (Soil, Solid & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. Head Office:

Shrachi Centre (5th Floor), 74B, A.J.C. Bose Road, Kolkata - 700016, West Bengal, India Tel. 91 33:40143000 / 22650007 Fax: 91 33 22650008 Email: info@mlrask.com Website: www.mitrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004963

 Date :
 27/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00900

 Reference No. & Date :
 3000156017, Date - 28/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique identification of sample(if any)	Tiringpahar Iron & Mn. Mines
4. Date of sampling	20/02/2024
5. Place of sampling	Near Guruda Pit Office-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004963

Sample No. : MSKGL/ED/2023-24/02/00900

RESULT

SI No.	Parameter	MOU	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	11.1
2	Arsenic (As)	ng/m3	TPMMSK/ENV(AP)/01/15_(O)	6 ANNUAL	NA
3	Benzene (C6H6)	micro gm/m3	IS: 5182 (Part 11)_(O)	5 ANNUAL	NA
4	Benzo(a)Pyrene (BeP)	ng/m3	IS: 5182 (Part 12)_(O)	1 ANNUAL	NA
5	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.52
8	Lead (Pb)	micro gm/m3	EPA -IO3.2 June, 1999_(O)	1 24 HR	NA
7	Nickel (Ni)	ng/m3	EPA-IO3.2 -June, 1999_(O)	20 ANNUAL	NA
8	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	20.2
9	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
10	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	143
11	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)	60 24 HR.	70
12	Sulphur Diaxide (SO2)	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR.	7.2

----- END -----

Report Verified By



For Mitra S. K. Private Limited

< em Authorised Signatory

Page 1 of 1

DB: Siteschi Contre (5th Floor), 748; A.J.C. Bose Road, Kolkata - 700016, West Bengal, India. Tel. : 01.33 4/14/3000 / 20050007 Fax: 11.33 22650008 Email : Info@mitrask.com Website : www.mitrask.com

Head Office:

Mitra S. K. Private Limi	Ited
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Doe No.: MSK/GEN/19/07

TESTING #INSPECTION

TC-6950

TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Address of Laboratory :

West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com

Building No. P- 48, Udayan Industrial Estate,

3, Pagladanga Road, Kolksta 700015

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/ED/2023-24/Y13A9X 02/03/2024 M\$KNB/ED/2023-24/02/MY36C5 22/02/2024 22/02/2024 - 02/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003203F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	20/02/2024
5. Place of sampling	Near Guruda Shorting Yard-TIMM
8. Environmental conditions during sampling & Transport	 Temperature :20-29 deg C 2) Barometric Pressure: 703 mm of Hg 3) Rain fall No.8. Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11, 12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/Y13A9X

Sample No. : MSKNB/ED/2023-24/02/MY36C5

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.11
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

Opinion:

Limit as per CPCB notification, New Delhi, 18th November 2009, for Amblent air quality

Statement of Conformity NA

END-

Reviewed By Janes Signature Dr. Devotam Bane Name Designation Technical In charge

Authorized Signator Do Bann Signature 141 Name Dr. Devotlam Banarje Designation : Technical In charge

The results relate only to the item(a) tested.

This Test Report shall not be reperstuded except in full, without the permission of Mitra S.K. Private Linsled. The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Sol, Solid & Liquid Wairle) shall be retained for 15 days as per CPCII guideline & (Ar) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Shrachi Centre (5th Floor), 748: A.J.C. Bose Road, Kolkuta - 700016, West Bengal, India Head Office: Tel. 91 33 40143000 / 22650007 Fax: 91 33 22650008 Email: info@mbrask.com Website: www.mbrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Sample No. :

Name & Address of Customer :	Report No. :
Tata Steel Ltd.(MGM)_Joda West	Date :

MSKGL/ED/2023-24/004964 27/02/2024 MSKGL/ED/2023-24/02/00899 Reference No. & Date : 3000156017, Date - 28/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034. India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

AIR
Ambient Air
Tiringpahar Iron & Mn. Mines
20/02/2024
Near Guruda Shorting Yard-TiMm
Clear & Sunny
NA

Report No. : MSKGL/ED/2023-24/004964

Sample No. : MSKGL/ED/2023-24/02/00899

RESULT

1	Anol	100.01	Result	of I	amb	hont.	Aller,
1	PUHAN	yoto :	result	201.0	20110	PEQUIT 1	PARK

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	15.6
2	Arsonic (As)	ng/m3	TPMMSK/ENV(AP)/01/15_(0)	6 ANNUAL	NA
3	Benzene (C6H6)	micro gnu/m3	IS: 5182 (Part 11)_(O)	5 ANNUAL	NA
4	Benzo(a)Pyrene (BaP)	ng/m3	IS: 5182 (Part 12)_(O)	1 ANNUAL	NA
5	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.42
6	Lead (Pb)	micro gm/m3	EPA -IO3.2 June, 1999_(O)	1 24 HR	NA
7	Nickel (Ni)	ng/m3	EPA-IO3.2 -June.1999_(O)	20 ANNUAL	NA
8	Nitrogen Disxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	19.7
9	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
10	Particulate Matter (<10um)	Em/mg oroim	IS: 5182 (Part 23)_(O)	100 24 HR.	201
11	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24).2019_(O)	60 24 HR.	98
12	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR	7.2

- END ---

Report Verified By

For Mitra S. K. Private Limited

<-ST2 Authorised Signatory

Page 1 of 1

Head Office:

Silvachi Centre (Sh Floor), 740, A.J.C. Rose Road, Kolkota - 700016, West Bengel, India. Tet.: 91.33.40143000 / 22650007 Fox: 91.33.22650008 Einalt: Wol@witkask.com Website: www.nitrask.com

Mitra S. K. Private Limite Address of Laboratory :		() мзк
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	333	TESTING+INSPECTIO
	TC-6950	ocarries y ortain
	10-0900	ULR: TC-695024000003202F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/113A9D
Tata Steel Ltd.(MGM) Joda West	Date :	02/03/2024
	Sample No. :	MSKNB/ED/2023-24/02/MP36DE
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:	22/02/2024
	Date(s) of performance:	22/02/2024 - 02/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
We hereby certify that the following sample Drawn by us has	been analyzed with the following results:	
1. Group	Atmospheric Pollution	
2. Description of sample	Ambient Air	
2 Heleux Identification of anomalalif and	1.1.4	

h shoup	(Almospheric Policijon
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	20/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :20-29 deg C 2) Barometric Pressure: 707 mm of Hg 3) Rain fall : No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/113A9D

RESULT

Sample No. :	MSKNB/ED/2023-24/02/MP36DE
--------------	----------------------------

Chemical					
St No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BOL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	rig/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mri	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.25
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	80L(DL:5.0)

END ----

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By: Signature Dolbanupri Name Dr. Devoltam Banarjee Designation Technical In charge

Authorized Sign Donn Signature 1 Nane : Dr. Devottem Banerjee Designation : Technical In charge

The results relate only to the 6em(s) tested.

The restance only to the sentitive sector of accept in full, without the permission of Mare S.K. Private Limited. This Test Report shall not be reproduced except in full, without the permission of Mare S.K. Private Limited. The resterved part of samplets for chemical analysis (Non - penshable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. The resterved part of samplets for chemical analysis (Sol, Solid & Louid Wester) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The resterved part of sample(s) for Microbiological analysis (Non - penshable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The resterved part of sample(s) for Microbiological analysis (Non - penshable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Shrachi Centre (Sh Fixor), 74B, A.J.C. Bose Road, Kokate - 70016, West Bengel, India. Tel.: 91 33 40143000 / 22850007 Fax: 91 33 22650008 Email: Info@mitrask.com Webste: www.mitrask.com Head Office:

Address of Branch : P.O. Barbil Dt Koonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004962
Tata Steel Ltd.(MGM)_Joda West	Date :	27/02/2024
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/00898
The state of the second st	Reference No. & Date -	3000156017 0.00. 20000000

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tenopahar iron & Mr. Mines
4. Date of sampling	20/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004962

Sample No. : MSKGL/ED/2023-24/02/00898

RESULT

SI No.	Parameter	NOU	Method	Limit	Result
1	Ammonia (Nhi3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	17.8
2	Arsenic (As)	ng/m3	TPM/MSK/ENV(AP)/01/15_(O)	6 ANNUAL	NA
3	Benzene (C6H6)	micro gm/m3	IS: 5182 (Part 11)_(O)	5 ANNLIAL	NA
4	Benzo(a)Pyrene (BaP)	Cmign	IS: 5182 (Part 12)_(O)	1 ANNUAL	NA
5	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR	0.51
6	Lead (Pb)	micro gm/m3	EPA -IO3.2 June, 1999_(0)	1 24 HR	NA
7	Nickel (Ni)	ng/m3	EPA-I03,2 -June, 1999_(O)	20 ANNUAL	NA
8	Nitrogen Diexide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	24.8
9	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
10	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR,	191
11	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	93
12	Sulphur Dioxide (SO2)	micro gm/m3	1S: 5182 (Part 2)_(O)	80 24 HR.	7.9

-END ----

Report Verified By (188



For Mitra S. K. Private Limited

<287 Authorised Signatory

Page 1 of 1

Head Office:

Shinchi Gentiv (Sh Faoy), 749. A.J.C. Sole Road, Kofkata - 750016, West Bengal, India. Tel.: (H 33.40143000 / 22550007 Fax: 81 33.22550008 Email: info@mtrask.com Websita: www.mtrask.com

Mitra S. K. Private Limite Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengai Tel. : +91 7044036120 Email: udayanlab@mitrask.com	C-6950	Scan for Portal	
	TEST REPORT	ULA: 10-080024000003041F	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/M13C14	
Tata Steel Ltd.(MGM)_Joda West	Date :	06/03/2024	
	Sample No. :	MSKNB/ED/2023-24/02/9A47F2	
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:	29/02/2024	
	Date(s) of performance:	29/02/2024 - 06/03/2024	
	Location of performance of	Permanent Facility	
	Reference No. & Date :	3000156017/056, Date - 16/09/2023	
	Discipline:	Chemical	
We hereby certify that the following sample Drawn by us has	been analyzed with the following results:		
1. Group	Atmospheric Pollution		
2. Description of sample	Ambiant Air		

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	26/02/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	 Temperature : 19-35 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall : No.8 Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Kshitish Kumar Mohanty
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/M13C14

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL.0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.13
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By: Signature So Bany 10 Dr. Devottam Senerjee Natre Designation : Technical in Charge

Authorized Signatory: De ban Signature 124 Name Dr. Devotiam Banerjee Designation Technical In Charge

Sample No. : MSKNB/ED/2023-24/02/9A47F2

The results relate only to the item(a) tested. This Test Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Limited. The reserved part of sample(s) for channol analysis (Non - perishable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be mained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Soil, Soild & Liguid Water) shall be retained for 15 days as per CPCB guideline & (Au) 1 month from the date of issue of the Test Report.

Head Office: Shachi Centre (Sm Floor), 748, A.J.G. Bose Road, Kokata - 700016, West Bergal, India. Tel: 91 33 40143000 / 22650007 Fas: 91 33 22650008 Email: rrfo@mbrask.com/Website:www.mitrask.com

Address of Branch : P.O. Barbil Dt Keonjhar Orisas 758 035



TEST REPORT

	the state of the s	
Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/005005
Tata Steel Ltd.(MGM)_Joda West	Date :	02/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/01155
a constant hour provident constant rootoer inder bitt	Reference No. & Date :	3000156017/056, Date - 15/09/2023
		and a second sec

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

AIR
Ambient Air
Tiringpehar Iron & Mn, Mines
26/02/2024
Near Gunada Shorting Yard- TIMM
Clear & Sunny
NA

Report No. : MSKGL/ED/2023-24/005005

Sample No. : MSKGL/ED/2023-24/02/01155

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RESULT

nalysis Result of Ambient Air					
SI No.	Parametor	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	16,4
2	Carbon Monoxide (CO)	mg/m3	15: 5182 (Part 10) (O)	2 8HR	
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	0.34
4	Ozone (O3)	Em/mg oraim	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR	
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	207
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (0)	80 24 HR.	100

---- END -----

Report Verified By /

For Mitra S. K. Private Limited

(Bhaudhang Authorised Signatory

Head Office: Bitrachi Centre (Str. Feox), 748, A.J.C. Sone Rood, Kolusta - 700018, West Bengel, India. Tel.: 91 33 40143000 / 20150007 Pax: 91 33 22150003 Email: enagenitrask.com Website: wew.mitrack.com

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengat Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal
	TEST REPORT	ULR: TC-695024000003540F
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/S13C12
ala Steel Ltd.(MGM)_Joda West	Date :	06/03/2024
WPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	MSKNB/ED/2023-24/02/7W481Q 29/02/2024 29/02/2024 - 06/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	26/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :19-35 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall : No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Kshitish Kumar Mohanty
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/S13C12

RESULT

Sample No. : MSKNB/ED/2023-24/02/7W4810

hemical					
Parameter	UOM	Method	Limit	Result	
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)	
Benzene	micro gm/m3	IS 5182 (Part 11)	and a second second	BDL(DL:4.2)	
Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)		BDL(DL:0.5)	
Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	and the strengthe	0.04	
Manganese as Mn	micro gm/m3	Contraction of the second se	and the second se	0.30	
Nickel as Ni	ng/m3	and the second se	A restart a frequenciaria ta	7.4	
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours)	

Opinion :

.....

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END ----

100000000		
Reviewed By:		Authorized Signatory:
Signature S	Abanupken	Spream Domeny's
	r. Devoltare Baneboe	Name Dr. Devottern Renerated
Designation T	ectinical In Charge	Name Dr. Devottam Banagee
	en une la crarge	Designation Technical in Charge

The results relate only to the item(s) tested. This Test Report shall not be reproduced except in full, without the permission of Miles S.K. Private Limited. The reserved part of eample(s) for chemical analysis (Non - perishable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Soit & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.

Head Office: Strach Centre (Sn Floor), 748. A.J.C. Bose Road, Kokata - 700015, Weal Bengal, India. Tel: 91 33 40143000 / 22650007 Fax: 91 33 22550008 Email: Ho@mitrask.com Webste . www.mtnask.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



TESTING # INSPECTION

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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/005015
Tata Steel I.td.(MGM)_Joda West	Date :	05/03/2024
AtPo Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/01154
and the second se	Reference No. & Date :	3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mo. Mines TIMM	
4. Date of sampling	26/02/2024	
5. Place of sampling	Near Guruda View Point-TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/005015

Sample No. : MSKGL/ED/2023-24/02/01154

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	14,1
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	0.49
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	20.5
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	80L/DL-20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR.	183
6	Particulate Matter (<2.5um)	micro gm/m3.	IS 5182 (PT-24),2019 (O)	60 24 HR.	90
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR.	8.6

---- END -----

Report Verified By

For Mitra S. K. Private Limited

Hoad Office: Directo Cante (Mr Flow), 740, A.J.C. Bose Road, Nefkata - 700016, West Bengal, India, Tel. : 01 33 40143000 / 22000007 Fax: 91 33 22600005 Cinial : Info@mitrask.com Website : www.mbask.com

Address of Laboratory :		MSK
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tet. : +91 7044036120 Email: udayanlab@mitrask.com		TESTING + INSPECTIO Scan for Portal
	TC-6950	ULR: TC-695024000003542F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/513C1P
Tata Steel Ltd. (MGM)_Joda West	Date :	06/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/02/MH483M 29/02/2024
	Date(s) of performance: Location of performance of	29/02/2024 - 06/03/2024 Permanent Facility
	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023 Chemical
We hereby certify that the following sample Drawn by us has i	seen analyzed with the following results:	
1. Group 2. Description of sample	Atmospheric Pollution	

	Almospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	26/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	1) Temperature : 19-35 deg C 2) Barometric Pressure: 712 mm of Mo 3) Date full
7. Sampling Plan & Method used	No.& Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Kshitish Kumar Mohanty
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/513C1P

		RESULT				
hemical						
Parameter	UOM	Method	Limit	Result		
Arsenic as (As)	ng/m3	USEPA-IO 3.4. June				
Benzene	micro gm/m3	and the second sec	the second s	BDL(DL:1.0)		
Benzo(a)Pyrene	ng/m3	and the second se	and the balance of the second s	BDL(DL:4.2)		
Lead (as Pb)	micro gm/m3		and a state of the	BDL(DL:0.5)		
Manganese as Mn	micro gm/m3	and the second se		BDL(DL:0.01)		
Nickel as Ni	ng/m3	the second se	Contraction of the second second	BDL(DL:0.01 BDL(DL:5.0)		
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Parameter UOM Method Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb.) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Parameter UOM Method Limit Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified		

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END ----

Reviewed By: albany Signature 5 he . Nama : Dr. Devotten Banerje Designation : Technical in Charge

Authorized Sig	putory:	
	Dann	1
Name	Or. Devotiam Banarjee	1
Designation	Technical In Chases	0.0

Sample No. : MSKNB/ED/2023-24/02/MH483M

The results relate only to the item(s) tested. This Test Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - peristrable sample(s) Food, Water) shall be related for 15 days from the date of issue of the Test Report. Peristrable sample(a) shall be related for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Solt & Liquid Waste) shall be related for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report.

Strech Centre (5h Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bangal, India. Tel.: 91 30 40143000 / 22550007 Fax: 91 33 22650008 Email: Info@mtrask.com Webaite: www.mtrask.com Head Office:

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Report No. :	
Data	MSKGL/ED/2023-24/005016
Date :	05/03/2024
Sample No. :	MOVOL STRIPPING ALLER STATE
202 Received Annual States and	MSKGL/ED/2023-24/02/01156
Reference No. & Date :	3000156017/056, Date - 15/09/2023
	Date :

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	_
2. Description of sample	Ambient Air	-
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn, Mines TiMM	-
4. Date of sampling	26/02/2024	
5. Place of sampling	Near Gunuda PIT Office TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	-
7. Sampling Plan & Method used	NA	-

Report No. : MSKGL/ED/2023-24/005016

Sample No. : MSKGL/ED/2023-24/02/01156

RESULT

SI No.	Parameter	UOM	Method	Limit	
1	Ammonia (NH3)	micro gro/m3	IS 5182 (Part 25)		Result
2	Carbon Monoxide (CO)	mg/m3	15: 5182 (Part 10) (O)	400 24 HR	14.3
3	Nitrogen Dioxide (NO2)	micro gra/m3	IS: 5182 (Part 6) (O)	2 8HR.	0.50
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	80.24 HR,	19.2
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (0)	180 1 HR.	BDL(DL:20.0
6	Particulate Matter (<2.5um)	micro gm/m3	the second se	100 24 HR	166
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 (PT-24),2019 (0)	60.24 HR.	92
		incro grivino	IS: 5182 (Part 2) (O)	80.24 HR	7.7

END -

Report Verified By K14

For Mitra S. K. Private Limited (Bhaudhon) Authorised Signatory

Head Office: Shrachi Centre (3h Fisor), 745, A.J.C. Bose Road, Kohusa - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22550007 Fax: 91 33 22550008 Email : Moğenbaak.com Webate : www.mbaak.com

Mitra S. K. Private Limite	d		Dec No. MSKIGEN/19/07
Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagledanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950		Scan for Portal ULR: TC-695024000003549F
	TEST RE	PORT	
lame & Address of Customer : Report I			MSKPL/ED/2023-24/P13C1M
Tata Steel Ltd.(MGM)_Joda West	Date :		06/03/2024
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of		MSKNB/ED/2023-24/02/WQ48DW 29/02/2024 29/02/2024 - 08/03/2024 Permanent Facility
	Reference N Discipline:	o. & Date :	3000156017/056, Date - 16/09/2023 Chemical
We hereby certify that the following sample Drawn by us has		following results:	A state of a
1. Group	and the second se	pheric Pollution	
2. Description of sample	Ambie		

	i Munospheric Politition
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	27/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	 Temperature :18-30 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kumar Mantri
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/P13C1M

Sample No. : MSKNB/ED/2023-24/02/WQ48DW

RESULT

Chemical SI No. Parameter UOM Method Limit Result H. Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BOL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) 80L(DL:4.2) 3 Benzo(a)Pyrene ng/m3 (\$ 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) 8DL(DL:0.01) 5 Monganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified BDL(DL.0.01) 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) BDL(DL:5.0)

- END ----

Opinion :

B Block

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By Signature Manyre Name Dr. Devoltani Bane Designation Technical In Charge

Authorized Signatory DBann Signature Name Dr. Devoltam Banerje Designation Technical In Charge

The results relate only to the tem(a) lested.

The results relate only to the tempth tested. This Test Report shall not be reproduced society in 6.8, without the permission of Mitra S.X. Private Linsled. The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days. The reserved part of sample(s) for chemical analysis (Soll, Solid & Liquid Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days. The reserved part of sample(s) for chemical analysis (Soll, Solid & Liquid Water) shall be retained for 15 days as per CPCB guideline & (Ar) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Streich Centre (5th Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, India. Tel. : 91 33 40143000 / 22950007 Fax : 91 33 22950008 Email : info@mitrask.com Website : www.mitrask.com Head Office:

A.

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name	& A	ddress	of	Cus	tomer	22
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Tata Steel Ltd.(MGM)_Joda West

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/005014 Date : 05/03/2024 Sample No. : MSKGL/ED/2023-24/02/01163 Reference No. & Date : 3090156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tirlogpahar Iron & Mn, Mines TIMM	
4. Date of sampling	27/02/2024	-
5. Place of sampling	Near Guruda PIT Office TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	-
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/005014

Sample No. : MSKGL/ED/2023-24/02/01163

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	16.3
2	Carbon Monoxide (CO)	mg/m3	15: 5182 (Part 10)_(O)	2 8HR.	0.45
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	22.5
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BOL(DL-20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR	179
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	90
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR	8.0

- END -

Report Verified By

1813

For Mitra S. K. Private Limited Bhaudhary Authorised Signatory

Page 1 of 1

Stroch/ Centre (Sh Floor), 745, A.J.C. Boar Road, Krikota - 700018, Wast Bengal, India. Tel. (91 33 40143000 : 22150007 Fax: 61 33 22500008 Email : rifo@mitrask.com Webata - www.nibask.com Head Office:

Address of Laboratory :		() M5K
Building No. P-48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel: +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	TESTING + INSPECTION Scan for Portal ULR: TC-695024000003548F
	TEST REPORT	0LR: 10-695024000003548F
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West	Report No. : Date :	MSKPL/ED/2023-24/P13C1D 06/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/02/R448FT 29/02/2024
	Date(s) of performance: Location of performance of Reference No. & Date : Discipline:	29/02/2024 - 06/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical
We hereby certify that the following sample Drawn by us has b 1. Group	een analyzed with the following results:	

9 Demoduli I I	(Almospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	27/02/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :17-30 deg C 2) Barometric Pressure: 704 mm of big 3) Pair fell
7. Sampling Plan & Method used	No.& Cold Chain Maintained IS-5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kumar Mantri
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/P13C1D

RESULT

Chemical		10			-
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	
2	Benzone	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0) BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	and and a second second
8	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	0.13 BDL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Dethi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END ----

Rexewed By: Signature Manny -14 Name Dr. Devoltarn Banerje Designation : Technical In Charge

Authorized Signatory Dam Signature 14 Name Dr. Devoltam Sanerje Designation : Technical in Charge

Sample No.: MSKNB/ED/2023-24/02/R448FT

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Strachi Centre (Sih Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, Index. Tel. : 91 33 40143000 / 22550007 Fax : 91 33 22550008 Email: info@mitrask.com Website : www.mitrask.com

Address of Branch : P.O. Barbil DI Keonjhar Orissa 758 035





TEST REPORT

	LUTALFORT	
Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/005009
Tata Steel Ltd.(MGM)_Joda West	Date :	02/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/01162
and the second states and the	Reference No. & Date :	3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambiant Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines TIMM	
4. Date of sampling	27/02/2024	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/005009

Analysis Dealer in the sta

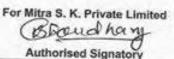
Sample No. : MSKGL/ED/2023-24/02/01162

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	16.3
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	22.3
4	Ozone (O3)	mitro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR	and the second s
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)	60 24 HR	208
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR	98

---- END -----

Report Verified By (1857



Head Office: Structul Centre (5th Floor), 748, A.J.C. Soze Rosel, Kolkata - 2001th, Wast Bengel, India Tel.: 91 33 40143000 / 22050007 Fax: 91 33 2205008 Timol: Infu@pritrask.com Website : www.mitrask.com

Address of Laboratory :			() мы	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-	32	TESTING + INSPECTIO Scan for Portal	
	100	225	ULR: TC-695024000003579F	
	TEST	REPORT		
Name & Address of Customer :	Report N	the second s	MSKPL/ED/2023-24/G13C1S	
Tata Steel Ltd. (MGM)_Joda West	Date :		06/03/2024	
	Sample No. :		MSKNB/ED/2023-24/03/MNL11T	
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India		eceipt of sample:	02/03/2024	
	Date(s) of performance: Location of performance of		02/03/2024 - 06/03/2024	
			Permanent Facility	
		:e No. & Date :	3000156017/056, Date - 16/09/2023	
	Disciplin		Chemical	
We hereby certify that the following sample Drawn by us has I	been analyzed with	h the following results:		
1. Group		Imospheric Pollution		
2. Description of sample 3. Unique identification of sample in the same statement of the		mblent Air		

TIMM .
2) Barometric Pressure: 706 mm of Ma 5) Data 5-1
2) der onnenne in fassistile. 700 hann ör rig 3) Rain han
kash Sethy
-

Report No. : MSKPL/ED/2023-24/G13C1S

RESULT

Sample No. : M	SKNB/ED/2023-24/03/MNL11T
----------------	---------------------------

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	8 (Annual)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)		BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual) 1 (24 Hours)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	and the second se	BOL(DL:0.01)
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	Not Specified	0.13
Dolnion :	Limit on second			20 (Annual)	BDL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA.

- END -----

Reviewed By: albannya Signature Name Or Devottan Bananes Designation 1 Technical in Charge

Authorized Signatory: 2) banny is Signature Name : Dr. Devoltarn Banery Designation : Technical In Charge

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Head Office: Strech Centre (58: Floor), 748, A.J.C. Bose Rost, Kolkala - 70035, West Bengel, India. Tel: 91 33 40143000 / 22550007 Fax: 91 33 22550008 Email: info@mitresk.com Webster: www.initesk.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Report No. : Date : Sample No. : Reference No. & Date : MSKGL/ED/2023-24/805062 05/03/2024 MSKGL/ED/2023-24/03/00005 3000156017/058, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

to hereby certify that the following sample Drawn by us has been analyzed with the following results:

We hereby certify that the following surveys creating	AIR
1. Group	Ambient Air
2. Description of sample	Tiringpalvar Iron & Mn Mines TIMM
3. Unique identification of sample(if any)	28,02/2024
4. Date of sampling	Near Guruda Shorting Yard- TIMM
5. Place of sampling	Clear & Sunny
6. Environmental conditions during sampling & Transport	NA
a Granation Dian & Method used	

7. Sampling Plan & Method Used

Report No. : MSKGL/ED/2023-24/005062

Sample No. : MSKGL/ED/2023-24/03/00005

RESULT

nalysis R	tesult of Ambient Air	1	Method	Limit	Result
SI No.	Parameter	UOM		400 24 HR.	14.9
51 80.	(MH3)	micro gm/m3	IS 5182 (Part 25)	2 8HR.	0.47
1	Ammonia (NH3)	maim3	IS: 5182 (Part 10) (O)	and the second se	22.2
2	Carbon Monoxide (CO)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR.	BDLIDL 20.0
3	Nitrogen Dioxide (NO2)	and the second property of the second s	15 5182 (Part 9)	180 1 HR.	and the state of t
4	Ozone (O3)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	195
5	Particulate Matter (<10um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)	60 24 HR.	96
	Particulato Matter (<2.5um)	micro gm/m3		80 24 HR.	7,1
6	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2)_(O)		

END -

Report Verified By

For Mitra S. K. Private Limited Bhaud hay

Page 1 of 1

Head Office:

Streach Center (Str. Roor), 148, A.J.C. Bose Road, Kolkets - 700016, West Bangel, India. Tel. : 91 33 40143000 / 22550007 Fax: 91 33 22650016 Email : Info@mbask.com Webole : www.mittabk.com

Doc No.: MSK/GEN/19/07

MS

TESTING # INSPECTION



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM)_Joda West

Address of Laboratory :

West Bengal Tel.:+91 7044036120 Email: udayanlab@mitrask.com

Building No. P- 48, Udayan Industrial Estate,

3. Pagladanga Road, Kolkata 700015

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPL/ED/2023-24/A13C1E 06/03/2024 MSKNB/ED/2023-24/03/NSH14C 02/03/2024 02/03/2024 - 06/03/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003580F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	28/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
8. Environmental conditions during sampling & Transport	 Temperature :17-31 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fail No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethy, Pratik Mantri, Akash Sethy
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/A13C1E

Sample No. : MSKNB/ED/2023-24/03/NSH14C

RESULT

Chemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.06
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	7.1

Opinion:

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA:

- END ---

Reviewed By

Signature sam 14 Name Or Devoitan Ban Designation Technical In Charge

Authorized Signatory Signature albanu Name Dr. Devottem Baner Designation Technical In Charge

The results relate only to the item(a) tested.

This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited The reserved part of sample(s) for chemical analysis (Non - perishable sample(s) Food, Weter) shall be relained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be relained 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Soli, Solid & Liquid Weste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - periabable sample(s) Food, Seated Water, Seated Voter, Seated food) shall be retained for 15 days from the date of issue of the Test Report. Head Office:

Shrachi Centre (5th Floor), 74B; A.J.C. Bose Road, Kolkata - 700016, West Bangal, India. Tel : 91 33 40143000 / 22650007 Fax : 91 33 22650008 Email ; wodgenitrask.com Website : www.mitrask.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/005063
Tate Steel Ltd.(MGM)_Joda West	Date :	05/03/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/03/00006
	Reference No. & Date :	3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn Mines TIMM	
4. Date of sampling	28/02/2024	
5. Place of sampling	Near Guruda PIT Office TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunhy	_
7. Sampling Plan & Method used	NA	

Report No. : MSKGU/ED/2023-24/005063

Sample No. : MSKGL/ED/2023-24/03/00006

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	18.8
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.46
.3	Nitrogen Dixxide (NO2)	micro grivin3	IS: 5182 (Part 6)_(O)	80 24 HR.	21.0
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	186
6	Particulate Matter (<2,5um)	micro gm/m3	IS 5182 (PT-24).2019_(O)	60 24 HR.	88
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80 24 HR	7.8

END -

Report Verified By

For Mitra S. K. Private Limited Bhoudhary Authorised Signatory

Shrandhi Centra (Shi Feor), 748, A.J.C. Bose Road, Kofuta - 700016, West Bengal, India. Tal.: 91 33 40143000 / 2265007 File: 97 33 22650008 Email: Info@mithaak.com We5ate: www.mithaak.com Head Office:

Address of Laboratory : Building No. P- 46, Udayan Industrial Estate, 3, Pegladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/413C5M
Tata Steel Ltd.(MGM)_Joda West	Date : Sample No. :	06/03/2024 MSKNB/ED/2023-24/03/THR102
AVPo Joda, Dist Keonihar, Odisha - 758034 India	Date of receipt of sample:	02/03/2024
	Date(s) of performance:	02/03/2024 - 06/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
We hereby certify that the following sample Drawn by us has	been analyzed with the following results:	
1. Group	Atmospheric Pollution	

1. Group	Atmospheric Pollution
2. Description of sample	Amblent air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	29/02/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	 Temperature 17-31 deg C 2) Barometric Pressure: 705 mm of Hg 3) Rain fall : No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi, Akash Sethy Damabaru Dhar Dash
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/413C5M

Sample No. : MSKNB/ED/2023-24/03/THR102

RESULT

Chemical						
SI No.	Parameter	UOM	Method	Limit	Result	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)	
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)	
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)	
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.04	
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)	

-END-

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

Reviewed By alam Signature 24 Dr. Devotiam Banerjee Namo Designation Technical In Charge

Authorized Sig	natory:
Signature	Danna
Name	Dr. Devotlam Banerjee
Designation	Technical In Charge

The results relate only to the liter(s) listed. This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited. The reserved part of sample(s) for chercical analysis (Non - perishable sample(s) Fock, Water) shall be related for 15 days from the date of issue of the Test Report. Particibable sample(s) shall be related 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Sol, Solid & Liquid Wester) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perisheble sample(s) Food, Sealed Water, Sealed food) shall be relained for 15 days from the date of issue of the Test Report.

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Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



TESTING + INSPECTION

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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005069

 Date :
 06/03/2024

 Sample No. :
 MSKGL/ED/2023-24/03/00013

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby cartify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	-
2. Description of sample	Ambient Aic	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn Mines TIMM	
4. Date of sampling	29/02/2024	_
5. Place of sampling	Near Guruda PIT Office TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/005069

Sample No. : MSKGL/ED/2023-24/03/00013

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	Result
.1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	19.3
2	Carbon Monoxide (CO)	Emigma	IS: 5182 (Part 10)_(O)	2 8HR.	0.45
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80.24 HR.	22.9
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
5	Particulate Motter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	170
6	Particulate Matter (<2.5um)	micro.gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	87
7	Sulphur Dioxide (SO2)	Emimp oroim	IS: 5182 (Part 2) (O)	80 24 HR.	8.3

____ END ____

Report Verified By

For Mitra S. K. Private Limited Bhaudhary Authorised Signatory

Head Office: Bhracle Centra (9th Root), 748; A.J.C. Boxe Root, Kolkala - 700918, West Bengal, India. Tel., 91.33.40143000 (2005007 Fax: 91.33.2203000) Email: ettagenibasik.com Webster: www.rvttask.com

Mitra S. K. Private Limite	d	Dos Na MSR/GEN/19/07
Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Ernait: udayanlab@mitrask.com		TESTING + INSPECTION
	TC-6950	ULR: TC-695024000003586F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/013C5S
Tata Steel Ltd.(MGM)_Joda West	Date :	06/03/2024
	Sample No. :	MSKNB/ED/2023-24/03/S32149
AVPo Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:	02/03/2024
2	Date(s) of performance:	02/03/2024 - 06/03/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Amblent air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	29/02/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	 Temperature :17-31 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi, Akash Sethy Damabaru Dhar Dash
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/013C55

RESULT

Chemical						
SI No.	Parameter	NOU	Method	Limit	Result	
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)	
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)	
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)	
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.13	
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)	

- END ----

Opinion:

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

Reviewed By: 10 Signature Span Dr. Devotam Banerje Norne Designation Technical In Charge

Authorized Signator Signature De Ban 444 Name : Dr. Devoitain Samerjee Designation Technical in Charge

Sample No.: MSKNB/ED/2023-24/03/S32149

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The reserved part of somplex) for Microbiological analysis (Soil, Bolid & Liguid Weete) shall be retained for 15 days as per CPCB guideline & (Ar) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershabile sample(s) Food, Seated Weter, Seated food) shall be retained for 15 days from the date of issue of the Test Report.

Stracts Centre (Str Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengel, India Tel. 91 33 40143000 / 22850007 Fax: 91 33 22850008 Head Office:

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjinar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/005068 Date : 06/03/2024 Sample No. : MSKGL/ED/2023-24/03/00012 Reference No. & Date : 3000156017/056, Date - 15/09/2023.

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

7. Sampling Plan & Method used	NA	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	
4. Date of sampling	29/02/2024	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn Mines TIMM	
2. Description of sample	Ambient Air	
1. Group	AIR	

Report No. : MSKGL/ED/2023-24/005068

Sample No. : MSKGL/ED/2023-24/03/00012

RESULT

Analysis Result of Ambient Air						
SI No.	Parameter	UOM	Method	Limit	Result	
1	Ammonia (NH3)	micro gnv/m3	IS 5182 (Part 25)	400 24 HR.	13.4	
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	0.43	
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6) (O)	80 24 HR	21.2	
4	Ozone (O3)	micro gm/m3	(\$ 5182 (Part 9)	180 1 HR.	BDL(DL 20.0)	
5	Particulate Motor (<10um)	micro gm/m3	IS: 5182 (Part 23) (O)	100 24 HR.	213	
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	102	
7	Sulphur Dioxide (SO2)	rnicro gm/m3	IS: 5182 (Part 2) (Q)	80 24 HR.	7.9	

END

Report Verified By

For Mitra S. K. Private Limited Baudhan Authorised Signatory

Page 1 of 1

Shrachi Centre (Sh Roor), 748, A.J.C. Brae Road, Kohata - 750016, Weat Bengal, India. Tel. I 91 33 40143000 / 22550007 Fex : 91 33 22650008 Email : Info@entualk.com Websile : www.mitaak.com Head Office:

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com		C-6950		Scan for Portal
	TEO	DEDOOR	ULR:	TC-695024000003585F
	IES	T REPORT		
Name & Address of Customer :	Report No. :		MSKPL/E	D/2023-24/513C4A
Tata Steel Ltd.(MGM)_Joda West	Date :		06/03/202	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. :		MSKNB/B	ED/2023-24/03/JPS159
	Date o	of receipt of sample:	02/03/202	
	Date(s) of performance:		02/03/202	24 - 06/03/2024
	Location of performance of		Permaner	
	Reference No. & Date :			17/056, Date - 16/09/2023
	Discipline:		Chemical	
We hereby certify that the following sample Drawn by us has I	1. CL CL CL C. C.		Server Shape	
1. Group	Concerning and	Atmospheric Pollution		
2. Description of sample		Ambient air		
3. Unique Identification of sample(if any)		NA		

	Autospheric Poliution
2. Description of sample	Ambient air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	29/02/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :17-31 deg C 2) Barometric Pressure: 706 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Sethi, Akash Sethy, Damabaru Dhar Dash
9. Field Equipments Used	MSK/B8L/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/513C4A

RESULT

S

ample No. :	MSKNB/ED/2023-24/03/JPS159
-------------	----------------------------

Chemical Si No. Parameter UOM Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) 0.02 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.38 6 Nickel as Ni USEPA-IO 3.4, June ng/m3 20 (Annual) BDL(DL:5.0)

Opinion :

Reviewed By.

Limit as per GPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

END ---

Signature actsaney Natio Dr. Devoters Elevente Designation Technical In Charge

Authorized Signatory Signature Sha (m Nome : Dr. Devottern Banecie Designation : Technical In Charge

The results relate only to the item(a) tasked. This Teel Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Lanited. The reserved part of samptic(a) for chemical analytis (Non - periahable sample(a) Food, Waler) shall be relained for 15 days from the date of issue of the Teel Report. Periahable sample(a) shall be relained 2 days from the date of issue of the Teel Report.

The reserved part of sample(s) for chemical analysis (Sol. Solid & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. Head Office:

Streachi Centre (55) Floor), 74B, A.J.C. Bose Road, Kokata - 700016, West Bangal, India. Tel. : 91 33 40143000 / 22550007 Fax: 91 33 22550008 Ernal : info@mitrask.com Website : waw.mitrask.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Jods West

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/005059 Date : 05/03/2024 Sample No. : MSKGL/ED/2023-24/03/00011 Reference No. & Date : 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	-
2. Description of sample	Ambient Air	-
3. Unique Identification of sample(if any)	Tiringpatiar Iron & Mn Mines TIMM	-
4. Date of sampling	29/02/2024	_
5. Place of sampling	Near Guruda View Point-TIMM	-
6. Environmental conditions during sampling & Transport	Clear & Sunny	-
7. Sampling Plan & Method used	NA	-

Report No. : MSKGL/ED/2023-24/005059

Sample No. : MSKGL/ED/2023-24/03/00011

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	1
1	Ammonia (NH3)	micro gm/m3		- Distriction	Result
2	Carbon Monoxide (CO)		IS 5182 (Part 25)	400 24 HR.	15.1
3	the second se	mg/m3	IS: 5182 (Part 10) (O)	2 8HR.	0.37
3	Nitrogon Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR	22.6
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BOL(DL-29.0
5	Particulate Motter (<10um)	micro gm/m3.	IS: 5182 (Part 23) (O)	100 24 HR	
6	Particulate Matter (<2.6um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	the second	204
7	Sulphur Dioxide (SO2)	and the second	and a second second of a second se	60-24 HR.	96
	scolume cumune (Devel	micro gm/m3	IS: 5182 (Part 2)_(O)	80 24 HR	8.2

END

Report Verified By



For Mitra S. K. Private Limited Blandhamy Authorised Signatory

Struchi Centre (5th Flace), 748, A.J.C. Bote Road, Kolkasa - 700078, West Bengal, India. Tel.: 9133-40143000 / 22555001 Fax: 9133-22555000 Email: erfo@entrask.com Webaite: www.unitrok.com Head Office:

Mitra S. K. Private Limite	d	Doe No.: Mb
Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolksta 700016 West Bengai Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950 TEST REPORT	Scan for Portal ULR: TC-695024000003073F
Name & Address of Customer : Tata Sleei Ltd. (MGM),_Joda West At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date :	MSKPL/ED/2023-24/P1314Z 27/02/2024 MSKNB/ED/2023-24/02/4N2BAU 17/02/2024 17/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023

Discipline:

We hereby cartify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Álmandaria Della di
2. Description of sample	Atmospheric Pollution Ambient Air
3. Unique Identification of sample(if any)	NA NA
4. Date of sampling	14/02/2024
5. Place of sampling	Palsa Kha Village
6. Environmental conditions during sampling & Transport	1) Temperature :16-29 deg C 2) Barometric Pressure: 712 mm of He 3) Pain fait
7. Sampling Plan & Method used	No.& Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Kshitish Kumar Mohanty
9. Field Equipments Used	MSK/BBU/FIELD/RDS-16

Report No. : MSKPL/ED/2023-24/P1314Z

RESULT

Sample No. : MSKNB/ED/2023-24/02/4N2BAU

Chemical

Chemical				
Parameter	UOM	Method	Limit	Result
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	and the second s	BDL(DL:1.0)
Benzene	micro gm/m3	and the second se	and the second sec	BDL(DL:4.2)
Benzo(a)Pyrene	ng/m3		- Andrew and Andrew	BDL(DL:0.5)
Lead (as Pb)	micro gm/m3	the second s	and the second s	BDL(DL:0.01)
Manganese as Mn	micro gm/m3	the second s	and the second se	0.07
Nickel as Ni	ng/m3	the second s	and the second se	BDL(DL:5.0)
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4; June 1 (24 Hours)

- END ---

Opinion :

Reviewed By

Signat

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Main Ma. Pial Garguly Designation Executive Chemist

Authorized Signator Signature None De Designation (Lab In char

d

The results relate only to the film(a) tested. This Test Raport shall not be reproduced except in full, without the permission of Mitre S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - pentifiable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Non - pentifiable sample(s) Food, Water) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Non - pentifiable sample(s) Food, Seeled Water, Seeled food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pensifiable sample(s) Food, Seeled Water, Seeled food) shall be retained for 15 days from the date of issue of the Test Report. Pages 1 of 1

Shracht Centre (Sin Floor), 748; A.J.C. Bose Road, Kokuta - 700016, West Banget, India. Tel.: 91.33.40143000 / 22550007 Fax: 91.33.22550008 Email: info@mitrask.com Webste : www.mitrask.com

Page 1 of 1

NG + INSPECTIO

MSK/GEN/1a/07

Address of Branch : P.O. Barbil DI Keonjhar Orissa 758 035





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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

At/Po, - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/005002

 Date :
 23/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00710

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

2 December 4	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Barnobari Iron & Mn. Mies (BIMM)
5. Place of sampling	14/02/2024
	Palso Kho Village
6. Environmental conditions during sampling & Transport 7. Sampling Plan & Method used	Clear & Sunny
considering a real of windshop (1960)	NA

Report No. : MSKGL/ED/2023-24/005002

Sample No. : MSKGL/ED/2023-24/02/00710

RESULT

Si No.	Parameter	UOM	Method	10.00	1
1	Ammonia (NH3)	micro gm/m3	and the second sec	Lienit	Result
2	Carbon Monoxide (CO)	the second se	IS 5182 (Part 25)	400 24 HR.	15.2
3	Nitrogen Dioxide (NO2)	Emigrm 3	IS: 5182 (Part 10)_(O)	2 8HR.	0.41
4	Ozone (03)	micro gm/m3	IS: 5182 (Part 6) (O)	80.24 HR.	21.2
5	and the second sec	micro gm/m3	IS 5182 (Part 9)	180 1 HR	<20.0
6	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR	168
0	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	
1	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2), (O)	80 24 HR.	82

---- END -----

Report Verified By

For Mitra S. K. Private Limited

30

Authorised Signatory

Head Office: Strach Course (5th Floor), 748; A.J.C. Boxe Road, Kolkata - 700016; West Bengal, India. Tel.: 9133-40142000 / 201500007 Fax: 9133 22050006 Email: Inlogentuals.com Wetsate : www.mitrask.com

Address of Laboratory :

Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com



TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM) Joda West

AVPo. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:

MSKPU/ED/2023-24/01314A 27/02/2024 MSKNB/ED/2023-24/02/5R2B90 17/02/2024 17/02/2024 - 27/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000003074F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

Atmospheric Pollution
Ambient Air
NA
14/02/2024
Guruda Village
 Temperature :16-29 deg C 2) Barometric Pressure: 712 mm of Hg 3) Rain fall : No & Cold Chain Maintained
15:5182(P-11,12) & USEPA
Kshitish Kumar Mohanty
MSK/B8L/FIELD/RDS-18

Report No. : MSKPL/ED/2023-24/Q1314A

Sample No. : MSKNB/ED/2023-24/02/5R2890

RESULT

sample ite	HIGHT FOR DISTORTING OF DISTORT

Chemical							
SI No.	Parameter	UOM	Method	Limit	Result		
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)		
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)		
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5)		
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)		
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.12		
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)		

END ---

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By

Signature

Designation : Executive Chemist Authorized Signatory Signature Norse ĺβ. Designation Lab It charp 16

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Strachi Cantra (5th Fixor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, India. Tel: 91 33 40143000 / 22650007 Fix: 91 33 22550008 Head Office: Email : info@mitrask.com Website : www.mitrask.com

Doc No.: MSK/GEN/19/07

TESTING # INSPECTION

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

	Name	&	Address	of	Customer	:
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Tats Steel Ltd (MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/005003 Date : 23/02/2024 Sample No. : MSKGL/ED/2023-24/02/00711 Reference No. & Date : 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	-
3. Unique Identification of sample(if any)	Tiringpahar Iron Mn. Mines (TIMM)	
4. Date of sampling	14/02/2024	-
5. Place of sampling	Guruda Village	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	-

Report No. : MSKGL/ED/2023-24/005003

Sample No. : MSKGL/ED/2023-24/02/00711

RESULT

SI No.	Paramoter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	14.6
2	Carbon Monoxide (CO)	mg/m3	IS: 5182 (Part 10)_(O)	2 8HR.	0.43
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS: 5182 (Part 6)_(O)	80 24 HR.	20,5
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	<20.0
5	Particulate Matter (<10um)	micro gm/m3	IS: 5182 (Part 23)_(O)	100 24 HR.	173
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR	83
7	Sulphur Dioxide (SO2)	micro gm/m3	IS: 5182 (Part 2) (O)	80.24 HR.	7.4

END -

Report Verified By

For Mitra S. K. Private Limited

<-30 Authorised Signatory

Page 1 of 1

Stracht Centre (58: Floor), 740, A.J.C. Boue Road, Kollosta - 700016, West Bangel, India. Tel., 191.33 40145000 / 22000007 Fax: 141.33 52850008 Email: Info@mitrask.com Website: www.mitrask.com Head Office:

DUST FALL MONITORING REPORT

At/P.O. BARBIL Ward No-6 Dist.: Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T :+91 94370 09815,94370 09820,94370 75269

E : barbil@mitrask.co in W : www.mitrask.com

Report No. MSKGL/ED/2023-24/005092

	6		1	-	
	6	1	a Mar	and a	3
TE	STI	NG =	INSP	PECT	ION

	Date: 07.03.2024	
Name of the Client	ANALYSIS REPORT OF DUSTFALL M/s. TATA STEEL LIMITED	
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)	2
Date of sampling	01.02.2024 to 29.02.2024	
Location	Guruda Pit Office (TIMM)	

CHEMICAL ANALYSIS OF WATER AS PER IS: 2490

SI. No.	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0460 g/m2-mo
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	Iron (as Fe)	None	APHA 24th Edition, 2023 4500- 0-C/G	1.835 g/m2-mo
6	Lead (as Pb)	None	EPA 3050 B (Digestion), EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	0.546 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-0ES): 2018	0.0045 g/m2-mo

Checked by: 85

For Mitra S. K. Private Limited

18 Gaudhary

Authorized Signatory

H. O.: Shrachi Centre (5th Floor), 748, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E info@mitrask.com W: www.mitrask.com

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W: www.mitrask.com

Report No. MSKGL/ED/2023-24/005093

	Date: 07.03.2024		
	ANALYSIS REPORT OF DUSTFALL		
Name of the Client	M/s. TATA STEEL LIMITED		
Name of the Mines TIRINGPAHAR IRON & MANGANESE MINES (TIMM)			
Date of sampling	01.02.2024 to 29.02.2024		
Location	Guruda Dumping Yard (TIMM)		

CHEMICAL ANALYSIS OF WATER AS PER 15: 2490

SI. No.	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0283 g/m2-mo
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	lron (as Fe)	None	APHA 24th Edition, 2023 4500- O-C/G	2.860 g/m2-mo
6	Lead (as Pb)	None	EPA 3050 B (Digestion), EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	0.567 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-0ES): 2018	0.0077 g/m2-mo

Checked by: 18 Et

For Mitra S. K. Private Limited

BRaudhary

Authorized Signatory

H. O.: Shrachi Centre (5th Floor). 74B. Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E info@mitrask.com W: www.mitrask.com



D.t. 05 00 000

At/P.O.:BARBIL Ward No-6 Dist.: Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T : +91 94370 09815,94370 09820,94370 75269

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W : www.mitrask.com

Report No. MSKGL/ED/2023-24/005094

heport No. M3KGE/ED/202	3-24/005094 Date: 07.03.	2024
	ANALYSIS REPORT OF DUSTFALL	-
Name of the Client	M/s. TATA STEEL LIMITED	
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)	-
Date of sampling	01.02.2024 to 29.02.2024	-
Location	Guruda Houl Road (TIMM)	-

CHEMICAL ANALYSIS OF WATER AS PER IS: 2490

SL No.	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-0ES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0582 g/m2-mo)
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	Iron (as Fe)	None	APHA 24th Edition, 2023 4500- 0-C/G	15.409 g/m2-mo
6	Lead (as Pb)	None	EPA 3050 B (Digestion), EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	4.034 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-0ES): 2018	0.0473g/m2-mo

Checked by:-

For Mitra S. K. Private Limited

Braudhary

Authorized Signatory

H. O.: Shrachi Centre (5th Floor), 748, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W: www.mitrask.com

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T :+91 94370 09816,94370 09820,94370 75269

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W : www.mitrask.com

Report No. MSKGL/ED/2023-24/005095

Date: 07.03.2024

	ANALYSIS REPORT OF DUSTFALL
Name of the Client	M/s. TATA STEEL LIMITED
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)
Date of sampling	01.02.2024 to 29.02.2024
Location	Guruda Shorting Yard (TIMM)

CHEMICAL ANALYSIS OF WATER AS PER IS: 2490

SI. No.	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0576 g/m2-mo
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	Iron (as Fe)	None	APHA 24th Edition, 2023 4500- O-C/G	14.009 g/m2-mo
6	Lead (as Pb)		EPA 3050 B (Digestion) , EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	6.637 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-OES): 2018	0.0968 g/m2-mo

Checked by: 69

For Mitra S. K. Private Limited

Bhandham

Authorized Signatory

H. O.: Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata – 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W. www.mitrask.com



At/P.O. BARBIL Ward No-6 Dist. Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T : +91 94370 09815,94370 09820,94370 75269

E : barbil@mitrask.co.in

W : www.mitrask.com

Report No. MSKGL/ED/2023-24/005097



Date: 07.03.2024

	ANALYSIS REPORT OF DUSTFALL	
Name of the Client	M/s. TATA STEEL LIMITED	_
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)	
Date of sampling	01.02.2024 to 29.02.2024	-
Location	Guruda Screen Plant (TIMM)	-

CHEMICAL ANALYSIS OF WATER AS PER IS: 2490

SI. No.	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-0ES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0765 g/m2-mo
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	Iron (as Fe)	None	APHA 24th Edition, 2023 4500- O-C/G	5.993 g/m2-mo
6	Lead (as Pb)		EPA 3050 B (Digestion) , EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	1.718 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-OES): 2018	0.0262 g/m2-mo

Checked by:- (188

For Mitra S. K. Private Limited

BRaudhary

Authorized Signatory

H. O.: Shrachi Centre (5th Floor), 74B, Acharya Jagadish Ghandra Bose Road, Kolkata – 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W. www.mitrask.com

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W : www.mitrask.com

Report No. MSKGL/ED/2023-24/005096



Date: 07.03.2024

	ANALYSIS REPORT OF DUSTFALL
Name of the Client	M/s. TATA STEEL LIMITED
Name of the Mines	TIRINGPAHAR IRON & MANGANESE MINES (TIMM)
Date of sampling	01.02.2024 to 29.02.2024
Location	Near Stock Yard (TIMM)

CHEMICAL ANALYSIS OF WATER AS PER 1S: 2490

\$1. No,	Test Parameters	Unite	Method	Results
1	Arsenic as (As)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-0ES): 2018	BDL(DL:0.0003 g/m2-mo)
2	Cadmium (as Cd)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo
3	Copper (as Cu)	None	EPA 3050 B (Digestion) EPA 6010 D (ICP-OES): 2018	0.0237 g/m2-mo
4	Hexavalent Chromium (as Cr+6)	None	EPA 3060A_(0)	BDL(DL:0.0003 g/m2-mo)
5	lron (as Fe)	None	APHA 24th Edition, 2023 4500- O-C/G	31.603 g/m2-mo
6	Lead (as Pb)	None	EPA 3050 B (Digestion), EPA 6010 D (ICP-OES), July	BDL(DL:0.0003 g/m2-mo)
7	Manganese (as Mn)	None	EPA 6010D_(0)	6.993 g/m2-mo
8	Mercury (as Hg)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D (ICP-OES): 2018	BDL(DL:0.0003 g/m2-mo)
9	Selenium (as Se)	None	USEPA-29 - 25/06/1996_(0)	BDL(DL:0.0003 g/m2-mo)
10	Zinc (as Zn)	None	EPA 3050 B (Digestion),1996 ,EPA 6010 D(ICP-OES): 2018	0.0501 g/m2-mo

Checked by: / BB

For Mitra S. K. Private Limited

haudho

Authorized Signatory

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ENVIRONMENTAL MONITORING REPORT

JANUARY 2024

TIRINGPAHAR IRON & MANGANESE MINES

At the request of :

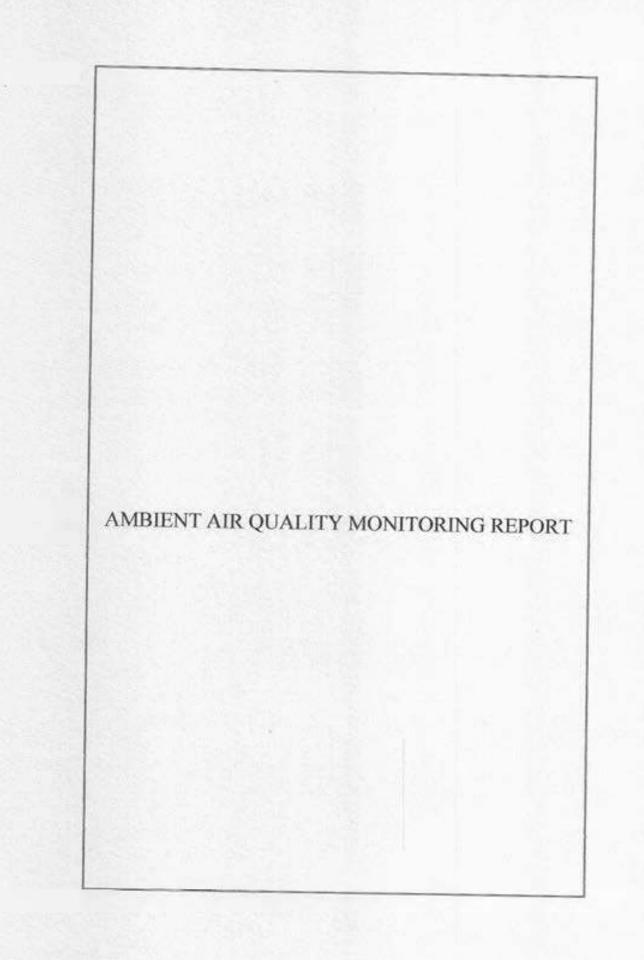
M/s. TATA STEEL LIMITED Bichakundi, Joda, Dist: Keonjhar ODISHA

Conducted By:



M/s. MITRA S.K. PRIVATE LIMITED

At/Po – Barbil Dist : Keonjhar, Odisha Pin - 758 035



Address of Laboratory :	~			
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950		Scan for Portal ULR: TC-695024000001709F	
and the second	TEST REPOR	RT.		
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/Y11FA7	
Tata Steel Ltd.(MGM)_Joda West	Date :		05/02/2024	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : Discipline:		MSKNB/ED/2023-24/01/UN205R 16/01/2024	
			16/01/2024 - 05/02/2024 Permanent Facility 3000156017/058, Date - 15/09/2023	
			Chemical	
We hereby certify that the following sample Drawn by us has	been analyzed with the followin	g results		
1. Group	Atmospheric F			
2. Description of sample	Ambient Air	and a first of		
3. Unique Identification of sample(if any)	NA	1		
4. Date of sampling	11/01/2024			
5. Place of sampling	NEAR GARUE	DA PIT OFFICE		
Entral strategy and state and state and a	4.6 90	the set of		

9. Field Equipments Used

Report No. : MSKPL/ED/2023-24/Y11FA7

1

7. Sampling Plan & Method used

6. Environmental conditions during sampling & Transport

8. Identification of the personnel performing sampling by MSK

RESULT

No & Cold Chain Maintained

LALIN KUMAR NAIK, PRATIK KUMAR MANTRI

15.5182(P-11,12) & USEPA

MSK/BBL/FIELD/FDS-10

Sample No. :	MSKNB/ED/2023-24/01/UN205R

1) Temperature :10-27 deg C 2) Barometric Pressure: 732 mm of Hg 3) Rain fall :

Chemical				Service and the service of the servi	
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	BDL(DL:0.01)
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	0.02
inlater -		and the second s	and the second design of the second data and the	20 (2010/08/)	BDL(DL:5

Opinion :

Limit as per CPCB notification, New Dethi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END -----

Reviewed By

Signature

Ľ Nama Ms. Pial Ganouly Designation Executive Chemist

Authorized Signatory Signature Na Satimuted Designation | Lab In charge

The results relate only to the item(a) tested. This Test Report shall be reproduced except in full, without the permission of Mink S.K. Private Limited. The reserved part of sample(a) for chamical analysis (Hon - periotable sample(a) Food, Water) shall be related for 15 days from the date of issue of the Test Report. Periotable sample(s) and be retained 2 days. The reserved part of sample(s) for chamical analysis (Hon - periotable sample(s) shall be related for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Hon - periotable sample(s) Food, Sealed Water, Sealed food) shall be related for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Hon - periotable sample(s) Food, Sealed Water, Sealed food) shall be related for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Hon - periotable sample(s) Food, Sealed Water, Sealed food) shall be related for 15 days from the date of issue of the Test Report. Prior 1 of 1.

Head Office: Structs Centre (5th Floor), 74B, A.J.C. Bose Road, Kokata - 700015, Viest Bengal, India. Tel. 51 33 40143000 / 22850007 Fax: 51 33 22850008 Estail: Info@mbrask.com Viebale: www.mitrelk.com

Address of Branch : P.O. Barbil DI Keonjhar Orises 758 (35 () мы

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	ILOI KEFORI	
Name & Address of Customer :	Report No. :	MENT ED DOOD DUDIN
Tata Steel Ltd. (MGM) Joda West	Date :	MSKGL/ED/2023-24/004477
A COMPANY AND A COMPANY	Date ;	10/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 756034 India Pin	Sample No. :	MSKGL/ED/2023-24/01/00558
and a second and consent a reaction of the second s		monoccept2023-24/01/00558
	Reference No. & Date :	3000156017, Date - 28/09/2023

TEST REPORT

We hareby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Av
3. Unique identification of sample(if any)	Tringpahar Iron & Mr. Mines
4. Date of sampling	11/01/2024
5. Place of sampling	Gunuda PR Office TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004477

Apphysic Decett of A 11 4 41

Sample No. : MSKGL/ED/2023-24/01/00558

RESULT

SI No.	Paramoter	UOM	Method	Limit	-
1	Antmocka (NH3)	micro gm/m3	IS 5182 (Part 25)		Result
2	Comments in the second	and the second s	the second se	400 24 HR.	16,3
-	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Reaft 2014) (NDIR) (O)	2 8HR.	0.54
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6: 2006 (Reaff.2012) (O)	80 24 HR	
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	Man Mart	20,2
5	Particulate Matter (<10um)	micro gro/m3	IS 5182: Part 23:2006 (Reaff. 2012) (O)	180 1 HR.	BDL(DL-20.0)
8	Particulate Matter (<2.5um)	and the second se		100 24 HR.	185
7		Em/mg oroims	IS 5182 (PT-24).2019 (O)	60 24 HR	90
	Sulphur Dioxida (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realt 2012) (O)	80 24 HR	7.6

----- END ------

Report Verified By

For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

Head Office: Shrach Centre (50 Floor), 745, A.J.C. Base Road, Kolketa - 700016, View Barryal, India. Tel.: 95 33 40143300 / 20150007 Pag. 31 33 22555000 chiral : Info@miteask.com Webpite : www.initrask.com

Address of Laboratory : Building No. P. 48. Udgess Internet 1	1000			() мsк	
Bullding No. P- 48. Udayan Industrial Estate, 3. Pagladanga Road, Koikata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-8950			TESTING + INSPECTION	
	TEOT DEDC		ULR:	TC-695024000001708F	
Name & Address of Customer :	TEST REPORT				
	Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date :		MSKPU/ED/2023-24/G11FA2 05/02/2024 MSKNB/ED/2023-24/01/NL2048 16/01/2024 16/01/2024 - 05/02/2024 Permanent Facility 3000155017/055, Date - 16/09/2023		
Tata Steel Ltd.(MGM)_Joda West					
At/Po Joda, Dist Keonjhar, Odisha - 758034 India					
	Discipline:		Chemical		
We hereby certify that the following sample Drawn by us has i	een analyzed with the follow	wing results:			
1. Group	the second se				
2. Description of sample	Atmospheric Pollution Ambient Air				
3. Unique Identification of sample(if any)					
4. Date of sampling	11/01/2024				
5. Place of sampling	NEAR GAR	NEAR GARUDA SORTING YARD TIMM			
	the second se	the second se			

6. Environmental conditions during sampling & Transport 1) Temperature :10-27 deg C 2) Barometric Pressure: 732 mm of Hg 3) Rain fall No & Cold Chain Maintained 7. Sampling Plan & Method used 15:5162(P-11,12) & USEPA 8. Identification of the personnel performing sampling by MSK LALIN KUMAR NAIK, PRATIK KUMAR MANTRI 9. Field Equipments Used MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/G11FA2

RESULT

Sample No. :	MSKNB/ED/2023-24/01/NL2048

and the second second				
Parameter	UOM	Method	Limit	Result
Arsenic as (As)	ng/m3	USEPA-IO 3.4. June		
Benzene	micro gm/m3	and the second	200000000000000000000000000000000000000	BDL(DL:1.0)
Benzo(a)Pyrene	ng/m3	and the second se	and the second s	BDL(DL:4.2) BDL(DL:0.5)
Lead (as Pb)	micro gm/m3		and the state of the second se	0.03
Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June		
Nickel as Ni	ng/m3		and the second s	0.30
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb.) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gni/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb.) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4; June Not Specified

- END -----

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By: Signature Name Mr. Piali Ganguly Designation : Executive Chemist

Authorized Signatory: Sgrature Name D. Designation Lab in chard

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from the date of sample(s) for Microthological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microthological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microthological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Mater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microthological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Mater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microthological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Mater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for Microthological analysis (Non - perishable, 2000th Mater Report India.

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	ILUT NELONT	
Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/904479
Tata Steel Ltd.(MGM) Joda West	Date :	CALCUMATION AND A CALCUMATING A REPORT
	Dote .	10/02/2024
Al/Po Joda. Dist Keonjhar, Odisha - 758034. India Pin	Sample No. :	MSKGL/ED/2023-24/01/00557
	Reference No. & Date :	3000156017, Date - 26/09/2023

TEST REPORT

We hareby certify that the following sample Drawn by us has been analyzed with the following results: 1 Beau

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tringpahar Iron & Mr. Mines	
4. Date of sampling	11/01/2024	
5. Place of sampling	Near Guruda Sorting Yard TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/094479

. . . .

Sample No. : MSKGL/ED/2023-24/01/00557

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	BDL(DL:10.0)
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Reaff.2014) (ND/R) (O)	2 8HR.	0.48
3	Nitrogen Dioxide (NO2)	Emimo oroim	IS 5182 : Part 6 :2008 (Reaff 2012) (O)	80 24 HR	
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR	19.6 BDL(DL 20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff: 2012) (O)	100 24 HR	217
6	Particulato Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24).2019_(O)	60 24 HR	98
7	Sulphur Diaxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realf.2012) (O)	80 24 HR	7.5

- END -----

Report Verified By



For Mitra S. K. Private Limited

Car Authorised Signatory

Page 1 of 1

Head Office:

SintelN Centre (5h Floor), 740. A.J.C. Base Road, Kolkata - 700/16. West Bengal, India. Tet.: 91 33-60143300 / 20050007 Fax: 91 33-2000008 Email: Info@nimask.com Weballe:: www.mttusk.com

Address of Laboratory :		~		
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayantab@mitrask.com	TO	6950	ULR:	TESTING +INSPECTION Scan for Portal TC-695024000001707F
	TEST	REPORT		
Name & Address of Customer :	Report No. : Date :		MSKPL/ED/2023-24/F11F9G 05/02/2024	
Tata Steel Ltd. (MGM)_Joda West				
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:		MSKNB/ED/2023-24/01/E2208E 16/01/2024	
	Date(s) of performance: Location of performance of		16/01/2024 - 05/02/2024 Permanent Facility	
	Reference No. & Date : Discipline:		3000156017/056, Date - 16/09/2023 Chemical	
We hereby certify that the following sample Drawn by us has	been analyzed w	ith the following results		
1, Group	1	Atmospheric Pollution		
- Vescription of sample				
3. Unique Identification of sample(if any)		NA		
4. Date of sampling		11/01/2024		
5. Place of sampling		NEAR GARUDA VIEW POINT	TILALA	

Executive Chemist

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Head Office: Stract's Contex (5th Floor), 748, A.J.C. Bose Road, Kokuta - 700016, West Bengel, India. Tel.: 91 33 40143000 / 20100007 Fax: 91 33 2080008 Email: Info@mithiak.com Website: www.mithiak.com

1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3. Benzo(s)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) 0.03 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.54 8 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) 24.0

Method

RESULT

NEAR GARUDA VIEW POINT TIMM

LALIN KUMAR NAIK, PRATIK KUMAR MANTRI

No & Cold Chain Maintained

13:5182(P-11,12) & USEPA

MSK/BBL/FIELD/RDS-7

1) Temperature :10-27 deg C 2) Barometric Pressure: 732 mm of Hg 3) Rain fall

Sample No. : MSKNB/ED/2023-24/01/E2206E

Limit

Opinion :

Reviewed By

Signature

Nen Designation

Chemical SI No.

Limit as per CPCB notification, New Delhi, 18th November 2009, for Amblent air quality

UOM

Statement of Conformity NA

7. Sampling Plan & Method used

Report No. : MSKPL/ED/2023-24/F11F9G

Parameter

9. Field Equipments Used

6. Environmental conditions during sampling & Transport

8. Identification of the personnel performing sampling by MSK

END ----

Designation

Authorized Signatory Signature Lab in ch

Page 1 of 1

Result

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



Scan for Portal

TEST REPORT

Name & Address of Customer :	Report No. :	M5KGL/ED/2023-24/004472
Tata Steel Ltd. (MGM)_Joda West	Date :	mannabet/2023-200000012
	Date :	10/02/2024
AtiPo Joda. Dist Keonjitur, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/01/00556
	Reference No. & Date :	3000156017. Date - 28/09/2023

We hereby certify that the following sample Drawin by us has been analyzed with the following results: 4 . .

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tringpahar Iron & Mn. Mines
4. Date of sampling	11/01/2024
5. Place of sampling	Near Guruda View Point TIMM
Environmental conditions during sampling & Transport	Cloar & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004472

Ana 81 1

Sample No. : MSKGL/ED/2023-24/01/00556

RESULT

SE NO.	Parameter	UOM	Method	Limit	
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	Result
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Pari 10 ;1999 (Reaff 2014)	100 State 10	15.5
3	Nitrogen Dioxide (NO2)	micro grivin3	(NDIR) (O) IS 5182 : Part 6 :2006 (Reaff.2012) (O)	2 SHR.	0.47
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	80 24 HR, 180 1 HR,	18,5 BDL(DL:20,0
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reat!: 2012) (O)	100 24 HR.	184
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR.	90
-	Sulphur Dioxide (SO2)	enioro gen/m3	IS 5182 : Part 2 :2001 (Resaff 2012) _(0)	80 24 HR	7.5

- END -

Report Verified By

For Mitra S. K. Private Limited 000

Authorised Signatory

Head Office: Sharch Costen (Se Floor), 748, A.J.C. Bose Stead, Kolkata - 700016, Vinst Bergal, India. Tel. : 91 33-49143000 / 22850007 Fax : 91 33 22850008 Email : Info@miltoas.com Website : eww.initiask.com

Address of Laboratory :		-		() M5K	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayanlab@mitrask.com		43		TESTING	
	L	M	1	Scan for Portal	
	T	C-6950	ULR:	TC-695024000001715F	
	TEST	T REPORT			
Name & Address of Customer :	Report No. : Date :		MSKPL/ED/2023-24/L1202R 05/02/2024		
Tata Steel Ltd. (MGM)_Joda West					
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:		121212	0/2023-24/01/QT227L	
	Date(s) of performance:		16/01/2024 - 05/02/2024		
	Location of performance of		Permanent Facility		
	Reference No. & Date :		3000156017/056, Date - 15/09/2023		
	Discip		Chemical		
We hereby certify that the following sample Drawn by us has	been analyzed	with the following results.			
1. Group	Atmospheric Pollution				
	Description of sample		Ambient Air		
3. Unique identification of sample(if any)		NA			
4. Date of sampling	12/01/2024				
5. Place of sampling		NEAD CLIDUDA DIT OFFICE			

V/A - COLUMN A	NEAR-GURUDA PIT OFFICE TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :10-26 deg C 2) Barometric Pressure: 733 mm of Hg 3) Rain fall :
7. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK 9. Field Equipments Used	LALIN KUMAR NAIK, PRATIK KUMAR MANTRI
1. Find Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/L1202R

RESULT

Chemical SI No. Parameter UOM Method Limit Result 12 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) BDL(DL:0.01) 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.02 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) BDL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END ----

Reviewed Sy.

Signature North hite. hal Ganquiy

Designation Executive Chemiat

Authorized Signatory. Signature Nur D **Designation** Cab in charg

Sample No. : MSKNB/ED/2023-24/01/QT227L

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Stractic Centro (Sei Ficor), 748, A.J.C. Bose Road, Kokala - 700016, West Bengel, India. Tel. 91 33 40143000 / 22000007 Fax. 91 33 22050009 Email: Info@mitrask.com Website : www.mitrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



500

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	IEST REPORT	
Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004475
Tata Steel Ltd.(MGM)_Joda West	Date :	10/02/2024
At/Po, - Joda. Dist Keonjhar, Odisha - 758034. India Pin	Sample No. :	MSKGL/ED/2023-24/01/00564
	Reference No. & Date :	3000156017, Date - 28/09/2023

TEOT DI

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

2. Description of sample	AIR
	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Tringpatier Iron & Mn, Minos
5. Place of sampling	12/01/2024
	Guruda Pit Office TIMM
 Environmental conditions during sampling & Transport Sampling Plan & Method used 	Clear & Sunny
The second state of an open used	NA

Report No. : MSKGL/ED/2023-24/004475

Sample No. : MSKGL/ED/2023-24/01/00564

RESULT

SI No.	Parameter	11004	Thesion and the		and the second second
4		UOM	Method	Limit	Result
	Ammonia (NH3)	micro gra/m3	IS 5182 (Part 25)	400 24 HR.	Contraction of
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 : 1999 (Routt 2014)	Contraction of the second second	16.6
3	Nitrogen Dioxide (NO2)	minu embio	(NDIR) (O)	2 8HR,	0,40
4	Ozone (O3)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff.2012) (O)	80.24 HR.	16.6
5	and the second se	micro gm/m3	15 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
6	Particulate Matter (<10um)	micro gm/m3	IS 5152: Part 23:2006 (Reaff: 2012) (0)	100 24 HR	130
9	Particulate Matter (<2.5um)	miaro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	
/	Sulphur Dicxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Resall 2012) (0)	80.24 HR	35

----- END -----

Report Verified By

Head Office: Shach Centre (Sh Floor), 745, A.J.C. Rose Road, Kolkata - 700018, Wart Burgat, India. Tol., 91 33 401430001 (24550007 Fax: 91 33 (2550008) Email: IndigEmissisk.com Website: www.mitpsit.com For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

- some

Address of Laboratory :		San		())MSK
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. :+91 7044036120 Email: udayanlab@imitrask.com				ESTING
	1	17	Scan for Portal	
	TC	6950	ULR: TC-69502400000	1714F
	TEST	REPORT		
Name & Address of Customer :	Report	CONTRACT.	USKOL JED DOGO A LET COLOR	
Tata Steel Ltd. (MGM)_Joda West	Date :		MSKPL/ED/2023-24/Z1201V 05/02/2024	
	Sample	No. :	MSKNB/ED/2023-24/01/PE2	254
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of	receipt of sample:	16/01/2024	enda
	Date(s)	of performance:	16/01/2024 - 05/02/2024	
		n of performance of	Permanent Facility	
	Reference No. & Date :		3000156017/056, Date - 16/0	9/2023
and the second	Discipli		Chemical	22.2.2.2
We hareby certify that the following sample Drawn by us has	been analyzed wi	th the following results:		
1. Group	the second se	Atmospheric Pollution		
2. Description of sample		Amblent Air		

2. Description of sample	A statistic of Concentration
3. Unique Identification of sample(if any)	Ambient Air
4. Date of sampling	NA
5. Place of sampling	12/01/2024
	NEAR GURUDA SORTING YARD TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :10-26 deg C 2) Barometric Pressure: 733 mm of the 3) Bate for
7. Sampling Plan & Method used	LINE OF CONTRACTOR AND A CONTRACTOR AND A CONTRACT
8. Identification of the personnel performing sampling by MSK	18.5182(P-11,12) & USEPA
9. Field Equipments Used	LALIN KUMAR NAIK, PRATIK KUMAR MANTRI
teres adarbutante open	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/Z1201V

RESULT

Sample No. : MSKNB/ED/2023-24/01/PE2254

Chemical					
SI No.	Parameter	UOM	Method	Limit	Danis
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	11.80 ZOZ ACTS 10.910	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4; June	1 (24 Hours)	0.02
6	Nickel as Ni	ng/m3	and the second	Not Specified	0.16
Call Second In		ngrins	USEPA-IO 3.4, June	20 (Annual)	18.4

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By Signature Name Ms. Plat Ganguly Designation Executive Chemist

Authorized Signatory Signature Name Dr Designation Libinon

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Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd. (MGM) Joda West

At/Po. - Joda, Dist. - Keonjhur, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004481

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/00563

 Reference No. & Date :
 3000156017, Date - 28/08/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

2. Description of sample	AIR
2. Lescription of sample	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Tiningpehar Iron & Mr. Mines
5. Place of sampling	12/01/2024
6. Environmental conditions during sampling & Transport	Near Goruda Sorting Yard TIMM
7. Sampling Plan & Method used	Clear & Sunny
and the state of the state water	NA

Report No. : MSKGL/ED/2023-24/004481

Sample No. : MSKGL/ED/2023-24/01/00563

RESULT

SI No.	Parameter	UOM	Method		1 contraction
1	Ammonia (NH3)	micro gm/m3		Limit	Result
2			IS 5182 (Part 25)	400 24 HR.	15.5
	Cartion Monoxide (CO)	Emigran 2	IS 5182 : Part 10 :1999 (Realf 2014) (NDIR) (O)	2 8HR.	0.35
3	Nitrogen Dioxide (NO2)	inicro gm/m3	IS 5182 : Part 6 :2006 (Reaf(2012)_(0)		0.35
4	Ozona (O3)	micro gm/m3		60 24 HR.	17.3
5	Particulate Matter (<10um)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
.6	Particulate Matter (<2.5um)	The local division of	IS 5182: Part 23:2006 (Reaff. 2012)_(O)	100 24 HR.	176
7	Sulphur Diaxide (SO2)	micro gm/m3	IS 5182 (PT-24).2019 (O)	60 24 HR	89
	Solphur Dioxide (SO2)	inicro gm/m3	IS 5182 : Part 2 :2001 (Reaft 2012) (O)	80 24 HR.	BDL(DL:6.0)

---- END -----

Report Verified By



Head Office: Shacks Centre (bb Floor), 745: A.J.C. Bose Road, Kokala - 700016, West Bengal, India. Tet. : 31:33:4(14)3000 / 22550007 Fax: B1:33 22550006 Enval : whogenitrask.com Website: www.mitrask.com For Mitra S. K. Private Limited

sar -Authorised Signatory

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrusk.com	TC-6950	Scan for Portal ULR: TC-695024000001713F
Name & Address of Customer : Tata Steel Ltd.(MGM)_Joda West Al/Po Joda, Dist Keonjhar, Odisha - 758034 India We hereby certify that the following sample Drawn by us has i	TEST REPORT Report No. : Date : Sample No. : Date of receipt of sample Date(s) of performance: Location of performance Reference No. & Date : Discipline:	16/01/2024 - 05/02/2024 of Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical
Group Group Generation of sample Junique Identification of sample(if any) A. Date of sampling S. Place of sampling	Almospheric Pollution Ambient Air NA 12/01/2024	
Environmental conditions during association a	NEAR GURUDA VIEW	POINT TIMM

6. Environmental conditions during sampling & Transport

8. Identification of the personnel performing sampling by MSK

7. Sampling Plan & Method used

Report No. : MSKPL/ED/2023-24/61201S

9. Field Equipments Used

ALCONOLUM!

Reviewed By:

Signature Name Mr. Pali Ganguly

Designation : Executive Chemist

Authorized Signatury Signature Nami Designation Lab in chan

The results totate oxity to the term(s) sested. This Test Report shall not be reproduced except in 5.8, without the permission of Mitre S.K. Private Limited The reserved part of sample(s) for chemical analysis (Non - peristable sample(s) Food, Waler) shall be retained for 15 days from the date of issue of the Test Report. Peristable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical enalysis (Non - peristable sample(s) shall be retained for 15 days as par CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for chemical enalysis (Non - peristable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days bein the date of issue of the Test Report.

Shredh Centre (50) Floor), 748, A.J.C. Bose Road, Kolkste - 700016, West Bengel, India. Tel. 91 33 40143000 / 22550007 Fax: 91 33 22650008 Email: stod@mtrask.com Website: www.mbrask.com

Page 1 of 1

1) Temperature .10-25 deg C 2) Barometric Pressure: 733 mm of Hg 3) Rain fall

No.& Cold Chain Maintained

LALIN KUMAR NAIK, PRATIK KUMAR MANTRI

IS:5182(P-11,12) & USEPA

MSK/BBL/FIELD/RDS-7

Sample No. : MSKNB/ED/2023-24/01/FJ2243

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)		BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3		1 (24 Hours)	0.02
6	Nickel as Ni		USEPA-IO 3.4: June	Not Specified	0.37
pinion :		ng/m3	USEPA-IO 3.4, June	20 (Annual)	7.8

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA:

-- END ----

Address of Branch : P.O. Barbil Dt Kaonihar Orissa 758 035 ____мык

Cirissa 758 025



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Name & Address of Customer : TEST REPORT Tata Steel Ltd.(MGM)_Joda West Report No. : MSKGL/ED/2023-24/004473 At/Po. - Jada, Dist. - Keonjhar, Odisha - 758034 India Pin Sample No. : MSKGL/ED/2023-24/01/00562 Reference No. & Date : 3000156017, Date - 28/09/2023

We have been analyzed with the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tringpohar Iron & Mn, Mines
4. Date of sampling	12/01/2024
5. Place of sampling	Guruda View Point TIMM
6. Environmental conditions during sampling & Transport 7. Sampling Plan & Method used	Clear & Sunny
the second state of an and a second a second	NA

Report No. : MSKGL/ED/2023-24/004473

Sample No. : MSKGL/ED/2023-24/01/00562

RESULT

Inalysis Result of Ambient Air						
SI No,	Parameter	UOM	Method	Limit	1	
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	Result	
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Reaff.2014) (NDIR) (O)	2 8HR.	0,19	
3	Nitrogen Dioxida (NO2)	micro grtv/m3	IS 5182 : Part 6 :2006 (Realf 2012) (0)	80 24 HR		
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR	27.5	
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff. 2012) (O)		BDL(DL:20.0	
6	Particulaie Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	100 24 HR.	138	
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Reaff.2012) (0)	60 24 HR. 80 24 HR.	72	

--- END ------

Report Verified By

Head Office: Structu Centre (50: Floor), 748, A.J.C. Bose Road, Kolkata - 700018, West Bengal, India Tel: -01.33 40143000 | 22950007 Flas: -01.33 (2000008 Elhali: -050@mittaak.com Website - www.mitrask.com For Mitra S. K. Private Limited

Authorised Signatory

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal ULR: TC-695024000001814F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/012117
Tata Steel Ltd. (MGM)_Joda West	Date :	06/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/01/JQ3CAU 24/01/2024
	Date(s) of performance:	24/01/2024 - 06/02/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
46- barris	Discipline:	Chemical
We hareby certify that the following sample Drawn by us has i	been analyzed with the following results:	
1. Group	Atmospheric Pollution	
2. Description of sample 3. Unique Identification of sample/if acut	Ambient Air	

2. Description of sample	Autospirato Polution
	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	18/01/2024
5. Place of sampling	Near Guruda PIT Office TIMM
8. Environmental conditions during sampling & Transport	1) Temperature :18-28 deg C 2) Barometric Pressure: 733 mm of the 01 D in the
7. Sampling Plan & Method used	- Instant with Maritained
 Identification of the personnel performing sampling by MSK 	13.5182(P-11,12) & USEPA
9. Field Equipments Used	Pretik Kr Mantri, Dhambrudhar Das MSK/BBL/FIELD/FDS-10
	marzobL/rittLuPUS-10

Report No. : MSKPL/ED/2023-24/012117

RESULT

Chemical SI No. Parameter UOM Method Limit Result Arsenic as (As) 1 ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 iS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) £ Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) BDL(DL:0.01) 5 Manganese as Mn USEPA-IO 3.4; June micro gm/m3 Not Specified BDL(DL:0.01) б Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) 8DL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By Signature Dominad Name Dr. Devotam Banenic Designation Technical In charge

Authorized Signet Signature Name Designation Lab in the

Sample No. : MSKNB/ED/2023-24/01/JO3CAU

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Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004503

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/00975

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
1. Unique Identification of sample(if any) 4. Date of sampling	Tiringpahar Iron & Mri Mines
5. Place of sampling	18/01/2024
6. Environmental conditions during sampling & Transport	Near Guruda PIT Office TIMM
7. Sampling Plan & Method used	Clear & sunny
the second second second	NA

Report No. : MSKGL/ED/2023-24/004503

Sample No. : MSKGL/ED/2023-24/01/00975

RESULT

Analysis Result of Ambient Air

1 Ammonia (NH3) micro gm/m3 IS 5182 (Part 25) 400 24 HR. 2 Cathon Monoxide (CO) mg/m3 IS 5182 (Part 25) 400 24 HR. 3 Nitrogan Dioxide (NO2) micro gm/m3 IS 5182 : Part 10 :1999 (Reaft 2014) (NDIR) (O) 2 8HR. 4 Ozone (O3) micro gm/m3 IS 5182 : Part 6 :2006 (Reaft 2012) (O) 80 24 HR. 5 Particulate Metter (<10um) micro gm/m3 IS 5182 : Part 23:2006 (Reaft 2012) (O) 180 1 HR.	SI No.	Parameter	UOM	Method		14
2 Carbon Monoxide (CO) mg/m3 IS 5182 (Part 25) 400 24 HR. 3 Nitrogen Dioxide (NO2) micro gm/m3 IS 5182 : Part 10 :1999 (Reeff.2014) (NDIR)_(O) 2 8HR. 4 Ozone (O3) micro gm/m3 IS 5182 : Part 6 :2006 (Reeff.2012)_(O) 88 24 HR. 5 Particulate Metter (<10um) micro gm/m3 IS 5182 : Part 23 2006 (Reeff.2012)_(O) 180 1 HR.	1	Ammonia (NU2)	2000	270200200	Limit	Result
2 Gathon Monoxide (CO) mg/m3 IS 5182 : Part 10 :1999 (Reeff.2014) (NDIR) (O) 2 8HR. 3 Nitrogen Dioxide (NO2) micro gm/m3 IS 5182 : Part 6 :2006 (Reeff.2012) (O) 88 24 HR. 4 Ozone (O3) micro gm/m3 IS 5182 : Part 6 :2006 (Reeff.2012) (O) 88 24 HR. 5 Particulate Metter (<10um)	8		micro gm/m3		400 24 HR	16.3
3 Nitrogen Dioxide (NO2) micro gm/m3 IS 5182 : Part 6 :2006 (Reaff,2012)_(O) 88 24 HR. 4 Ozonn (O3) micro gm/m3 IS 5182 : Part 6 :2006 (Reaff,2012)_(O) 88 24 HR. 5 Particulate Metter (<10um)	2	Carbon Monnxide (CO)	Envigen		and an and a second sec	1000000
4 Ozonn (O3) micro gm/m3 IS 5182 (Part 9) 80 24 HR. 5 Particulate Metter (<10um)	3	Nitzogan Dioxida (NO2)	micro control		4 OFIK.	0.41
5 Particulate Mether (<10um) micro gm/m3 (\$ 5182; Part 23 2006 (Read) 2017) (0)	4	A DAMESTIC MANAGEMENT	and the second se		80 24 HR	21.2
	5	Contract of the second s	and the second se		180 1 HR.	BDL(DL:20.0
	5		micro gm/m3	IS 5182: Part 23:2006 (Reaff. 2012) (0)	100 24 HR	175
Particulate Matter (<2.5um) micro gm/m3 15 5182 (PT.24) 2019 (0) 20 344 micro gm/m3	0		micro gm/m3		and the second se	
7 Sulphur Dioxide (\$02) micro gm/m3 IS 5182 : Part 2 :2001 (Realf: 2012) _(0) 80 24 HR.	1	Sulphur Dioxide (SO2)	micro gm/m3		and the second se	84

---- END -----

Report Verified By





Head Office: Shuch Centre (5th Roor), 749, AJ C. Nove Read, Kolkate - 700016, West Bengal, Indec Tel: (31 33 40143200 / 23850007 Fax: (31 33 22450000 Email: edugenhauk.com Website - www.mbtek.com

Address of Laboratory :

Building No. P- 48, Lidayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bengal Tel : +91 7044036120 Email: udayanlab@mitrask.com

Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India

Tata Steel Ltd.(MGM) Joda West



TEST REPORT

Report No. : Date : Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date : **Discipline:**

MSKPL/ED/2023-24/X1211U 06/02/2024 MSKNB/ED/2023-24/01/AY3C8Z 24/01/2024 24/01/2024 - 06/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical

Scan for Portal

ULR: TC-695024000001813F

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	18/01/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :18-28 deg C 2) Barometric Pressure: 733 mm of Ho 3) Rain fail
7. Sampling Plan & Method used	No.& Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kr Mantri Dhambrudhar Das
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPUED/2023-24/X1211U

Sample No. : MSKNB/ED/2023-24/01/AY3C8Z

RESULT

Chemical SI No. Parameter UOM Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BOL(DL:0.5) 4 Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) 0.1 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.4 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) 6.9

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

--- END -----

Reviewed By: Signature Munadle Narbe Dr. Devotiam Banotoe Technical In charge Designation

Authorized Signatory Signifium **Designation** Lahin-cha

The results relate only to the item(s) tested.

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The reserved part of sample(s) for chemical analysis (Non - perishable comple(s) Food, Weber) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be retained 2 days nom now one on excercise of the respon. The reserved part of sample(s) for chemical analysis (Soil, Soild & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Arc) 1 month from the date of team of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - penshable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Head Office:

Strachi Centre (5th Floor), 748, A J.C. Bose Road, Kolkata - 700016, West Bengel, India. Twl : 91 33-40143000 / 22650007 Fax: 91 33 22650008 Email: into@mitrask.com Website: www.mitrask.com

Dec No.: MSK/GEN/19/07

TESTING # INSPECTION

Address of Branch : P.O. Barbil DI Keonjhar Onson 758 035 Омак



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Report No. : MSKGL/E Date : 10/02/202 Andia Pin Sample No. : MSKGL/E Reference No. & Date : 30001560

MSKGL/ED/2023-24/004538 19/02/2024 MSKGL/ED/2023-24/01/00974 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 kodia Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

2. Orredon	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tisingpahar Iron & Mn Mines
4. Date of sampling	18/01/2024
5. Place of sampling	Near Gunuda Shorting Yand
6. Environmental conditions during sampling & Transport	
7. Sampling Plan & Method used	Cloudy
	NA

Report No. : MSKGL/ED/2023-24/004538

Sample No. : MSKGL/ED/2023-24/01/00974

RESULT

Analysis Result of Ambient Air

SI No. Parameter	Parameter	UOM			
1	Ammonia (NH3)		Method	Limit	Result
	Additional (ME13)	micro gm/m3	15 5182 (Part 25)	400 24 HR	15.3
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Realt.2014)	territaria da Calendaria	02355
3	Nitrogen Dioxide (NO2)	miner we had	(NDIR) (O)	2 8HR	0.39
4	Ozone (O3)	micro gm/m3	IS 5182 : Part 6 :2006 (Reeff 2012) _(O)	80 24 HR.	18,6
5	the second se	micru gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL 20.0
6	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Realf: 2012) (O)	100 24 HR.	196
the local division of	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	
A.	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Reaff.2012)_(O)	80 24 HR	97 8.8

---- END -----

Report Verified By



Head Office: Shads Center (St-Face), 740, A.J.C. Bolis Read, Kolkata - 700116, West Bengal, Indee Tel: -91 33 4(14300) / 22550007 Pax: 91 33 (255000) Enual - Intel@mitical.com Webste - wew.rt@taik.com For Mitra S. K. Private Limited

Authorised Signatory

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. :+91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal ULR: TC-6950240000	
	TEST REPO		
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/V1210	<i>w</i>
Tata Steel Ltd.(MGM)_Joda West	Date :	06/02/2024	×
AVPo Joda, Dist Keonjhar, Odishe - 758034 India	Sample No. : Date of receipt of Date(s) of perfor Location of perf Reference No. & Discipline:	ormance: 24/01/2024 - 06/02/2024 ormance of Permanent Facility	
We hereby certify that the following sample Drawn by us has			
1. Group	Atmospheri		
2. Description of sample	Ambient Air		

	Autooppriseric Pollution
2. Description of sample	Amblent Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	18/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :18-28 deg C 2) Barometric Pressure: 733 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	13:5182(P-11, 12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kr Mantri Dhambrudhar Das
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/V1210V

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			9	~	_	

Sample No. :	MSKNB/ED/2023-24/01/9C3/	CCM
--------------	--------------------------	-----

Chemical				1-11-11-11-15-5C	
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL.0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.01)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.3
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annuai)	5.3

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

---- END -----

Reviewed By: Deaningu Signatura Name. Dr. Devoltare Banarjee Designation Technical In charge

Autorited Signatory Signature : Name D Designation [] Lab in cho

The results ministe only to the itempit issued. This Test Report shall not be reproduced except in full, without the permission of Minis S.K. Private Limited. The reserved part of sample(s) for themical analysis (Non - perishable sample(s) Food, Weller) shall be retained for 15 days from the case of answ of the Test Report. Perishable sample(s) shall be minimed 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Soil, Soil & Louid Waste) shall be retained for 15 days as per CPCB publicies & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Soil, Soil & Louid Waste) shall be retained for 15 days as per CPCB publicies & (Air) 1 month from the date of issue of the Test Report. The reserved pert of sample(s) for discussion of the Test Report. The reserved pert of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soid) shall be retained for 15 days from the date of issue of the Test Report. The reserved pert of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soid) shall be retained for 15 days from the date of issue of the Test Report. The reserved pert of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed Soid) shall be retained for 15 days from the date of issue of the Test Report. Pages 1 of 1

Shrachi Centre (50) Floot, 748, A.J.C. Bose Road, Kokata - 700016, West Bengel, India. Tel. 91 33,401-43000 / 22950007 Fax: 91 33 22650008 Ermail: Info@mitrask.com Websile : www.mitrask.com

Address of Branch : P.O. Barbil Dt Keonjhar Oriasa 758 035 ESTING + INSPECTION

Result

0.46

26.6

177

84

6.8

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TEST REPORT

Namo	å	Address	of	Customer :
------	---	---------	----	------------

Tata Steel Ltd.(MGM) Joda West

Al/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/004497 Date : 10/02/2024 Sample No. : MSKGL/ED/2023-24/01/00973 Reference No. & Date : 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn, Mines
4. Date of sampling	18/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA .

Report No. ; MSKGL/ED/2023-24/004497

Sample No. : MSKGL/ED/2023-24/01/00973

RESULT

Analysis Result of Ambient Air SI No. Parameter UOM Method Limit 1 Ammonia (NH3) micro gm/m3 IS 5182 (Part 25) 400 24 HR 8DL(DL:10.0) IS 5182 : Part 10 :1999 (Reaff 2014) 2 Carbon Monoxide (CO) mg/m3 2 8HR. (NOIR) (O) 3 Nitrogen Dioxide (NO2) micro gm/m3 IS 5182 : Part 6 :2006 (Reaff 2012) _(O) 80.24 HR. 4 Ozone (O3) micro gru/m3 IS 5182 (Part 9) 180 1 HR. BDL(DL 20.0) Particulate Matter (<10um) 5 micro gm/m3. IS 5182: Part 23:2008 (Reaff. 2012) (O) 100 24 HR. 6 Particulate Matter (<2.5um) mioro gm/m3 IS 5182 (PT-24) 2019_(O) 60 24 HR. 7 Sulphur Dioxide (SO2) micro gm/m3 IS 5182 : Part 2 :2001 (Restl. 2012) (O) 80 24 HR.

- END -----

Report Verified By





For Mitra S. K. Private Limited

Head Office: Shinedis Centre (Str. Hoor), 749, A.J.C. Buse Road, Kollinde - 700016. West Burged India. Tel. . 91 33 40143000 / 22620007 Pax - 91 33 22650000 Email | integrationic.com Website : www.mitreak.com

Address of Laboratory :		aux .	(1)MSK	
Building No. P-48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com			TESTING + INSPECTION	
	TC	-6950	ULR: TC-695024000001819F	
	TEST	REPORT		
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/U12125	
Tata Steel Ltd. (MGM)_Joda West	Date :		06/02/2024	
and and and a construction	Sample	No.:	MSKNB/ED/2023-24/01/J03CDN	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date :		24/01/2024 24/01/2024 - 06/02/2024	
			Permanent Facility	
	Discipline:		3000156017/056, Date - 16/09/2023 Chemical	
We hereby certify that the following sample Drawn by us has	a service a service of the service o		Gilenica	
1. Group	been analyzed in	Atmospheric Pollution		
2. Description of sample		Ambient Air		
3. Unique Identification of sample(if any)		NA		
4. Date of sampling		19/01/2024		
5. Place of sampling		Near Gunda View Rolet TUR		

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	19/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	 Temperature :13-29 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fall No. & Cold Chain Maintained
7. Sampling Plan & Method used	18.5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Dhambrudhar Das, Akash Kr. Sethy
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/U12125

Sample No. : MSKNB/ED/2023-24/01/J03CDN

RESULT

Chemical SI No. Parameter UOM Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) 0.02 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.45 6 Nickel as Ni. ng/m3 USEPA-IO 3.4, June 20 (Annual) BDL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END ----

Reviewed Sy. Signature 00100mm Name Dr. Devoltars Banerjev

Authorized Signa Signature Name Designation Lab In ch

The results relate only to the item(a) tested.

Designation Technical In charge

The results seeme only to the memory terms. This Test Report shall not be reproduced except in full, without the permission of Mate S.K. Private Landed. The meaned part of sample(s) for chemical analysis (Non - periorbable sample(s) Food, Water) shall be retained for 15 days from the taste of issue of the Test Report. Periorbable nample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for Mitrobiological analysis (Non - periorbable sample(s) Food, Vision of 15 days and per CPCII guideline & (Air) 1 month than the date of issue of the Test Report. The reserved part of sample(s) for Mitrobiological analysis (Non - periorbable sample(s) Food, Sealed Water, Sealed food) shall be retained in 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Mitrobiological analysis (Non - periorbable sample(s) Food, Sealed Water, Sealed food) shall be retained in 15 days from the date of issue of the Test Report.

Strachs Contre (5th Floor), 748, A.J.C. Bose Road, Kolkala - 700016, West Bengal, India. Tel. 91 33:40143000 / 20500007 Fax: 91 33:2250008 Email: Info@mitriak.com Webble : www.mitraat.com Head Office:

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

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Tata Steel Ltd.(MGM)_Jodn West

 Report No. :
 MSKGL/ED/2023-24/004498

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/00980

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certily that the following sample Drawn by us has been analyzed with the following results:

2 Develop	AIR
2. Description of sample	Ambient Air
3. Unique identification of sample(if any)	Tringpahar Iron & Mn, Mines
4. Date of sampling 5. Place of sampling	1901/2024
5. Environmental conditions during sampling & Transport	Near Guruda View Point-TIMM
7. Sampling Plan & Method used	Clear & Sunny
the second stand stand	(NA

Report No. : MSKGL/ED/2023-24/004498

Sample No. : MSKGL/ED/2023-24/01/00980

RESULT

SI No.	Parameter	UOM	Method	Limit	1
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	11111111	Result
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 : 1999 (Realt 2014)	400 24 HR.	BDL(0L 10.0
3	Nitrogen Dioxide (NO2)		(NDIR) (O)	2 8HR.	0.50
4	Ozone (03)	micro gm/m3	IS 5182 : Part 6 :2006 (Realf 2012) _(O)	80 24 HR.	15.5
5	Particulate Matter (<10um)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0
6	Particulate Matter (<2.5um)	micro grn/m3	IS 5182 Part 23:2006 (Reaff: 2012)_(O)	100 24 HR.	192
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 (PT-24).2019_(O)	60 24 HR.	97
		micro gm/m3	IS 5182 : Part 2 :2001 (Reaff.2012) (O)	80 24 HR.	BDL(DL:6.0)

----- END ------

Report Verified By



For Mitra S. K. Private Limited

-500 Authorised Signatory

Page 1 of 1

Head Office: Stracki Carola (59-Floor), 740; A.J.C. Bolas Road, Kolkata - 700016, West Bengal, India Tel., 97 33-40543330 / 2265000/ Fax: 91 33 22550008 Ethall : Info@rotensk.com Webane : wew.rettaok.com

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate,		
3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	338	Scan for Portal
	TC-6950	ULR: TC-695024000001820F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/X1212C
Tata Steel Ltd.(MGM)_Joda West	Date :	06/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/01/L53C8C 24/01/2024
	Date(s) of performance: Location of performance of Reference No. & Date :	24/01/2024 - 06/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
We hereby certify that the following sample Drawn by us has i	been analyzed with the following results:	
1. Group	Atmospheric Pollution	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	NA	

2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	19/01/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	 Temperature :13-29 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fall No & Cold Chain Maintained
7. Sampling Plan & Method used	IS.5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Dhambrudhar Das, Akash Kr. Sethy, Pratik Mishra,
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/X1212C

RESULT

Chemical SI No. Parameter UOM Method Limit Result 1 Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrena ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) USEPA-IO 3.4, June micro gm/m3 1 (24 Hours) 0.02 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified 0.27 6 Nickel as Ni ng/m3 USEPA-IO 3.4, June 20 (Annual) BOL(DL:5.0)

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

--- END -----

Roviewed By: Signature 2 bonnyu Namo **Dr. Devoltam Sanerjee** Designation : Technical In charge

Authorized Signatory Signature Name pr. South Designation : Lab In charge

The results relate only to the item(a) tested. This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Landed. The reserved part of sample(a) for chamical analysis (Non - periabstic sample(a) Food, Water) shall be related for 16 certs from the date of issue of the Test Report. Perishable sample(a) shall be related 2 days from the date of issue of the Test Report.

The reserved part of sample(x) for chemical analysis (Soli, Solid & Liquid Waste) shall be retained for 15 days as per CPCB guideline & (Ar) 1 month from the date of issue of the Test Report. The reserved part of sample(x) for Microbiological analysis (Non - parishable sample(s) Fool, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Head Office: Shrech Centre (50) Floor), 749, A.J.C. Bose Road, Kokata - 700016, West Sengel, India. Tel., 51 33 40143000 / 22950007 Fax: 91 33 22650008 Email: Info@mitraek.com Website: www.intifesk.com

Sample No. : MSKNB/ED/2023-24/01/L53C8C

Address of Branch : P.O. Barbil Dt Keonjhar Orisea 758 035





Scan for Portal

TEST REPORT

Name & Address of Customer :	Report No. :
Tata Steel Ltd.(MGM)_Joda West	Date :
AUPo, - Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :
A REAL PROPERTY AND A REAL	Reference No. & Date :

MSKGL/ED/2023-24/004532 10/02/2024 MSKGL/ED/2023-24/01/00981 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn Mines	
4. Date of sampling	19/01/2024	
5. Place of sampling	Near Guruda Shorting Yard- TIMM	
6. Environmental conditions during sampling & Transport	Clear & Sunny	
7. Sampling Plan & Method used	NA	

Report No. : MSKGL/ED/2023-24/004532

Sample No. : MSKGL/ED/2023-24/01/00981

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro grs/m3	IS 5182 (Part 25)	400 24 HR	
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Realf.2014) (NDIR) (O)	2 8HR.	16.3
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff.2012) (O)	80 24 HR.	18.5
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (O)	100 24 HR.	144
8	Particulate Matter (<2.5um)	Emimp orbim	IS 5182 (PT-24),2019 (O)	60.24 HR.	75
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Reaff.2012) (O)	80 24 HR	BDL(DL:6.0)

----- END -----

Report Verified By /

For Mitra S. K. Private Limited Cela

Authorised Signatory

Head Office:

Shrachi Cante (Sh. Flavr), 748, A.J.C. Rose Road, Kokata - 700715, West Bengtt, India. Tel.: 19133 40143000 / 22850007 Fair: 9130 22500008 Ental : Into@mittedx.com Website : www.indiask.com

Address of Laboratory : Building No. P- 48, Udayan Industrial Estate, 3, Pegladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com		6850	ULR	Scan for Portal	
Name & Address of Customer :	-	REPORT			
A REAL PROPERTY AND A REAL		Report No. :		MSKPL/ED/2023-24/Y1219H	
Tata Steel Ltd.(MGM)_Joda West	Date :		07/02/2024		
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:		MSKNB/ 29/01/202	ED/2023-24/01/JW455E 24	
	Date(s) of performance:		29/01/2024 - 08/02/2024		
	Location of performance of Reference No. & Date :		Permanent Fac8ty 3000156017/056, Date - 16/09/2023		
	Discipi		Chemical		
We hereby certify that the following sample Drawn by us has b	een analyzed v	with the following results			
1. Group		Atmospheric Pollution			
2. Description of sample		Ambient Air			
3. Unique Identification of sample(if any)		NA			
6. Date of sampling		25/01/2024			

5. Place of sampling	25/01/2024
average of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :17-32 deg C 2) Barometric Pressure: 735 mm of He 3) Data feit
7. Sampling Plan & Method used	No.o.Cold Cristin Maintained
8. Identification of the personnel performing sampling by MSK	15:5102(P-11,12) & USEPA
9. Field Equipments Used	Pretik Kr.Mantri, Lalin Naik
and and additional and a second	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/Y1219H

RESULT

Sample No. :	MSKNB/ED/2023-24/01/JW455E

Chemical	and the second	A STREET			
SI No.	Parameter	UOM	Method	Limit	Desult
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	Cm/gn	IS 5182 (Part 12)	and a second sec	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro grs/m3	USEPA-IO 3.4; June	1 (24 Hours)	8DL(DL:0.01)
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	Not Specified	0.26
Dpinion :	Limit as per CPC	and the second se	18th November 2000 for Ame	20 (Annual)	BDL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END ----

Seviewed By: Signatura Jante Name Ms. Fiell Ganguly Designation Executive Chemist

Authorized Signatory: Signature Name Dr. Sou Designation : Lab In pharge

The results volve only to the term (is tested This Test Report shall not be reproduced except in full, without the permission of Mitre S.K. Private Linited. The reserved part of sample(s) for chemical analysis (Non - pershable sample(s) Food, Water) shall be relained for 15 days from the date of asue of the Test Report. Perishable sample(s) shall be relained 2 days from the date of asue of the Test Report. The reserved part of sample(s) for chemical analysis (Non - pershable sample(s) Food, Water) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Seeled Water, Seeled food) shall be relained for 15 days from the date of issue of the Test Report.

Head Office: Strach Contro (Str. Floor), 748, A J C. Bose Read, Kokata - 700016, West Bengal, India. Tai 91 33 40142000 / 20500007 Fex. 91 33 20100008 Email: Hogenbresk.com Webabe: www.tstrask.com

Address of Branch : P.O. Barbil Dr Keonijhar Orissa 758 035.



TESTING + INSPECTION

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TEST REPORT

Name & Address of Customer :

Tata Sheel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004596

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/01113

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines TIMM
4. Date of sampling	25/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/804596

Sample No. : MSKGL/ED/2023-24/01/01113

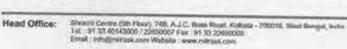
RESULT

Analysis Result of Ambient Air

SI No.	Parameter	MOU	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	
2	Carbon Monoxide (CO)	and a state of the	IS 5182 : Part 10 ; 1999 (Reaff 2014)	400 24 HR.	14.5
		mg/m3	(NDIR) (O)	2 8HR.	0.42
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff 2012) (O)	80 24 HR	18.6
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR	16.6 BDL(DL:20.0
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (0)	100.24 HR.	38.6
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)		142
7	Sulphur Diaxide (SO2)	micro gm/m3	and the second se	60 24 HR,	78
	and an evenera (cose)	L meno duano 1	IS 5182 : Part 2 :2001 (Real! 2012) (O)	80 24 HR.	7.3

---- END -----

Report Verified By (



For Mitra S. K. Private Limited

- Stre Authorised Signatory

Mitra S. K. Private Limite	-			
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	0.0551.055	TESTING + INSPECTIN	
	TEST REPOR		0-040024000001351F	
Name & Address of Customer :	Report No. :	20 VIEW / DV ACAS	2023-24/012191	
Tata Steel Ltd.(MGM)_Joda West	Date :	07/02/2024	6060-641012181	
	Sample No. :	MSKNB/ED/	MSKNB/ED/2023-24/01/VS4562	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of			
	Date(s) of perform	Ince: 29/01/2024 -	29/01/2024 - 06/02/2024	
	Location of perfor		acility	
	Reference No. & D	ite: 3000156017	/056. Date - 16/09/2023	
	Discipline:	Chemical		
We hereby certify that the following sample Drawn by us has	been analyzed with the followin	results		
1. Group	Atmospheric J			
2. Description of sample	Ambient Air	VIII 11		
3. Unique Identification of sampla/if any)	and .			

1, Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	25/01/2024
6. Place of sampling	Near Guruda Shorting Yard- TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :17-32 deg C 2) Barometric Pressure: 735 mm of He 3) Rain fall
7. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPAv
8. Identification of the personnel performing sampling by MSK	Pratik Kr. Mantri, Lalin Naik
9. Field Equipments Used	MSK/BBL/FIELD/FDS-9

Report No. : MSKPL/ED/2023-24/012191

RESULT

SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0) BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:0.5
4	Lead (as Pb)	micro.gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.02
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.25
6 pinion ;	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	BDL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END ------

Signature < Name Mr. Piel Ganguly Designation Channel

Reviewed By

Authorized Signator Senature Nane Dr Designation Uso in charge

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Head Office: Strect/ Cartine (Sth Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, India. Tat. 51 33 40143000 / 22650007 Fax. 51 33 22650008 Email: kfo@mitraak.com Webste: www.mitraek.com

Sample No. : MSKNB/ED/2023-24/01/VS4562

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



TESTING # INSPECTION

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TEST REPORT

Report No. :

Date :

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

Al/Po. - Joda, Dist. - Keorijhar, Odisha - 758034 India Pin

Sample No. : Reference No. & Date : MSKGL/ED/2023-24/004606 10/02/2024 MSKGL/ED/2023-24/02/00009 3000156017/056. Data - 15/09/2023

We hareby certify that the following sample Drawn by us has been analyzed with the following results

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mr. Mines TIMM
4. Date of sampling 5. Place of sampling	25/01/2024
6. Environmental conditions during sampling & Transport	Near Goruda PIT Office TIMM
7. Sampling Plan & Method used	Clear & Sunny
	NA

Report No. : MSKGL/ED/2023-24/004608

Sample No. : MSKGUE0/2023-24/02/00009

RESULT

Analysis Result of Ambient Air

SI No.	Parameter	NOU	Method	12.00	
1	Ammonia (NH3)	micro gm/m3		Limit	Result
		micro greens	IS 5182 (Part 25)	400 24 HR.	BDL(OL:10.0
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Reall 2014)	2 8HR	and the second second second
3	Nitrogen Dioxide (NO2)	micro ym/m3	(NDIR) (O)	v. 01.04	0.54
-4	Ozone (O3)	100720000000000000000000000000000000000	IS 5182 : Part 6 :2006 (Readf.2012) (O)	80 24 HR.	21.3
5	the local data in the state of the balance of the state o	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL-20.0)
	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (O)	100.24 HR	
8	Particulate Matter (<2,5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	Contraction of the Advertise of the Adve	212
7	Sulphur Dioxide (SO2)	Em/mg oraim		60 24 HR	98
		1 mero preno	IS 5182 : Part 2 :2001 (Readf.2012) (0)	80.24 HR	8.2

---- END -----







For Mitra S. K. Private Limited

ł,

Authorised Signatory

Page 1 of 1

Head Office: Struchi Cartin (Sh Nov), 748, A.J.C. Boss Read, Kalkata - 700016, West Borgat, India. Tel., 91 33-40145300 (22650007 Fair: 21 33 22550007 Email: Info@reficial.com/Wabate: www.infinak.com

Address of Laboratory :	(A)	(III) MSK
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengai Tel. : +91 7044035120 Email: udayanlab@mtmisk.com	TC-6950	TESTING #INSPECTIO Scan for Portal
	TEST PERCET	ULR: TC-895024000001952F
Name & Address of Contact	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/212193
Tata Steel Ltd.(MGM)_Joda West	Date :	07/02/2024
AtPa lata Did Kuna an	Sample No. :	M\$KNB/ED/2023-24/01/XZ451Q
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of samp	le: 29/01/2024
	Date(s) of performance	29/01/2024 - 06/02/2024
	Location of performance	e of Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
le hereby certify that the following sample Drawn by us has	head analyzed with the falls	sandringa.
1. Group		
2. Description of sample	Atmospheric Pollutio	<u>n</u>
 Unique Identification of sample(if any) 	Ambient Air NA	
Date of samplion	and the second s	

or some reservance of sample (r any)	NA
4. Date of sampling	25/01/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :17-32 deg C 2) Barometric Pressure: 735 mm of Lia 2: Data Lat.
7. Sampling Plan & Method used	No & Cold Chain Maintained 13:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kr.Mantri, Lalin Naik
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/212193

RESULT

Sample No. :	MSKNB/ED/2023-24/01/XZ451Q
	THE REPORT OF A DATE OF A

SI No.	Parameter	UOM	Method	Limit	T and
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL-1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	and the second se	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (Annual)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	1 (24 Hours)	BDL(DL:0.01)
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	Not Specified 20 (Annual)	BDL(DL:0.01) 8DL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

-- END ----

Reviewed By:

Signature

Ms. Plat Garguin

None Designation : Executive Chemiat

Authorized Signatury: Signature Name Ūr. Designation Lab In charg

The results volate axis to the item(s) tested. This Test Report shall not be reproduced scrept in 5.4, without the permission of Mitra S.K. Private Limited. The reserved part of sample(s) for chamical analysis (Non - perishable sample(s) Foot, Weter) shall be related for 15 days from the date of issue of the Test Report. Perishable sample(s) shall be related 2 days from the date of asset of the Test Report. The reserved part of sample(s) for chamical analysis (Non - perishable sample(s) Food, Sealed Weter, Sealed food) shall be related for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for chamical analysis (Non - perishable sample(s) Food, Sealed Weter, Sealed food) shall be related for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - perishable sample(s) Food, Sealed Weter, Sealed food) shall be related for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for the Test Report.

Head Office: Sharchi Cenime (Sih Floor), 748, A.J.C. Bose Roed, Kokata - 700016, West Bengel, India. Twl. 91 33 40143000 / 22050007 Fax. 91 33 22000008 Email: info@milnask.com Webate : www.miltask.com

Address of Branch : P.O. Barbil Dt Keonjhar Onissa 758 035



Scan for Portal

Name & Address of Customer : TEST REPORT Report No. :

Date :

Sample No. :

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Reference No. & Date :

MSKGL/ED/2023-24/004594 10/02/2024 MSKGL/ED/2023-24/01/01115 3000156017/056, Data - 15/06/2023

We hereby cartify that the following sample Drewn by us has been analyzed with the following results

1. Group	AIR	
2. Description of sample	Ambient Air	
3. Unique Identification of sample(if any)	and the second sec	
1. Date of sampling	Tiringpahar Iron & Mn. Mines TIMM	
5. Place of sampling	25/01/2024	
Environmental conditions during sampling & Transport	Near Guruda PIT Office TIMM	
Sampling Plan & Method used	Clear & Sunny	
- company rate a method used	NA	

Report No. : MSKGL/ED/2023-24/004594

Amphania Density of a state

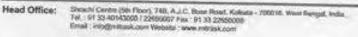
Sample No. : MSKGLED/2023-24/01/01115

RESULT

SI No.	Paramoter	UOM	Method	Limit	-
1	Ammonia (NH3)	anima and a	10000000	Lang	Result
1.1.1	and the second second	micro.gm/m3	IS 5182 (Part 25)	400 24 HR.	BDL(DL:10.0)
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1990 (Read(2014) (ND(R) (O)	2 8HR.	0.44
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Realf.2012) (0)	00.04100	
4	Ozone (O3)	micro gm/m3	the second se	80 24 HR	28,3
5	Particulate Matter (<10um)	Contract Contractor	(S 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
6		micro gm/m3	IS 5182 Part 23:2006 (Realf, 2012)_(O)	100 24 HR.	222
0	Particulate Matter (<2.5um)	micro gm/m3	iS 5182 (PT-24) 2019 (O)	60 24 HR.	
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Read 2012) (O)	80 24 HR.	109

----- END -----

Report Verified By (



For Mitra S. K. Private Limited

Authorised Signatory

Address of Laboratory :	-	alter a	() MSK	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com			Scan for Portal	
	TO	-6950	ULR: TC-695024000001957F	
	TEST	REPORT	ULA. 10-030024000001357F	
Name & Address of Customer :	Report No. : Date :		MSKPL/ED/2023-24/01218B	
Tata Steel Ltd.(MGM)_Joda West			07/02/2024	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:		MSKNB/ED/2023-24/01/LB450P 29/01/2024	
	Date(s) of performance: Location of performance of		29/01/2024 - 06/02/2024 Permanent Facility	
	Refere	nce No. & Date : line:	3000156017/056, Date - 16/09/2023 Chemical	
We hereby certify that the following sample Drawn by us has i			Grenical	
1. Group				
2. Description of sample		Atmospheric Pollution Ambient Air		
3. Unique Identification of sample(if any)		NA		
4. Date of sampling		26/01/2024		
5. Place of sampling		Near Guruda View Point-TIMM		

Near Guruda View Point-TIMM

No & Cold Chain Maintained

13.5182(P-11,12) & USEPA

Pratik Kr. Mantri, Lalin Naik

MSK/BBL/FIELD/RDS-7

RESULT

Method

USEPA-IO 3.4, June

IS 5182 (Part 11)

IS 5182 (Part 12)

USEPA-IO 3.4, June

USEPA-IO 3.4: June

USEPA-IO 3.4, June

END ----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

UOM

ng/m3

micro gm/m3

ng/m3

micro gm/m3

micro gm/m3

ng/m3

1) Temperature : 17-32 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fail :

Sample No. : MSKNB/ED/2023-24/01/LB450P

Limit

6 (Annual)

5 (Annual)

1 (Annuel)

1 (24 Hours)

Not Specified

20 (Annual)

Authorized Signatory

Dr.

Lab In charg

Signature

Designation

Name

Me

k Gane

Executive Chemier

6. Environmental conditions during sampling & Transport

Parameter

Arsenic as (As)

Benzene

Benzo(a)Pyrene

Lead (as Pb)

Manganese as Mn

Nickel as Ni

NA

8. Identification of the personnel performing sampling by MSK

7. Sampling Plan & Method used

Report No. : MSKPL/ED/2023-24/012188

9. Field Equipments Used

Chemical SI No.

1

2

3

4

5

6

Opinion :

Reviewed By

Designation

Signature

Name

Statement of Conformity

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The reserved part of sample/s) for channel analysis (Non - perturbable sample(s) Food, Veleer) shall be retained for 15 days from the date of asue of the Test Report. Perstrable sample(s) shall be retained 2 days. The reserved part of samplets) for Microbiological analysis (Sol), Solid & Liquid Waste) shall be retained for 15 days to per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of samplets) for Microbiological analysis (Non - panishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Head Office:

Shrachi Canins (5in Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengel, India. TeL : 91 33 40143000 / 27930007 Fax : 91 33 22650008 Entell : Info@mitrask.com Website : www.mitrask.com

Page 1 of 1

Result

BDL(DL:1.0)

BDL(DL:4.2)

BDL(DL:0.5)

BDL(DL:0.01)

0.35

5.9

Address of Branch : P.O. Barbil Dt Keonjhar Orisse 758 035



TESTING + INSPECTION

Scan for Portal

TEST REPORT

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Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonthar, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004587

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/01120

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results

1, Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mines TIMM
4. Date of sampling	26/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	
7. Sampling Plan & Method used	Clear & Sunny NA
	100

Report No. : MSKGL/ED/2023-24/004587

And the second

Sample No. : MSKGL/ED/2023-24/01/01120

RESULT

SI No.	Parameter	NOU	Method	Limit	Result
1	Ammonia (NH3)	micro gra/m3	IS 5182 (Part 25)	400 24 HR	BDL(DL10.0)
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Realf 2014) (NDIR) (O)	2 8HR.	0.45
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff.2012) (O)	80 24 HR.	20.2
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR	BDL(20.0)
5	Particulate Matter (<10um)	micro gm/m3	(S 5182: Part 23:2006 (Reaff: 2012) (O)	100 24 HR.	165
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24) 2019 (O)	60 24 HR	
7	Sulphur Dioxide (SO2)	micro gn/m3	IS 5182 : Part 2 :2001 (Reaff.2012) (O)	80 24 HR	74 BDL/DL:6.0)

---- END -----

Report Verified By





Authorised Signatory

Head Office: Structure (5th Floor), 748, A.J.C. Boss Road, Kolkata - 700/16, Wast Bengal, India. Tel., 91 33 40143330 / 20150007 Fair: 91 33 22550005 Email: info@mitosk.com Wabata: www.inittask.com

Mitra S. K. Private Limite	2	-		() мэк	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bongal Tel: :+91 7044036120 Email: udayanlab@mitrask.com	TO	50 -6950	ULR:	TERTING + INSPECTION Scan for Portal TC-695024000001958F	
	TEST	REPORT			
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/F1218X		
Tata Steel Ltd.(MGM)_Joda West	Date :		07/02/2024		
	Sample No. :		MSKNB/ED/2023-24/01/85451R		
AVPo Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample: Date(s) of performance: Location of performance of		29/01/202		
			29/01/2024 - 05/02/2024 Permanent Facility		
		nce No. & Date :		17/056, Date - 16/09/2023	
	Discipl	ine:	Chemical		
We hereby certify that the following sample Drawn by us has	been analyzed v	with the following results:			
1. Group		Atmospheric Pollution			
2. Description of sample 3. Unique Identification of sample(if any)		Ambient Air			
		NA			
4. Date of sampling		26/01/2024			
5. Place of sampling		Near Guruda Shorting Yard- T	IMM		
· · · · · · · · · · · · · · · · · · ·		1) Tomara and in 17 an i a	the second se		

No & Cold Chain Maintained

IS:5182(P-11,12) & USEPA

Pratik Kr.Mantri, Lalin Naik

MSK/BBL/FIELD/RDS-9

RESULT

Method

USEPA-IO 3.4, June

IS 5182 (Part 11)

IS 5182 (Part 12)

USEPA-IO 3.4, June

USEPA-IO 3.4: June

USEPA-IO 3.4, June

- END ----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

NOU

ng/m3

micro gm/m3

ng/m3

micro gm/m3

micro gm/m3

ng/m3

1) Temperature :17-32 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fall :

Sample No.: MSKNB/ED/2023-24/01/S5451R

Limit

6 (Annual)

5 (Annual)

1 (Annual)

1 (24 Hours)

Not Specified

20 (Annual)

Authorized Signatory

2

Leb In charg

Signature

Designation :

Name

Designation Executive Cherrist

1

Ms. Piali Ganguly

6. Environmental conditions during sampling & Transport

Parameter

Arsenic as (As)

Benzene

Benzo(a)Pyrene

Lead (as Pb)

Manganese as Mn

Nickel as Ni

NA

8. Identification of the personnel performing sampling by MSK

7. Sampling Plan & Method used

Report No. : MSKPL/ED/2023-24/F121BX

9. Field Equipments Used

Chemical SI No.

1

2

3

4

5

6

Opinion :

Reviewed By

Signature

Norne

Statement of Conformity

The results relate only to the itemps) toxics. This Test Report shall not be reproduced except in full, without the permission of Mite S.K. Private Limited. The resarved part of sample(a) for charactel analysis (from - perishable sample(s) Food, Water) shall be retained for 15 days from the case of the Test Report. Perchapte sample(s) shall be retained 2 days from the date of issue of the Test Report.

The reserved part of sample(s) for chemical analysis (Soit, Solid & Liquid Waster) shall be retained for 15 days as per CPCB guidaline & (Air) 1 month from the date of issue of the Teel Report. The reserved part of sample(s) for chemical analysis (Soit, Solid & Liquid Waster) shall be retained for 15 days how the date of issue of the Teel Report. The reserved part of sample(s) for Microtological analysis (Non - perishable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Teel Report.

Head Office: Stracts Cache (Sh Floor), 748, A.J.C. Bose Road, Kokata - 700016, West Bengal, India. Tel. 91 33:40143050 / 22550007 Fax: 91 33 22550008 Email: info@mibrask.com Website: www.mitrask.com

focedway

Result

BDL(DL:1.0)

BDL(DL:4.2)

BDL(DL:0.5)

BDL(DL:0.01)

BDI.(DL:0.01)

BDL(DL:5.0)

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035



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Scan for

THE THE OTT	
Report No. :	MSKGL/ED/2023-24/004595
Date :	19/02/2024
Sample No. :	MSKGL/ED/2023-24/01/01121
Reference No. & Date :	3000156017/056, Date - 15/09/2023
	Report No. : Date : Sample No. :

TEST REPORT

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn. Mixes TIMM
4. Date of sampling	26/01/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
5. Environmental conditions during sampling & Transport	Clear & Summy
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004595

Sample No. : MSKGL/ED/2023-24/01/01121

RESULT

Analysis Result of Ambient Air

SENo.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR.	BDL(DL:10.0)
2	Carbon Monoxide (CO)	mgim3	IS 5182 : Part 10 :1999 (Reaff 2014) (NDIR) (O)	2 8HR.	0.62
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Realt 2012) (O)	80 24 HR	17.3
4	Ozone (03)	micro gravim3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (O)	100 24 HR.	178
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5162 (PT-24),2019 (O)	60.24 HR	88
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realf.2012) (O)	80 24 HR.	7.7
	The second se		the state of the second s	the second se	

---- END -----

Report Verified By



For Mitra S. K. Private Limited < som Authorised Signatory

Page 1 of 1

Head Office: Shitch Center (5th Roor), 740. A.J.C. Bore Road, Kolkata - 700016, West Bengel, India. Tel: 01.33.40143000 / 22650007 Fax: 01.33.22500008 Email: Info@mlinaik.com Website : www.minask.com

Mitra S. K. Private Limite	a	Doc No. MERCONVISOT
Bulkting No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel: +91 7044036120 Email: udayanlab@mitrask.com	TC-6950	Scan for Portal ULR: TC-695024000001959F
	TEST REPORT	Contraction and the second second
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/Q121BY
Tata Steel Ltd. (MGM)_Joda West	Date :	07/02/2024
	Sample No. :	MSKNB/ED/2023-24/01/SD452W
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample	
	Date(s) of performance:	29/01/2024 - 06/02/2024
	Location of performance	of Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical
Ve hereby certify that the following sample Drawn by us has	been analyzed with the following results:	
1. Group	Atmospheric Pollution	
2. Description of sample	Ambient Air	

2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	26/01/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	 Temperature :17-32 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fall : No & Cold Chain Maintained
7. Sampling Plan & Method used	15.5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pratik Kr.Mantri, Lalin Naik
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/Q121BY

Sample No. : MSKNB/ED/2023-24/01/SD452W

RESULT

Chemical						
Parameter	UOM	Method	Limit	Result		
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)		
Benzene	micro gm/m3	IS 5182 (Part 11)	and the second sec	BDL(DL:4.2)		
Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	the second se	BDL(DL:0.5)		
Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June		0.03		
Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.22		
Nickel as Ni	ng/m3	USEPA-IO 3.4, June	and the second s	6.0		
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4; June Not Specified		

- END ------

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity

NA

Reviewed By: Signature đ Ma Pal Ga Nana Designation Executive Chemiat

Authorized Signatory Signature Name Dr Seco Georgration : Lob In charge

The results relate only to the item(s) lested. This Toel Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited. The reserved part of service(s) for distribute service(s) for distribute service(s) food, Weller) shall be retained for 15 days from the date of issue of the Test Report. Perehable service(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of service(s) for diversion analysis (Non - pershable service(s) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of service(s) for Microsotrogical analysis (Non - pershable service(s) Food, Seeled Weller, Seeled Weller, Seeled Sood) shall be retained for 16 days from the date of issue of the Test Report. The reserved part of service(s) for Microsotrogical analysis (Non - pershable service(s) Food, Seeled Weller, Seeled Weller, Seeled Sood) shall be retained for 16 days from the date of issue of the Test Report. The reserved part of service(s) for Microsotrogical analysis (Non - pershable service(s)) Food, Seeled Weller, Seeled Weller, Seeled Sood) shall be retained for 16 days from the date of issue of the Test Report. The reserved part of service(s) for Microsotrogical analysis (Non - pershable service(s)) Food, Seeled Weller, Seeled Weller, Seeled Sood) shall be retained for 16 days from the date of issue of the Test Report.

Strach Centre (Sh Floor), 748, A.J.C. Bose Road, Kokata - 700015, West Banget, India. Tol. : 91 33 40143000 / 22000007 Fax. 91 33 2260008 Email : etto@mitrask.com Website : www.mitrask.com

Address of Branch : P.O. Barbil Dt Kaonjhar Onesa 758 035



ESTING + INSPECTION

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TEST REPORT

Name	& Address	of Customer :	
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Tata Steel Ltd. (MGM)_Joda West

AtiPo. - Jodo, Dist. - Keorijhar, Odishe - 758034 India Pin

Report No. : MSKGL/ED/2023-24/004590 Date : 10/02/2024 Sample No. : MSKGL/ED/2023-24/01/01122 Reference No. & Date : 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results

1. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mo. Mines TIMM
4. Date of sampling	25/01/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004590

Sample No. : MSKGU/ED/2023-24/01/01122

RESULT

Analysis	Result	of Ambient Air
and the second s		

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	
2	Carbon Monoxide (CO)	rog/m3	IS 5182 : Part 10 :1999 (Realf.2014) (NOIR) (O)	2 8HR	BOL(DL:10.0) 0.53
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5162 : Part 6: 2006 (Reaff 2012) (O)	80 24 HR	20.2
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23 2006 (Reaff. 2012) (O)	100 24 HR	215
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	121
7	Sulphur Dioxide (SO2)	Eminto atoim	IS 5182 : Part 2 :2001 (Read! 2012) (O)	80 24 HR	7.8

----- END ------

Report Verified By



For Mitra S. K. Private Limited - ane

Authorised Signatory

Page 1 of 1

Head Office: Shadd Centre (Sti Floor), 748, A.J.C. Bose Road, Koliota - 200018, West Borgal, Judia. Tol., 91 33 40143000 (22055007 Fax: 31 32 22050058 Email: 910((Preliask.com Webula: www.intesk.com)

Mitra S. K. Private Limite Address of Laboratory :	-	(®)м5к
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	332	TESTING + INSPECTIO Scan for Portal
	TC-6950	ULR: TC-695024000002254F
	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKPL/ED/2023-24/T121B7
Tata Steel Ltd.(MGM)_Joda West	Date :	12/02/2024
AUPo Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/02/57UD18 01/02/2024
	Date(s) of performance:	01/02/2024 - 12/02/2024
	Location of performance of	Permanent Facility
	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023 Chemical
We hareby certify that the following sample Drawn by us has	been analyzed with the following results	

n orogo	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	29/01/2024
5. Place of sampling	Near Guruda View Point-TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :18-33 deg C 2) Barometric Pressure: 735 mm of Ho 3) Pain fail
7. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	Pranab Kr Setty
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/T121B7

RESULT

Sample No.: MSKNB/ED/2023-24/02/57UD18

hemical			101 - C		1.0
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	BDL(DL:1.0)
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:4.2)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL-0.5)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	0.02
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.41
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	7.5

Opinion :

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

END -

Reviewed By:

Signature

Name

Designation Executive Chemist

Authorized Signatory: Signature Name 80 Designation Lab in d

- 4 3

Mil Plat Ganguly

The results relate only to the sample) tested.
This Test Report shall not be reproduced except to Aut, without the permission of Mere S.K. Private Linded.
This reserved part of sample(s) for chanical analysis (Non - perishable sample(s) Food, Vieter) shall be retained for 15 days from the date of issue of the Test Report.
The reserved part of sample(s) for chanical analysis (Soil, Soid & Liquid Waste) shall be retained for 15 days an per CPCB guidaline & (Air) 1 month from the date of issue of the Test Report.
The reserved pert of sample(s) for chanical analysis (Soil, Soid & Liquid Waste) shall be retained for 15 days an per CPCB guidaline & (Air) 1 month from the date of issue of the Test Report.
The reserved pert of sample(s) for chanical analysis (Non - perishable sample(s) Food, Saeled Water, Saeled Water, Saeled Soil) shall be retained for 15 days from the date of issue of the Test Report.
The reserved pert of sample(s) for chanical analysis (Non - perishable sample(s) Food, Saeled Water, Saeled Water, Saeled Soil) shall be retained for 15 days from the date of issue of the Test Report.
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Head Office: Strach Centre (5th Floor), 748, A J C. Bose Rost, Kolula - 700016, West Bengel, India. Tel.: B1 33 40143000 / 20100007 Fax: 91 33 22050008 Email: info@mittask.com Website: www.mittalk.com

Address of Branch : P.O. Barbil Dt Keonjhar Orissa 758 035

15



Scan fer Portal

TEST REPORT

Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004612		
Tata Steel Ltd.(MGM)_Joda West	Date :	10/02/2024		
	Sample No. :			
AdPo Joda, Dist Keonjiyar, Odisha - 758034 India Pin		MSKGL/ED/2023-24/02/00007		
	Reference No. & Date :	3000156017/056, Date + 15/09/2023		

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR		
2. Description of sample	Ambient Air		
3. Unique (dentification of sample(if any)	Tiringpaliar Iron & Mri. Mines TIMM		
4. Date of sampling	29/01/2024		
5. Place of sampling	Near Guruda View Point-TIMM		
5. Environmental conditions during sampling & Transport	Clear & Summy		
7. Sampling Plan & Method used	NA		

Report No. : M5KGL/ED/2023-24/004612

Sample No. : MSKGL/ED/2023-24/02/00007

RESULT

1	Analy	/SIS	Re:	suit	of J	Amb	ient	Air
1	1022/200	00000			0.000	200 A 100 A	COLUMN 2	P. 18.0

St No.	Parameter	UOM	Method	Limit	Result
1	Ammonis (NH3)	reticeto gen/m3	IS 5182 (Part 25)		
2	Code i Marca da Janas		IS 5182 : Part 10 :1999 (Realf 2014)	400 24 HR.	BDL(DL:10.0
	Carbon Monoxide (CO)	mgim3	(NDIR) (O)	2 8HR.	0.35
3	Nitrogen Diaxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff. 2012) (0)	80 24 HR.	40.7
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 BR	19.7
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff: 2012) (O)	States States a	BDL(DL:20.0
8	Particulate Matter (<2.5um)	and the second se		100 24 HR.	162
7		micro gm/m3	IS 5182 (PT-24),2019 (O)	60.24 HR,	71
1.	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realf.2012) (O)	80.24 HR.	BDL(DL-8.0)

END -----

Report Verified By

Head Office: SYNEN' Centre (3th Floor), 748, A.J.C. Boxe Road, Kolkster - 700016, West Bengel, Hole. Tel. - 97 33 40143000 / 22550807 Fax - 91 33 22550008 Email : Holgostrask.com Website : server/H286k.com

18 97

For Mitra S. K. Private Limited

- Far

Authorised Signatory

Page 1 of 1

Address of Laboratory :			_	() мэк	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengat Tel. : +91 7044036120 Email: udayanlab@mitrask.com		\$ 2		TESTING	
18 27 CONSIGN	D	D		Scan for Portal	
	TC	-6950	ULR:	TC-695024000002256F	
	TEST	REPORT			
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/W1218L		
Tata Steel Ltd. (MGM)_Joda West	Date :	01771	12/02/2024		
	Sample No. : Date of receipt of sample: Date(s) of performance: Location of performance of Reference No. & Date :		MSKNB/ED/2023-24/02/VY807P		
At/Po Joda, Dist Keonjhar, Odisha - 758034 India			01/02/2024		
			01/02/2024 - 12/02/2024		
			Permanent Facility 3000156017/056, Date - 16/09/2023		
	Discipline:		Chemical		
We hereby certify that the following sample Drawn by us has I	been analyzed w	ith the following results-	102471/10/2911		
1. Group		Atmospheric Pollution			
2. Description of sample		Ambient Air	_		
3. Unique Identification of sample(if any)		NA			

Ambient Air
NA
29/01/2024
Near Guruda PIT Office TIMM
1) Temperature :18-33 deg C 2) Barometric Pressure: 735 mm of Lie 2) Colo (-1)
No & Cold Chain Maintained IS:5162(P-11,12) & USEPA
Pranab Kr Setty
MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/W121BL

DECHIT

RESULI							
Chemical					-		
Si No.	Parameter	UOM	Method	Limit	Result		
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)			
2	Benzene	micro-gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0)		
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:4.2)		
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	and an and the second s	BDL(DL.0.5)		
5	Manganese as Mn	micro gnv/m3	USEPA-IO 3.4: June	1 (24 Hours)	BDL(DL:0.01)		
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	Not Specified	0.09		
hainlas :	15-3-1-000		03017010 3.4, 3008	20 (Annual)	BDL(DL:5.0)		

- END ------

Opinión :

C

Limit as per CPCS notification, New Dethi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By: Signeture yoy 1 Name Ms. Piali Ganguly Designation | Executive Chemist

Authorized Signatory: Signature Name 9 Designation | Lab to charge

Sample No. : MSKNB/ED/2023-24/02/VY807P

The results relate only to the item(s) tested. This Test Report shall not be reproduced except in 8.4, without the parmission of Mitra S.K. Private Levited. The reserved part of sample(s) for chemical analysis (Non - parahable sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Perieftable sample(s) shall be retained 2 days from the date of issue of the Test Report. Perieftable sample(s) Solid & Liquid Water) shall be retained for 15 days aper CPCB guideline & (Ap) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - parahable sample(s) Food, Sauled Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of earryle(s) for Microbiological analysis (Non - parahable sample(s) Food, Sauled Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of earryle(s) for Microbiological analysis (Non - parahable sample(s) Food, Sauled Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of earryle(s) for Microbiological analysis (Non - parahable sample(s) Food, Sauled Mater.

Strachi Gentre (Sti Floor), 74B, A.J.C. Bose Road, Kolkats - 700010, West Bangal, India. Tel. : 91 33 40143000 / 22650007 Fiss - 91 33 22600008 Email : Info@mitrask.com Website : www.mitrask.com

Address of Branch : P.O. Barbil Dr Keonjhar Orissa 758 035



ESTING = INSPECTION

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TEST REPORT

Name	& Address	of Custor	ner :
------	-----------	-----------	-------

Tata Steel Ltd.(MGM)_Joda West

Al/Po. - Joda, Dist. - Keonjiter, Odisha - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004585

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/01/01114

 Reference No. & Date :
 3000155017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

1. Group	AIR
2. Description of sample	Amblent Air
3. Unique Identification of sample(if any)	Tiringpahar Iron & Mn, Mines TIMM
4. Date of sampling	19/02/2024
5. Place of sampling	Nose Gunida Shorting Yard-TIMM
6. Environmental conditions during sampling & Transport	Clear & Sunny
7. Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004585

Sample No. : MSKGL/ED/2023-24/01/01114

RESULT

Analysis	Result o	f Ambient Air
----------	----------	---------------

SI No.	Parameter	UOM	Method	Limit	Result
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)	400 24 HR	BDL(DL:10.0)
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (RealL2014) (NDIR) (O)	2 8HR.	0.46
3	Nilrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Realf 2012) (O)	80 24 HR	16.6
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR.	BOL(DL-20.0)
5	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (O)	100 24 HR.	165
6	Particulate Matter (<2.5um)	micro gm/m3	1S 5182 (PT-24),2019 (O)	60 24 HR.	76
7	Sulphur Dioxide (SO2)	micro gm/m3	15 5182 : Part 2 :2001 (Realf.2012) _(O)	80 24 HR	BDL(DL.6.0)

----- END -----

Report Verified By (





For Mitra S. K. Private Limited <= 52A

Authorised Signatory

Page 1 of 1

Head Office: Shaces Centre (Str. Next), 748, A.J.C. Boxe Road, Kokate - 700018, West Rengel, India Tel. 91 33 40143000 / 22650007 Fax: 31 33 22650006 Enell: info@mitsuk.com Visibilite : wew.mbrak.com

Address of Laboratory :		(D) M5K
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com		TESTING
	2 4	Scan for Portal
	TC-6950	ULR: TC-695024000002255F
	TEST REPORT	
ame & Address of Customer :	Report No. :	MSKPL/ED/2023-24/L1218Q
ala Steel Ltd.(MGM)_Joda West	Date :	12/02/2024
	Sample No. :	MSKNB/ED/2023-24/02/K8RS2A
MPo Joda, Dist Keonjhar, Odisha - 758034 (ndia	Date of receipt of sample:	01/02/2024
	Date(s) of performance:	01/02/2024 - 12/02/2024
	Location of performance of	Permanent Facility
	Reference No. & Date :	3000156017/056, Date - 16/09/2023
	Discipline:	Chemical

e tollowing sample Drawn by us has been analyzed with the following results:

1. Group	Atmospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	29/01/2024
5. Place of sampling	Near Guruda Shorting Yard- TIMM
5. Environmental conditions during sampling & Transport	1) Temperature :18-33 deg C 2) Barometric Pressure: 735 mm of Ho 3) Date fail
7. Sampling Plan & Method used	IND & GOID Chain Maintained
 Identification of the personnel performing sampling by MSK 	IS 5182(P-11,12) & USEPA Pranab Kr Setty
9. Field Equipments Used	MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/L121BQ

		RESULT		
Parameter	UOM	Method	Limit	Result
Arsenic as (As)	ng/m3	USEPA-IO 3.4, June		
Benzene	micro gm/m3			BDL(DL:1.0)
Benzo(a)Pyrene	ng/m3	and the second se		BDL(DL:4.2)
Lead (as Pb)	micro gm/m3		and the second sec	BDL(DL:0.5)
Manganese as Mn	micro gm/m3		1.150- S.K.1.000000	0.02
Nickel as Ni	ng/m3	and the second	Contraction of the second s	0.31
	Arsenic as (As) Benzene Benzo(a)Pyrene Lead (as Pb) Manganese as Mn	Arsenic as (As) ng/m3 Benzene micro gm/m3 Benzo(a)Pyrene ng/m3 Lead (as Pb) micro gm/m3 Manganese as Mn micro gm/m3	Parameter UOM Method Arsenic as (As) ng/m3 USEPA-IO 3.4, June Benzene micro gm/m3 IS 5182 (Part 11) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June Manganese as Mn micro gm/m3 USEPA-IO 3.4, June	Parameter UOM Method Limit Arsenic as (As) ng/m3 USEPA-IO 3.4, June 6 (Annual) Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) Manganese as Mn micro gm/m3 USEPA-IO 3.4; June Not Specified

STOLES .

Opinion :

c

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END ----

Reviewed By: Signature Natie Ms. Piel Ganguly Designation : Executive Chemist

Authorized Signatory. Signature Nam Mukhopachyay 9 Designation : Lab In charge

Sample No.: MSKNB/ED/2023-24/02/KBRS2A

The results relate only to the Asm(s) tested, This Test Report shall not be reproduced except in full, without the permission of Mato S.K. Private Limited. The reserved part of sample(s) for character analysis (Non - periahable sample(s) Food, Weber) shall be retained for 15 days from the date of issue of the Test Report. Periahable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for character analysis (Solt, Sold, Sold, Sold, Sugar Weber) shall be retained for 15 days as per CPCB publishes & (Aur) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - periahable sample(s) Ecod, Sealed Weber, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - periahable sample(s) Ecod, Sealed Weber, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - periahable sample(s) Ecod, Sealed Weber, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - periahable sample(s) Ecod, Sealed Weber, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

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Address of Branch : P.O. Barbil Dt Keorghur Orissa 758 035



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	TEST REPORT	
Name & Address of Customer :	Report No. :	MSKGL/ED/2023-24/004607
Tata Steel Ltd.(MGM)_Joda West	Date :	10/02/2024
Al/Po Joda, Dist Keonjhar, Odisha - 758034 India Pin	Sample No. :	MSKGL/ED/2023-24/02/00008
	Reference No. & Date :	3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

2 December - C	AIR
2. Description of sample	Ambiant Air
Unique Identification of sample(if any) Date of sampling	Tiringpahar Iron & Mri, Mines TIMM
5. Place of sampling	29/01/2024
	Near Guruda Shorting Yard- TIMM
Environmental conditions during sampling & Transport Sampling Plan & Method used	Clear & Sunny
second and a method ased	NA

Report No. : MSKGL/ED/2023-24/004607

Applied Brout rate

Sample No. : MSKGL/ED/2023-24/02/00008

RESULT

SI No.	Parameter	NOM	Method		1 10000
1	Ammonia (NH3)			Limit	Result
	Constant frei 191	miaro gm/m3	IS 5182 (Part 25)	400 24 HR.	BDL(DL:10.0)
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1989 (Reaff 2014) (NDIR) (O)	2 8HR	0.51
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff.2012) (O)		-
4	Ozone (O3)	micro gm/m3		80 24 HR,	19.1
5	Particulate Matter (<10um)	and the second s	15 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
6		micro gm/m3	IS 5182. Part 23:2006 (Realt. 2012) (O)	100 24 HR.	181
0	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24).2019 (O)	60 24 HR.	
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 ; Part 2 :2001 (Realf 2012) (0)	80 24 HR	86

---- END -----

Report Verified By



For Mitra S. K. Private Limited

- Som Authorised Signatory

Head Office: Shochi Contre (55: Floor), 748, A.J.C. Rose Road, Kolusta - 700118, West Bengel, India, Tel., 91 33:40143000 / 2260007 Fax: 91 33:2250009 Email: Priogramaic.com Website : www.mitestic.com

Page 1 of 1

Address of Laboratory :	-		M5K	
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	33		TESTING + INSPECTION	
	TC-6950		ULR: TC-695024000002168F	
	TEST REP	ORT	0001 10-0300240000021085	
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/D121BS	
Tata Steel Ltd. (MGM)_Joda West	Date :		10/02/2024	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample: Date(s) of performance:		MSKNB/ED/2023-24/02/ZLUC5L 02/02/2024 02/02/2024 - 10/02/2024	
	Location of pe Reference No.	formance of & Date :	Permanent Facility 3000156017/056, Date - 16/09/2023	
We hereby certify that the following sample Drawn by us has t	Discipline:		Chemical	
1. Group	The second s	and the second sec		
2. Description of sample		ric Pollution		
1. Unique Identification of completition d	Ambient	AB.		

3 Dependent of the state	Almospheric Pollution
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	NA
4. Date of sampling	30/01/2024
5. Place of sampling	Near Guruda PIT Office TIMM
6. Environmental conditions during sampling & Transport	1) Temperature :18-33 deg C 2) Barometric Pressure: 735 mm of Lie 3) Color felt.
7. Sampling Plan & Method used	No & Cold Chain Maintained IS:5182(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	LALIN NAIK
9. Field Equipments Used	MSK/BBL/FIELD/FDS-10

Report No. : MSKPL/ED/2023-24/D1218S

Sample No. : MSKNB/ED/2023-24/02/ZLUC5L

RESULT

Chemical SI No. Parameter UOM Method Limit Result 4 Antenic as (As) USEPA-IO 3.4, June ng/m3 6 (Annual) BDL(DL:1.0) 2 Benzene micro gm/m3 IS 5182 (Part 11) 5 (Annual) BDL(DL:4.2) 3 Benzo(a)Pyrene ng/m3 IS 5182 (Part 12) 1 (Annual) BDL(DL:0.5) 4 Lead (as Pb) micro gm/m3 USEPA-IO 3.4, June 1 (24 Hours) BDL(DL:0.01) 5 Manganese as Mn micro gm/m3 USEPA-IO 3.4: June Not Specified BDL(DL:0.01) 6 Nickel as NI USEPA-IO 3.4, June ng/m3 20 (Annual) BDL(DL:5.0) Opinion :

Limit as per CPC8 notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA.

BRIA

- END ------

Reviewed By, Signature P yo Ľ l Nama Ms. Piel Garquiy Designation 1 Executive Chemist

Authorized Signatory Stinature Name Designation : /Lab In ch

The results relate only to the item(s) tested.

The results relate only to the team(e) tented. This Teat Report shall not be reproduced except in Sull, without the permission of Mitte S.K. Private Limited. The reserved part of sample(s) for chemical analysis (Non - parathable sample(s) Food, Water) shall be relained for 15 days from the date of assue of the Test Report. Percenable sample(s) shall be relained 2 days from the date of lance of the Test Report. The reserved part of sample(s) for Microbiological analysis (Soit & Liquid Water) shall be relained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - penaltable sample(s) Food, Sealed Water, Sealed Scot) shall be relained for 15 days from the date of issue of the Test Report.

Head Office: Strach Centre (Sh Floor), 748, A.J.C. Bose Road, Kolusta -700016, West Bangel, India. Tel - 51 33 40143000 / 22650007 Fax.- 51 33 22550008 Email : info@mtmla.com Website : www.mtrask.com

Address of Branch :

P.O. Barbil Dt Keonfhar Orissa 758 835



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TEST REPORT

Name & Address of Customer : Tata Steel Ltd.(MGM) Joda West

 Report No. :
 MSKGL/ED/2023-24/004620

 Date :
 12/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00016

 Reference No. & Date :
 3000156017/056. Date - 15/09/2023

At/Pol, - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

2 Deservation of the second se	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Tinngpahar Iron & Mn. Mines TIMM
5. Place of sampling	30/01/2024
6. Environmental conditions during sampling & Transport	Near Gunuda PIT Office TIMM
7. Sampling Plan & Method used	Clear & Sunny
	NA

Report No. : MSKGL/ED/2023-24/004620

Sample No. : MSKGL/ED/2023-24/02/00016

RESULT

nalysis	Result of Ambient Air	N. Lawrence	HLOOL1		
SI No.	Parameter	UOM	Method		
1	Ammonia (NH3)	micro gm/m3	15.5182 (Part 25)	Limit	Result
2	Carbon Monoxide (CO)			400 24 HR.	BDL(OL:10.0
-		mg/m3	IS 5182 : Part 10 :1999 (Reaff 2014) (NDIR) (O)	2 8HR	0.46
3	Nitrogen Diexide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Realf 2012) (0)		0.40
4	Ozone (O3)	micro gm/m3		80'24 HR	20.7
5	Panticulate Matter (<10um)	Contractory of the Contractory o	IS 5182 (Part 9)	180 1 HR.	BDL(DL:20.0)
6		micro gnvin3	IS 5182: Part 23:2006 (Reaff. 2012)_(O)	100 24 HR.	201
7	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24).2019 (O)	60 24 HR.	105
A. I	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Reaff:2012) (O)	80.24 HP	19/0

- END -----

Report Verified By (



For Mitra S. K. Private Limited

Authorised Signatory

Head Office: Shischi Centre (5h Stoor), 240, A.J.C. Bose Roed, Kollada - 200018, West Bungst, India Tet. - 91 33-40143000 (2265080/ Fax: - 81 33-2265008) Emid: Infogorityeek.com Website: www.rntrask.com

Page 1 of 1

Mitra S. K. Private Limited			(NEK	
Building No. P. 48. Udayan Industrial Estate, 3. Pagladanga Road, Kolkata 700015 West Bangal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	TC	6950	Scan for Portal	
	TEST	REPORT		
Name & Address of Customer :	Report No. :		MSKPL/ED/2023-24/E121B1	
Tata Steel Ltd.(MGM)_Jods West	Date :		10/02/2024	
At/Po Joda, Disl Keonjhar, Odisha - 758034 India	Date(s) Locatio Referen Discipli	receipt of sample: of performance: n of performance of ice No. & Date : ne:	MSKNB/ED/2023-24/02/TH2Z8J 02/02/2024 02/02/2024 - 10/02/2024 Permanent Facility 3000156017/056, Date - 16/09/2023 Chemical	
We hereby cartify that the following sample Drawn by us has bee	en analyzed wi	th the following results:		
1. Group		Atmospheric Pollution		
2. Description of sample		Ambient Air		
3. Unique Identification of sample(if any)		NA		
4. Date of sampling		30/01/2024		
5. Place of sampling	1	Near Guruda Shorting Yard- Ti	MM	
6. Environmental conditions during sampling & Transport		1) Temperature :18-33 deg C 2 No & Cold Chain Maintained	Barometric Pressure: 735 mm of Hg 3) Rain fall	

No & Cold Chain Maintained 7. Sampling Plan & Method used 15:5182(P-11,12) & USEPA 8. Identification of the personnel performing sampling by MSK LALIN NAIK 9. Field Equipments Used MSK/BBL/FIELD/RDS-9

Report No. : MSKPL/ED/2023-24/E121B1

RESULT

Sample No.: MSKNB/ED/2023-24/02/TH2Z8J

SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	
2	Banzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL:0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June		BDL(DL:0.01)
8	Nickel as Ni	Em/gn	USEPA-IO 3.4, June	Not Specified 20 (Annual)	0.14

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

- END -----

Reviewed By: Signature . yoy Nome Ms. Fiel Ganguly Designation Executive Chemist

Authorized Signatory, Signature Name Designation Lab In cha

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Head Office: Stracti Centre (Str. Floor), 748, A.J.C. Bone Road, Kolkata - 700216, West Sengel, India. Tel: 91.33.40143000 / 20650007 Fax: 91.30.2050008 Email: HogBmitrask.com Website: www.mitrask.com

Address of Branch : P.O. Barbil Di Kuonjhar Orissa 758 035



ESTING #INSPECTION

Scan for Portal

TEST REPORT

Name 8	Address o	f Customer	1
Take Charles		S113352	

Tata Steel Ltd.(MGM)_Joda West

AMPo. - Joda. Dist. - Keonjhur, Odishu - 758034 India Pin

 Report No. :
 MSKGL/ED/2023-24/004609

 Date :
 10/02/2024

 Sample No. :
 MSKGL/ED/2023-24/02/00015

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

AIR
Ambient Air
Tringpahar Iron & Mn. Mines TIMM
30/01/2024
Near Guruda Shorting Yard- TIMM
Clear & Sunny NA

Report No. : MSKGL/ED/2023-24/004609

Sample No. : MSKGL/ED/2023-24/02/00015

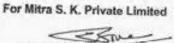
RESULT

Analysis	Result of Ambient Alr		REGOLI		
SI No.	Parameter	NON	Method	Limit	T
1	Ammonia (NH3)	micro gm/m3	IS 5182 (Part 25)		Result
2	Carbon Monaxide (CO)	ma/m3	IS 5182 : Part 10 :1999 (Reaff 2014)	400 24 HR.	10.2
3			(NDIR)_(O)	2 8HR.	0.48
	Nitrogen Dioxide (NO2)	miczo gm/m3	IS 5182 : Part 6 :2006 (Reaff 2012) (O)	80 24 HR.	20.1
	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	180 1 HR	BDL(DL:20.0
0	Particulate Matter (<10um)	micro gm/m3	IS 5182: Part 23:2008 (Reaft, 2012) (0)	100 24 HR.	
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	175
7	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realf 2012) (O)	80 24 HR	93

----- END ------

Report Verified By





Authorised Signatory

Head Office: Stractic Centre (Sei Floor) 740, A.J.C. Bose Russ, Koloste - 700016, West Bergal, India Tel. 91 33 40143000 / 22460007 Fax: 31 33 7265000 Email: Indigmetrialik.com Wolcele : www.rstrask.com

Page 1 of 1

Address of Laboratory :				
Building No. P- 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com	Tet	5950	TESTING + INSPECTIO Scan for Portal ULR: TC-695024000002166F	
	TEST	REPORT		
Name & Address of Customer :	Report I	No.:	MSKPL/ED/2023-24/L121B6	
Tata Steel Ltd.(MGM)_Joda West	Date :		10/02/2024	
	Sample No. :		MSKNB/ED/2023-24/02/SP0B6X	
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:		02/02/2024	
	Date(s) of performance:		02/02/2024 - 10/02/2024	
	Location of performance of		Permanent Facility	
	Reference No. & Date :		3000156017/056, Date - 16/09/2023	
	Disciplin	ne:	Chemical	
We hereby cartify that the following sample Drawn by us has i	been analyzed wit	th the following results		
1. Group	the second se	Atmospheric Pollution		
2. Description of sample		Ambient Air		
3. Unique Identification of sample(if any)		NA		
4. Date of sampling	1	30/01/2024		
5. Place of sampling	P	Near Guruda View Point-TIMM		
Environmental and different set		Temperature di 26 de con		

6. Environmental conditions during sampling & Transport	1) Temperature : 18-33 deg C 2) Barometric Pressure: 735 mm of Hg 3) Rain fall :
7. Sampling Plan & Method used	No & Cold Chein Maintained IS-5162(P-11,12) & USEPA
8. Identification of the personnel performing sampling by MSK	LALIN NAJK
9. Field Equipments Used	MSK/BBL/FIELD/RDS-7

Report No. : MSKPL/ED/2023-24/L12186

Sample No. : MSKNB/ED/2023-24/02/SP0B6X

RESULT

hemical					
SI No.	Parameter	UOM	Method	Limit	Result
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	
2	Benzene	micro gm/m3	IS 5182 (Part 11)	5 (Annual)	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	1 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro gm/m3	USEPA-IO 3.4, June	1 (24 Hours)	BDL(DL.0.5)
5	Manganese as Mn	micro gm/m3	USEPA-IO 3.4: June	Not Specified	0.03
6	Nickel as Ni	ng/m3	USEPA-IO 3.4, June	20 (Annual)	0.31

--- END -----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

Reviewed By: Signature d Nami Ms. Pial Ganguly Designation : Executive Chemiat

Authorized Sig Signature Name Soj D Atomotivay Designation : Lab In charge

The results relate only to the item(s) tosted. This Test Report shall not be reproduced except in full, without the permission of Mica S.K. Private Linsted The reserved part of sample(s) for chemical analysis (Non - pertentiate sample(s) Food, Water) shall be retained for 15 days from the date of issue of the Test Report. Periethable sample(s) shall be retained 2 days from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Sol, Sold & Lipuid Wester) shall be retained for 15 days as per CPCB guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for chemical analysis (Non - pershable sample(s) Food, Sealed Wester, Sealed food) shall be estimed for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Wester, Sealed food) shall be estimed for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Wester, Sealed food) shall be estimed for 15 days from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Wester, Sealed food) shall be estimed for 15 days from the date of issue of the Test Report.

Head Office: Structs Centre (Sth Floor), 74B, A J.C. Bose Road, Kokala - 700016, West Bengel, India. Tel. : 91.33.40140000 / 22650007 Fax:: 91.33.22650008 Email : #fo@mitrask.com Website : www.mitrask.com

Address of Branch :

P.O. Barbil Dt Koonjhar Orisea 758 035



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TEST REPORT Report No. :

Date :

Tata Steel Ltd.(MGM) Joda West

Name & Address of Customer :

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Sample No. :

Reference No. & Date :

MSKGL/ED/2023-24/004615 10/02/2024 MSKGL/ED/2023-24/02/00014 3000156017/056, Date - 15/09/2023

We hereby certily that the following sample Drawn by us has been analyzed with the following results.

2. Description of sample	AIR
3. Unique Identification of a	Ambient Air
3. Unique Identification of sample(if any) 4. Date of sampling	Tiringpahar Iron & Mo. Mines TIMM
5. Place of sampling	30/01/2024
6. Environmental conditions during sampling & Transport	Near Gurude View Point-TIMM
7. Sampling Plan & Method used	Clear & Sunny
A CONTRACTOR OF A CONTRACTOR OFTA CONT	NA

Report No. : MSKGL/ED/2023-24/004615

Sample No. : MSKGL/ED/2023-24/02/00014

RESULT

SI No.	Parameter	UOM	Method		1
1	Ammonia (NH3)	riticro gm/m3	. 1733/02015/1	Limit	Result
2		mere ground	15 5182 (Part 25)	400 24 HR.	10.5
-	Carbon Monoxide (CO)	Emigen 2	IS 5182 : Part 10 - 1999 (Realf 2014) (NDIR) (O)	2 8HR.	0.28
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Realf 2012) (0)		0.20
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	80 24 HR	20,1
5	Particulate Matter (<10um)	micro gmini3		180 1 HR	BDL(DL:20.0
6	Particulate Matter (<2.5um)	and the second se	IS 5182: Part 23:2006 (Realf. 2012). (O)	100 24 HR	157
7	Sulphur Dioxide (SO2)	micro gru/m3	IS 5182 (PT-24),2019 (O)	60 24 HR	75
	and the second second	micro genin3	15 5182 Part 2 2001 (Reaff 2012) (0)	80 24 HR	BDL(DL:6.0

---- END ------

Report Verified By



For Mitra S. K. Private Limited

Authorised Signatory

Hoad Office: Shack Contro (Mt Floor), 740, A.J.C. Bose Road, Kollecta - 700016, West Berryol, India, Tel., 95 33 40543300 / 22650007 Fax: \$1.53 52650008 Email: Info@infeask.com Webste: www.chtabk.com

Page 1 of 1

Address of Laboratory :		M5K
Building No. P. 48, Udayan Industrial Estate, 3, Pagladanga Road, Kolkata 700015 West Bengal Tel.: +91 7044036120 Email: udayantab@mitrask.com	TC-6950	Scan for Portal ULR: TC-695024000001845F
	TEST REPORT	2011 10-0302400001343F
Name & Address of Customer :	Report No. :	NEVEL EDISON DUTIN
Tata Steel Ltd.(MGM)_Joda West	Date :	MSKPL/ED/2023-24/F12169 06/02/2024
At/Po Joda, Dist Keonjhar, Odisha - 758034 India	Sample No. : Date of receipt of sample:	MSKNB/ED/2023-24/01/2D451A 27/01/2024
	Date(s) of performance:	27/01/2024 - 06/02/2024
	Location of performance of	Permanent Facility
	Reference No. & Date : Discipline:	3000156017/056, Date - 16/09/2023
We hereby certify that the following serante Draws hours have		Chemical

ify that the following sample Drawn by us has been analyzed with the following results:

1. Group	Laboratoria de la construcción d
2. Description of sample	Atmospheric Pollution
3. Unique Identification of sample(if any)	Amblent air
4. Date of sampling	NA
5. Place of sampling	24/01/2024
	Guruda Village
6. Environmental conditions during sampling & Transport	1) Temperature :16-31 deg C 2) Barometric Pressure: 734 mm of Hg 3) Rain fall
7. Sampling Plan & Method used	Trace was repaired to the second
8. Identification of the personnel performing sampling by MSK	15:5182(P-11,12) & USEPA
9. Field Equipments Used	Pratik Kr.Mantri, Lalin Naik,
and a second second	MSK/BBL/FIELD/RDS-18

Report No. : MSKPL/ED/2023-24/F12169

RESULT

Sample No. :	MSKNB/ED/2023-24/01/2D451A

Chemical	and the second second				
SI No.	Parameter	UOM	Method	Limit	T Decim
1	Arsenic as (As)	ng/m3	USEPA-IO 3.4, June	6 (Annual)	Result
2	Benzene	micro gm/m3	IS 5182 (Part 11)	I CONTRACTOR OF A CONTRACTOR OF	BDL(DL:1.0)
3	Benzo(a)Pyrene	ng/m3	IS 5182 (Part 12)	5 (Annual)	BDL(DL:4.2)
4	Lead (as Pb)	micro am/m3	USEPA-IO 3.4, June	1 (Annual)	BOL(DL:0.5)
5	Manganese as Mn	micro gm/m3		1 (24 Hours)	BDL(DL:0.01)
6	Nickel as Ni		USEPA-IO 3.4: June	Not Specified	0.19
pinion :		ng/m3	USEPA-IO 3.4, June	20 (Annual)	BOL(DL:5.0)

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

Statement of Conformity NA

--- END -----

Reviewed By:

Signature

Name

Designation | Executive Chemiat

Authorized Signatory Signature Name Dr. Souglass Designation : Lab In charge

0

Ms. Plat Garguly

The results retere only to the liven(a) tested. This Test Report shall not be reproduced ducept in full, without the permission of Mitra S.K. Private Landed. This reserved part of sample(a) for chemical analysis (Non - perishable sample(a) Foot, Water) shall be retained for 15 days from the date of issue of the Test Report. Perishable sample(a) shall be retained 2 days from the date of sample(a) for chemical analysis (Non - perishable sample(a) Foot, Water) shall be retained for 15 days as per CPCB guideline 8. (Ar) 1 month from the date of issue of the Test Report. The reserved part of sample(a) for chemical analysis (Non - perishable sample(a) Foot, Sealed Vater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(a) for discribiciogipal analysis (Non - perishable sample(a) Foot, Sealed Vater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report. The reserved part of sample(a) for discribiciogipal analysis (Non - perishable sample(a) Foot, Sealed Vater, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Head Office: Stractil Centre (Sin Floor), 748, A.J.C. Bose Road, Kokata - 700018, West Bengal, India. Tel: 01 33 40143000 / 20030007 Fax: 91 33 2055000 Enail: Hoggintrask.com Website: www.mitrask.com

Address of Branch :

P.O. Barbil Dt Keonjhar Orissa 758 035



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TEST REPORT

Name & Address of Customer :

Tata Steel Ltd.(MGM)_Joda West

 Report No. :
 MSKGL/ED/2023-24/004588

 Date :
 10/02/2024

 Sample No, :
 MSKGL/ED/2023-24/01/01108

 Reference No. & Date :
 3000156017/056, Date - 15/09/2023

At/Po. - Juda. Dist. - Keonjhar, Odisha - 758034 India Pin

We hereby certify that the following sample Drawn by us has been analyzed with the following results:

7. Group	AIR
2. Description of sample	Ambient Air
3. Unique Identification of sample(if any)	Tiningpalvar Iron & Mn. Minus TIMM
4. Date of sampling	24/01/2024
5. Place of sampling	Guruda Village (Buffer Zone)
5. Environmental conditions during sampling & Transport	Clear & Sunny
7, Sampling Plan & Method used	NA

Report No. : MSKGL/ED/2023-24/004568

Sample No. : MSKGL/ED/2023-24/01/01108

RESULT

SI NO.	Parameter	UOM	Method		
1	Ammonia (NH3)	micro gm/m3	in pressed	Limit	Result
14.1	and the second se	micro grams	IS 5182 (Part 25)	400 24 HR,	15.2
2	Carbon Monoxide (CO)	mg/m3	IS 5182 : Part 10 :1999 (Realf 2014) (NDIR) (O)	2 8HR.	0,41
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff 2012) _(O)	80 24 HR	
4	Ozone (O3)	micro gm/m3	IS 5182 (Part 9)	Contract of the second second	22.2
5	Particulate Matter (<10um)	micro gm/m3		180 1 HR.	BDL(DL-20.0
6	Particulate Matter (<2.5um)		IS 5182: Part 23:2006 (Reaff. 2012)_(0)	100.24 HR.	161
2		micro gm/m3	IS 5182 (PT-24),2019_(O)	60 24 HR	78
1	Sulphur Dioxide (SO2)	micro gm/m3	IS 5182 : Part 2 :2001 (Realt 2012) (O)	80 24 HR	7.6

---- END -----

Report Verified By (18)

Head Office: Bhach Cente (58: Root) 748; A.J.C. Bose Roat, Kolkets - 700016; West Bengal, India. Tel., 91 33:40140009 / 2203007 Fax: 91 33 22650008 Email: Indightelmaik.com Website: www.rolketk.com For Mitra S. K. Private Limited

Authorised Signatory

Page 1 of 1

Address of Laboratory : Building No. P- 48. Udayan Industrial Estate,		-		
3, Pagladanga Road, Kolkata 700015 West Bengal Tel. : +91 7044036120 Email: udayanlab@mitrask.com			TESTING + INSPECTION	
5	Ded		Scan for Portal	
	TC-6950		ULR: TC-695024000001732F	
	TEST REP	ORT		
Name & Address of Customer :	Report No. :	2222	MOVEL ED DODD OL DUDDDD	
Tata Steel Ltd.(MGM)_Joda West	Date :		MSKPL/ED/2023-24/0120CR 05/02/2024	
	Sample No. :		MSKNB/ED/2023-24/01/YT2729	
At/Po, - Joda, Dist Keonjhar, Odisha - 758034 India	Date of receipt of sample:		20/01/2024	
	Date(s) of performance:		20/01/2024 - 05/02/2024	
	Location of per	formance of	Permanent Facility	
	Reference No.	& Date :	3000156017/058, Date - 16/09/2023	
	Discipline:		Chemical	
We hereby certify that the following sample Drawn by us has I	oen analyzed with the foll	າມທັກກາ ກາວເປັນ		
1. Group	and the second se	ric Pollution		
2. Description of sample	Ambient /			
3. Unique Identification of sample(if any)	NA			
4. Date of sampling	17/01/202			
5. Place of sampling		IGH SCHOOL		

JAJANG HIGH SCHOOL

No & Cold Chain Maintained

PRATIK KUMAR MANTRI, DAMBARUDHAR DAS

IS:5182(P-11,12) & USEPA

MSK/BBL/FIELD/RDS-14

RESULT

Method

USEPA-IO 3.4, June

IS 5182 (Part 11)

IS 5182 (Part 12)

USEPA-IO 3.4, June

USEPA-IO 3.4: June

USEPA-IO 3.4, June

- END -----

Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality

UOM

ng/m3

micro gm/m3

ng/m3

micro gm/m3

micro gm/m3

ng/m3

1) Temperature :11-27 deg C 2) Barometric Pressure: 732 mm of Hg 3) Rain fall :

Sample No. : MSKNB/ED/2023-24/01/YT2729

Limit

6 (Annual)

5 (Annual)

1 (Annual)

1 (24 Hours)

Not Specified

20 (Annual)

Authorized Sign

Signature

Designation

Lab b

Designation | Technical In charge

albanery

Dr. Devotan Bener

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11

6. Environmental conditions during sampling & Transport

8. Identification of the personnel performing sampling by MSK

7. Sampling Plan & Method used

Report No. : MSKPL/ED/2023-24/0120CR

Parameter

Arsenic as (As)

Benzene

Benzo(a)Pyrene

Lead (as Pb)

Manganese as Mn

Nickel as Ni

NA

9. Field Equipments Used

Chemical Si No.

1

2

3

4

5

6

Opinion :

Reviewed By:

Signature

Natia

Statement of Conformity

The reserved pert of sample(s) for chemical analysis (Non - pershable sample(s) Foot, Weiler) shall be relained for 15 days from the date of issue of the Test Report. Pershable sample(s) shall be relained 2 days

The reserved part of sample(s) for chemical analysis (Soll, Solid & Liquid Waste) shall be relatived for 15 days as per CPC8 guideline & (Air) 1 month from the date of issue of the Test Report. The reserved part of sample(s) for Microbiological analysis (Non - pershable sample(s) Food, Sealed Water, Sealed food) shall be retained for 15 days from the date of issue of the Test Report.

Head Office: Strach Cantre (5th Floor), 748, A.J.C. Bose Roat, Kokata - 700015, West Bengal, India. Tel.: p1 33 40143000 / 20100007 Fax: 91 33 22650008 Email: vrfogenitnask con: Website : www.mitrask.com

Page 1 of 1

Result

BDL(DL-1.0)

BDL(DL:4.2)

BDL(DL:0.5)

BDL(DL:0.01)

0.02

BDL(DL:5.0)

Address of Branch : P.O. Barbil Di Keonjhar Orissa 758 035



TESTING + INSPECTION

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TEST REPORT

Name	& Address	of Customer :	

Tata Steel Ltd.(MGM)_Joda West

At/Po. - Joda, Dist. - Keonjhar, Odisha - 758034 India Pin

Report No. : MSKGL/ED/2023-24/004470 Date : 10/02/2024 Sample No. : MSKGL/ED/2023-24/01/00626 Reference No. & Date : 3000156017, Date - 28/09/2023

We hereby certify that the following sample Drawn by us has been analyzed with the following results.

1. Group	AIR
2. Description of sample	Ambient Air (Butter zono)
3. Unique Identification of sample(if any)	Tringpahar Iron & Mn. Mines
4. Date of sampling	17/01/2024
5. Place of sampling	
5. Environmental conditions during sampling & Transport	Jajang High School
7. Sampling Plan & Method used	Clear & Sunny
And a second second second second second	NA

Report No. : MSKGL/ED/2023-24/004470

and an and a second

Sample No. : MSKGL/ED/2023-24/01/00626

RESULT

SI No.	Parameter	UOM	Method	Limit	
1	Ammonia (NH3)	micro gm/m3		Press	Result
		micro ginenta	IS 5182 (Part 25)	400 24 HR.	BDL(DL:10.0)
2	Carbon Monoxide (CO)	Em/gm	IS 5182 ; Part 10 ;1999 (Realt 2014) (NDIR) (O)	2 8HR,	0.34
3	Nitrogen Dioxide (NO2)	micro gm/m3	IS 5182 : Part 6 :2006 (Reaff 2012) (O)	05 54 105	-
4	Ozone (O3)	micro gm/m3	and the second se	80 24 HR	18,6
5	Particulate Matter (<10um)	Contraction of Station of Station	IS 5182 (Part 9)	160 1 HR	BOL(DL-20.0)
		micro gm/m3	IS 5182: Part 23:2006 (Reaff, 2012) (O)	100 24 HR.	144
6	Particulate Matter (<2.5um)	micro gm/m3	IS 5182 (PT-24),2019 (O)	60 24 HR.	
7	Sulphur Dioxide (SO2)	Emilaro gnuma		Contraction of the local data in the local data	71
		The present I	IS 5182 : Part 2 :2001 (Realf.2012) (O)	80 24 HR	BDL(0L.6.0)

---- END ------





For Mitra S. K. Private Limited

Head Office: Strach Caree of Tel. BT 33 and

Stracki Contro (Sh Floor), 748, A.J.C. Bose Road, Kolkato - 700016, West Bangal, India Tot . \$1.33 40140500 / 22550007 Fax: \$1.53 22850008 Email: indo@mitsaik.com Watalde: www.netrask.com

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Anacon Laboratories



Anacon Laboratories Pvt. Ltd. Nagpur Lab 9 FP-34, 35, Food Park, Five Star Industrial Estate, MIDC Butbori, Nagpur, Maharashtra, India - 441 122 4+91 8045685558 B Email: into@anacon.in https://www.anacontaboratories.com

Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-November-2023

Report No.: AN/AAQ/TS-JEIM/2023/1-6			Date: 04/12/2023		
Name and Address of	M/s Tiringpahad Iron & Manganese Mine		W. O. No.	4700098928/962	
Industry:-	(M/s TATA St	eel Limited)	· , W. O. date:	22/03/2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22112023/ENV-283-11/JEIM-CZ/AAQMS-11 ALPL/22112023/ENV-283-12/JEIM-CZ/AAQMS-12		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	6,13,20,27 November-2023 & 2-December-2023		
Test Started On:-	6,13,20,27 Nov-2023 & 2- Dec-2023	Test Completed On:-	7,16,21,28 November-2023& 4-Dec-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PMse µg/m ³	PM28 µg/m ³	SO2 µg/m ³	NO2 µg/m ³	CO mg/m ³
	Method Reference	7	65 5 182 (Pwrt 23)	USEPA-40 (Part 50)	15:5182 (Part-2)	655182 (Part-6)	15:5182 (Part-10)
		04/11/2023	62.9	20,3	12.0	26.8	BDL (DL - 0.5
	1 1 1 C	08/11/2023	60,2	19.4	10.8	26.0	8DL (DL-0.5
101	Near Guruda	11/11/2023	53.6	18.2	10.3	25.6	BDL (DL - 0.5
AOMS-11	Sorting Yard-	17/11/2023	58.1	19.7	11.2	26.1	BDL (DL-0.5
	TIMM	22/11/2023	61.5	23,8	12.9	27.9	8DL (DL-0.5
	Coon	25/11/2023	60.2	19.3	12.0	26.4	BDL (DL-0.5)
		27/11/2023	54.5	18.2	11.2	27.8	BDL (DL-0.5)
-		30/11/2023	56.9	20.0	12.9	26.6	BDL (DL -0.5
	Monthly Average V	alue	58.5	19.9	11.7	26.7	BDL (DL-0.5
		04/11/2023	58.2	27.0	15.3	19.7	BDL (DL-0.5)
	08/11/2023	62.8	21.3	14.7	23.9 -	BDL (DL-0.5)	
	Near Guruda	11/11/2023	62.8	21.5	12.0	21.8	BDL (DL-0.5)
AQMS-12	Project Office-	17/11/2023	57,3	18.5	11.2	25.1	BDL (DL-0.5)
angino in	TIMM	22/11/2023	63.9	25.9	12.6	27.4	BDL (DL-0.5)
	LINIM .	25/11/2023	57.1	20.4	13.3	28.0	BDL (DL-0.5)
	5 2	27/11/2023	54.2	18.8	11.8	17.2	BDL (DL-0.5)
		30/11/2023	58.3	21.3	12.7	27.9	BDL (DL-0.5)
	Monthly Average Va	due	59.3	21.8	13.0	23.9	BDL (DL-0.5)

NOTES:
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BDL- Belaw detertion finit. Remark: - All Results are within Limit as per CPCB Standards.

Verified by

Snehal Raut Deputy Technical Manager Authorized Signatory

1 au

Dr. (Mrs.) S. D. Garway Quality Manager



Thank you for instilling your trust and faith in our services. We cherish our relationship with you, and we put in a lot of hard work in making sure that you get a seamless experience at every stage of your interaction with us. In our constant endeavor towards ensuring that your next experience will be significantly better than the current one, we welcome your feedback on feedback@anacon.in.

----End of Report----

Anacon Laboratories Pvt. Ltd. Nagpur Lab

 FP-34, 35 Food Park, Five Star Industrial Estate, MIDC Butibori, Nagpur, Maharashtra, India - 441 122 + 91 8045685558 Email : info@anacon.in https://www.anaconiaboratories.com

Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-November-2023

Report No.: AN/AAQ/TS-JEIM/2023/1-7			Date: 04/12/2023		
Name and Address of	M/s Tiringpahad Iron & Manganese Mine		W. O. No.	4700098928/962	
Industry:-	(M/s TATA St	eel Limited)	, W. O. date:	22/03/2022	
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/22112023/ENV-283-13/JEIM-CZ/AAQM		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	6,13,20,27 November-2023 & 2-December-2023		
Test Started On:-	6,13,20,27 Nov-2023 & 2 Dec-2023	Test Completed On-	7,16,21.28 November-2023& 4-Dec-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM10 µg/m3	PM25 µg/m ³	SO2 µg/m ³	NO2 µg/m ³	CO mg/m ³
	Method Reference		15 5182 (Part 23)	USEPA 40 (Part 50)	0.5182 (Part-2)	15.5182 · (Part-6)	6:5182 (Part-10)
	04/11/2023	63.6	23.7	15.0	28,9	BDL (DL-0.5)	
		68/11/2023	70.2	28.8	16.4	36.1	BDL (DL-0.5)
AAQMS-13 Near Guruda View	11/11/2023	68.1	26.8	17.2	31.6	BDL (DL-0.5)	
	17/11/2023	64.6	23.7	15.3	28,9	BDL (DL-0.5)	
1.10	Point-TIMM	22/11/2023	70.2	28.2	17.4	37.8	BDL (DL-0.5)
		25/11/2023	64.0	28.2	12.8	34.3	BDL (DL-0.5)
	27/11/2023	63.4	21.8	11.8	29.1	8DL (DL-0.5)	
		30/11/2023	68.1	25.9	15.2	34.8	BDL (DL-0.5)
	Monthly Average Val	ue	66.5	25.9	15.1	32.7	BDL (DL-0.5)

NOTES:
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• BDL- Below detection limit.

Remark: - All Results are within I imit as per CPCB Standards.

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Snehaf Raut

Deputy Technical Manager

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Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



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Test Report

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Ambient Air Quality Monitoring Report-November-2023

Report No.: AN/AAQ/T	E IEBADOSSU 13	- Anno - Maran			
Report No.: ANAAQAL	1		Date: 04/12/2023		
Name and Address of	M/s Tiringpahad Ire	on & Manganese Mine	W. O. No.		
Industry:-		Steel Limited)	4700098928/962 22.03.2022		
Sample Description/Type	Ambient Air Quality (Buffer Zone)	Sample Ref. No.:-	ALPL/22112023/ENV-283-24/JEIM-BZ/AAQMS-11 & ALPL/22112023/ENV-283-25/JEIM-BZ/AAQMS-12		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	13-November-2023		
Test Started On:-	17-November-2023	Test Completed On:-	18-November-2023		
Sampling Procedure	ANtd/7.2/Mon-01		4		

Sr. No.	LOCATION	Date of sampling	- PM10 μg/m ³	PM24 µg/m ³	SO ₂ µg/m ³	NO₂ µg/m³	CO mg/m ³
	Method Reference		IS 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
AAQMS-11	Jajang High School	11/11/2023	52.9	23.4	9.1	21.6	BDL (DL-0.5)
	Monthly Averag	e Value	52.9	23.4	9.1	21.6	BDL (DL-0.5)
AAQMS-12	Jurudi Village	11/11/2023	51.6	17.3	7.6	18.4	BDL (DL-0.5)
	Monthly Averag	e Value	51.6	17.3	7.6	18.4	BDL (DL-0.5)
1.1	NAAQM Standard		100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8hrs)

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BDL- Below detection limit.

Remark: - All Results are within Limit as per CPCB Standards.

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Snehal Raut

Deputy Technical Manager

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Dr. (Mrs.) S. D. Garway Quality Manager





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Test Report

Fugitive Emission Monitoring	Report-November-2023
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Report No.: AN/FE/TS-JEIM	1/2023/1-15	104-046	Date: 30/11/2023
Name and Address of Industry:-	M/s Tiringpahad Iron & Manganese Mine (M/s TATA Steel Limited)		W. O. No. 4700098928/962 22.03.2022
Sample Description/Type	Fugitive Emission	Sample Ref. No.:-	ALPL/22112023/ENV-283- /JEIM/FE-1 to 12
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	27/11/2023
Test Started On:-	28/11/2023	Test Completed On:-	28/11/2023
Sampling Procedure	ANtd/7.2/Mon-01		

l. No.	Location Name	Date of sampling	TSPM µg/m ³
3		Method Reference	IS 5182 (Part 23)
FE-1 H	Haul Road Near Guruda	20/11/2023	673
FE-2 5	Sorting Yard Guruda	20/11/2023	491
FE-3 1	Near View Point Mine Guruda	20/11/2023	564
FE-4 N	Near Screen Plant	20/11/2023	492
i x	MoEF & CC Norms:	1200	µg/m³

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Snehal Raut

Deputy Technical Manager

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Dr. (Mrs.) S. D. Garway Quality Manager



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Test Report

Page 1 of 1

Ambient Air Quality Monitoring Report-October-20.	Ambient Air Quality Monitor	ring Report-October-2023	3
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Report No.: AN/AAQ/TS-J			Date: 03	3/11/2023
Name and Address of	Brand Iton & Manganese Mine		W. O. No.	4700098928/962
Industry:-	(M/s TATA St	teel Limited)	, W. O. date:	22/03/2022
Sample Description/ Type	Ambient Air Quality (Core Zone)	Sample Ref. No.:-	ALPL/23102023/ENV-261-11/JEIM-CZ/AAQMS- ALPL/23102023/ENV-261-12/JEIM-CZ/AAQM 9,16,23,30 October -2023 10,17,25,31 October -2023	
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-		
Test Started On:-	9,16,23,30 October-2023	Test Completed On:-		
Sampling Procedure	ANtd/7.2/Mon-01			

Sr. No.	LOCATION	Date of sampling	PMas µg/m ³	PM25 µg/m ³	SO: pg/m ³	NO2 µg/m ³	CO mg/m ³
	Method Reference		15 5182 (Part 23)	(Part 50)	(Part-2)	(5.5182 (Part-6)	(Part-10)
	1 1	04/10/2023	59.7	19.6	10.3	24.7	BDL (DL - 0.5
		07/10/2023	61.1	22.1	9.4	26.2	BDL (DL - 0.5
	Near Guruda	11/10/2023	65.5	23.8	10.5	23.8	BDL (DL - 0.5
AAOMS-11	Sorting Yard-	14/10/2023	62.2	20.9	11.1	25.6	BDL: (DL - 0.5
	TIMM	18/10/2023	70.5	26.7	11.8	24.4	BDL (DL - 0.5
	2	21/10/2023	68.6	22.6	10.5	24.1	BDL (DL-0.5)
		25/10/2023	72.4	24.3	11.6	27.0	8DL (DL-0.5)
		28/10/2023	57.5	22.9	13.3	27.2	BDL (DL -0.5
	Monthly Average V	alue	64.7	22.9	11.1	25.4	BDL (DL = 0.5
		04/10/2023	65.3	040		12	
		07/10/2023	62.8	24.2	8.7 7.9	17.1	BDL (DL-0.5)
	Near Guruda	11/10/2023	68.3	25.4	6.5	15.3	BDL (DL-0.5)
AQMS-12	Project Office-	14/10/2023	70.6	26.7	8.7	18.0	BDL (DL-0.5) BDL (DL-0.5)
	TIMM	18/10/2023	56.7	23.4	8.3	15.3	BDL (DL-0.5)
-		21/10/2023	49.5	20.9	7.5	16.2	BDL (DL-0.5)
		25/10/2023	72.8	27.2	6.7	18.3	BDL (DL-0.5)
	11.01.1	28/10/2023	64.5	25.1	7.3	19.9	BDL (DL-0.5)
VTEC. e TT	Monthly Average Va	Jue	63.8	24.4	7.7	17.1	BDL (DL-0.5)

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Verified by

Snehal Raut

Deputy Technical Manager

---- End of Report----

Authorized Signatory

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Dr. (Mrs.) S. D. Garway Quality Manager



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Test Report

Page 1 of 1

Amment Air	Quality	Monitoring	Report-October-2023
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	teport No.: AN/AAQ/TS-JEIM/2023/1-7			3/11/2023	
Name and Address of Industry:-	Prese and Planta Hour	M/s Tiringpahad Iron & Manganese Mine (M/s TATA Steel Limited) Ambient Air Quality (Core Zone) Sample Ref. No.:-		4700098928/962	
	(M/s TATA St			22/03/2022	
Sample Description/ Type				I-13/JEIM-CZ/AAQMS-13	
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	9,16,23,30 October -2023		
Test Started On:-	9,16,23,30 October-2023	Test Completed On:-	10,17,25,31 October-2023		
Sampling Procedure	ANtd/7.2/Mon-01		223911 1 10002100		

Sr. No.	LOCATION	Date of sampling	PMus µg/m³	PM28 µg/m ³	SO: µg/m³	NO: µg/m³	CO mg/m ³	
	Method Scherence		IS 5182 (Part 23)	USEPA 40 (Part 50)	15.5182 (Part-2)	(5.5182 (Part-6)	(53182 (Part-10)	
		04/10/2023	61.8	22.6	11.6	26.2	BDL (DL-0.5)	
		07/10/2023	77.7	30.5	12.2	23.8	BDL (DL-0.5)	
		11/10/2023	73.6	28.4	10.8	29.4	BDL (DL-0.5)	
AAQMS-13	AAQMS-13 Near Guruda View Point-TIMM	0.255.05970.537450.57	14/10/2023	62.5	24.6	12.3	27.2	BDL (DL-0.5)
Second Street		18/10/2023	70.4	22.6	14.0	25.5	8DL (DL-0.5)	
		21/10/2023	60.6	25.5	13.3	25.9	BDL (D10.5)	
-67	11	25/10/2023	74.5	26.7	11.2	27.9	BDL (DL-0.5)	
	**	28/10/2023	63.1	23.8	12.3	30.5	BDL (DL-0.5)	
0.17.0	Monthly Average Val	ue	68.0	25.6	12.2	27.1	BDL (DL-0.5)	

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Remark:
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Verified by

SneMal Raut

Deputy Technical Manager

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Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager



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Test Report

Page 1 of 1

Report No.: AN/AAQ/TS-JEIM/2023/1-12			Date: 03/11/2023		
Name and Address of Industry:-	M/s Tiringpahad Iron & Manganese Mine (M/s TATA Steel Limited)		W. O. No. 4700098928/962 . 22,03.2022		
Sample Description/Type	Ambient Air Quality (Buffer Zone)	Sample Ref. No.:-	ALPL/23102023/ENV-261-24/JEIM-BZ/AAQMS-11 & ALPL/23102023/ENV-261-25/JEIM-BZ/AAQMS-12		
Sample Drawn By:-	Anacon Representative	Sample Inward Date:-	16-October-2023		
Test Started On:-	17-October-2023	Test Completed On:-	18-October-2023		
Sampling Procedure	ANtd/7.2/Mon-01				

Sr. No.	LOCATION	Date of sampling	PM10 µg/m3	PM2.5 µg/m ³	SO2 µg/m ³	NO2 µg/m ³	CO mg/m ³
	Method Reference		15 5182 (Part 23)	USEPA-40 (Part 50)	IS:5182 (Part-2)	IS:5182 (Part-6)	IS:5182 (Part-10)
AAQMS-11	Jajang High School	14/10/2023	51.3	17.2	8.4	16.9	BDL (DL-0.5)
	Monthly Averag	e Value	51.3	17.2	8.4	16.9	BDL (DL-0.5)
AAQMS-12	Jurudi Village	14/10/2023	47.1	15.6	7.3	16.2	BDL (DL-0.5)
	Monthly Averag	e Value	47.1	15.6	7.3	16.2	BDL (DL-0.5
	NAAQM Standard	1	100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8hrs)

NOTES:
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BBL-Below detection limit.

Remark: - All Results are within Limit as per CPCB Standards.

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Snehal Raut Deputy Technical Manager

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Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager





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Test Report

Fugitive Emission Report-October-2023 Report No.: AN/FE/TS-JEIM/2023/1-15 Date: 31/10/2023 W. O. No. Name and Address of M/s Tiringpahad Iron & Manganese Mine 4700098928/962 Industry:-(M/s TATA Steel Limited) 22.03.2022 ALPL/23102023/ENV-261-Sample Description/Type **Fugitive Emission** Sample Ref. No .:-/JEIM/FE-1 to 12 Sample Drawn By:-Anacon Representative Sample Inward Date:-23/10/2023 Test Started On:-23/10/2023 Test Completed On:-25/10/2023 Sampling Procedure ANtd/7.2/Mon-01

l. No.	Location Name	Date of sampling	TSPM µg/m³
		Method Reference	IS 5182 (Part 23)
FE-1	Haul Road Near Guruda	16/10/2023	- 794
FE-2	Sorting Yard Guruda	16/10/2023	381
FE-3	Near View Point Mine Guruda	16/10/2023	469
FE-4	Near Screen Plant	16/10/2023	421
91	MoEF & CC Norms:	1200	µg/m³

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Remark: - All Results are within Limit as per CPCB Standards.

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Snehal Raut

Deputy Technical Manager

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Authorized Signatory

Dr. (Mrs.) S. D. Garway Quality Manager





Fugitive Dust control Measures deployed at Tiringpahar Mine

NOISE MONITORING REPORT

At/P.O.:BARBIL Ward No-6 Dist.: Keonjhar, Odisha - 758035 CIN: U51909WB1956PTC023037

T : +91 94370 09815,94370 09820,94370 75269 E : barbil@mitrask.co.in

W: www.mitrask.com

Kepor	t No. MSKGL/ED/2023-24/005	059		Date	: 29.02.2024
	MONITO	ING REPORT OF AMB	IENT NOIS	F	12710212024
Name		TATA STEEL LIMITED		·**	
Name		NGPAHAR IRON & MANGA	NESE MINES	(TIMM)	
SL. Monitoring Location		Date Monitoring	Nois	se Level in d	B (A)
NO.		- dec riomtoring	Ld	Ln	Ldn
1.	BS Mining Work Shop	19/20.02.2024	60.5	59.1	59.9
2.	In Front of Admin Offic	e 19/20.02.2024	50.5	40.8	48.9
3.	Near Weigh Bridge	19/20.02.2024	61.9	57.7	60.5
4.	Mines View Plant	19/20.02.2024	66.7	63.1	
5.	Shorting Yard Rest Shelt				65.5
6.	250 meter from Screen Pl		60.8	57.7	59.8
		ant 20/21.02.2024	60.2	57.9	59.4

Note : Day Time : 6.00 AM -10.00 PM, Night Time: 10.00PM- 6.00AM

AMBIENT AIR QUALITY STANDARDS IN RESPECT OF NOISE AS PER CPCB GUIDELINES

AREA CODE	CATEGORY OF AREA / ZONE	LIMITS IN dB (A)	
		DAY TIME	NIGHT TIME
A	INDUSTRIAL AREA	75	70
В	COMMERCIAL AREA	65	55
C	RESIDENTIAL AREA	55	
D	SILENE ZONE		45
	SILENE LUNE	50	40

Checked by: 6

For Mitra S. K. Private Limited

Brandham

Authorised Signatory

H. O.: Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E:info@mitrask.com W: www.mitrask.com





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Noise Monitoring Report-November-2023

Report No.: AN/NE/TS-J	EIM/2023/1-19	Date:30/11/2023	
Name and Address of M/s Tiringpahad Iron & Manganese		W. O. No.	
Industry:-	(M/s TATA Steel Limited)		4700098928/962 date: 22.03.2022
Sample Description/Type	Noise Monitoring	Sample Ref. No.:-	ALPL/22112023/ENV-283-N/JEIM/NE-19 to 25
Sample Drawn By:-	Anacon Representative	Data Inward date:-	30/11/2023
Sampling Procedure	ANtd/7.2/Mon-01	Sampling Method	IS 9989:1981(R2001)

Sampling Date: 27/11/2023 to 29/11/2023.

	5a.	Result	s dB(A)
Sl. No.	Location Name	Day Time (6:00 am tọ 10:00pm)	Night Time (10:00 pm to 06:00am)
NE-1	B. S Mininig work shop -TIMM	67.1	56.3
NE-2	Infront of Admin Office -TIMM	51.9	48.1
NE-3	Near Weigh Birdge TIMM	64.3	57.6
NE-4	Sorting Yard Rest Sheltor -TIMM	53.1	42.7
NE-5	250 Mtrs from Screen Plant -TIMM	47.9	38.2
NE-6	Mines View Point - TIMM	67.6	54.7
Nor	Industrial Area	75.0	70.0
ms:	Commercial Area	65.0	55.0
115.	Residential Area	55.0	45.0

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Snehål Raut Deputy Technical Manager

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Dr. (Mrs.) S. D. Garway Quality Manager





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Page 4 of 4

Noise Monitoring Report-October-2023

Report No.: AN/NE/TS-J	EIM/2023/1-19	Date:31/10/2023	
Name and Address of	91		W. O. No.
Industry:-			4700098928/962 date: 22.03.2022
Sample Description/Type	Noise Monitoring	Sample Ref. No.:-	ALPL/23102023/ENV-261-N/JEIM/NE-19 to 25
Sample Drawn By:-	Anacon Representative	Data Inward date:-	30/10/2023
Sampling Procedure	ANtd/7.2/Mon-01	Sampling Method	IS 9989:1981(R2001)

Sampling Date: 23/10/2023 to 27/10/2023.

		Result	s dB(A)
Sl. No.	Location Name	Day Time (6:00 am to 10:00pm)	Night Time (10:00 pm to 06:00am)
NE-1	B. S Mininig work shop -TIMM	52.9	43.6
NE-2	Infront of Admin Office -TIMM	47.1	38.3
NE-23	Near Weigh Birdge TIMM	64.7	54.9
NE-4	Sorting Yard Rest Sheltor -TIMM	68.3	56.1
NE-5	250 Mtrs from Screen Plant -TIMM	61.9	58.2
NE-6	Mines View Point - TIMM	59.4	39.1
Nor	Industrial Area	75.0	70.0
ms:	Commercial Area	65.0	55.0
115.	Residential Area	55.0	45.0

NOTES: • Please see watermark "Original Test Report" to confirm the authenticity of this report. • Results shall be referred to tested sample(s) and applicable to tested parameters only. • Test report shall not be reproduced except in full without prior written approval of Anacon Labs.

Remark: - All Results are within Limit as per CPCB Standards.

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Snehal Raut Deputy Technical Manager

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Camp

Dr. (Mrs.) S. D. Garway Quality Manager



MANGANESE TESTING (Blood & Urine) for Mining Employees

work order by



Tata Steel Limited

MANGANESE GROUP OF MINES | FAMD

COMPREHENSIVE REPORT

Dated: 25th July 2023

Dr. Madhusudhan Reddy, PhD Director, DRPL

Dr. Ramesh, MBBS Consultant & Occupational Health Specialist

Dr. Raman Singh, PhD Vice President-Grad Women in Science (USA) TA-Research & Corporate Services, DRPL Dr. Kuldeep Singh, MRSCMSc (IITRoorkee), PhD (IITBombay), PostDoc (France) TA-Research & Corporate Services, DRPL



Dr Reddys Path Labs Private Limited Hyderabad

Background

Manganese (Mn) is a naturally occurring metal and ranks as the fourth most widely used metal globally. In humans, it plays a crucial role as an essential trace element, acting as a co-factor for important metalloenzyme activities within our cells. These metalloenzymes contribute to various vital functions, including the formation of connective tissues and bones, clotting factors, lipid and carbohydrate metabolism, and they also play a significant role in maintaining normal brain and nerve activity within the central nervous system (CNS).

A deficiency in manganese can lead to health issues related to bone, joint, and collagen functions. Conversely, excess manganese can be toxic, resulting in disorders of the nervous system, as reported in various toxicological and pathological studies.

For adults, the recommended dietary intake is 2.3 mg/day for men and 1.8 mg/day for women. To ensure safety, a Tolerable Upper Intake Level (UL) of 11 mg/day has been established for adults, based on a no-observed-adverse-effect level for Western diets. This information serves as a guideline to maintain a balanced manganese intake and avoid potential adverse effects associated with either deficiency or excessive consumption.

Manganese exposure can arise from various sources, such as diet, where it naturally occurs in water, grains, and green leafy vegetables. Additionally, air can also be a source of manganese, with contributions from both natural and man-made sources. Notably, mining and milling activities involving manganese are significant man-made sources of exposure. Another potential route of manganese exposure is through long-term parenteral nutrition, which can lead to manganese toxicity.

The body can take in manganese through enteral (oral ingestion), parenteral (injection), or inhalation routes, but for occupational relevance, ingestion and inhalation are the primary routes of concern. According to the National Institute for Occupational Safety and Health (NIOSH), the respiratory system, central nervous system, liver, and kidneys are potentially affected organs when it comes to manganese exposure.

Overall, understanding the diverse sources and routes of manganese exposure is crucial for effectively managing potential health risks associated with this essential trace element. A safety

margin exists between the daily requirement levels of manganese and the amounts that can cause damage. Excessive ingestion or inhalation of manganese beyond the daily requirements can lead to cell damage. Current evidence suggests that in large quantities, manganese increases oxidative stress within cells. Oxidative stress occurs when there is an imbalance between free radicals and antioxidants, resulting in potential harm to cells. Free radicals are unstable molecules that can react with other substances in the body, causing cell damage. This process can lead to various effects, including mitochondrial dysfunction, glutamate-mediated excitotoxicity, and protein aggregation within the cells. Understanding these mechanisms is essential for recognizing the potential risks associated with excessive manganese exposure and safeguarding against adverse health effects.

Excessive exposure to manganese is known to cause a major neurodegenerative effect called manganism. The clinical manifestations of manganism are well-documented, and its differentiation from other movement disorders, particularly idiopathic Parkinson's disease, which shares similarities, has been extensively studied. However, formal application of clinical criteria in epidemiological research is limited.

Confidence in diagnosing manganism is bolstered by the use of MRI and PET scans, as well as tests of response to dopaminomimetic drugs and EDTA chelation. Both manganism and Parkinson's disease exhibit abnormal features and pathophysiology in the basal ganglia, a brain region associated with voluntary motor control, where manganese tends to accumulate. However, in Parkinson's disease, the abnormalities are related to dopaminergic dysfunction of the nigrostriatal system, as evidenced by FDOPA uptake in PET imaging and positive response to levodopa treatment. These features are either lacking or less apparent in manganism.

Recent reports of frank manganese poisoning have become scarce, likely due to declining occupational exposures. Instead, researchers now study more subtle adverse nervous system effects using highly sensitive but non-specific psychometric tests and functional brain imaging. These effects are termed "subclinical" as they are believed to be present before overt disease symptoms appear. Researchers compare findings from these sensitive methods against a control group.

In addition to neuronal damage, extensive exposure to high levels of manganese can harm the liver and kidneys, as these organs are involved in the metabolism and excretion of manganese.

Impaired clearance of manganese from the body can also occur in cases of liver disease, leading to elevated levels of the metal in the body. Understanding these complex mechanisms is crucial for early detection and effective management of manganese-related health issues.

After removal of exposure to manganese, cognitive function is reported to improve, but motor, sensory, and mood disturbances may persist or worsen, though the specific timeframe for these events remains unclear. Therefore, the key to prevention and treatment lies in minimizing or completely ceasing exposure.

To address occupational exposure, the US National Institute for Occupational Safety and Health (NIOSH) recommends an occupational exposure limit of 1 mg/m3 as an 8-hour time-weighted average, and 3 mg/m3 for short-term exposures lasting 15 minutes or less. For the general public, the US Agency for Toxic Substances and Disease Registry (ATSDR) recommends an Inhalation Minimal Risk Level (MRL) of 0.04 μ g/m3 for chronic exposure, which is considered safe for inhalation over an extended period.

Adhering to these exposure limits is essential to safeguarding the health of workers and the general population from potential adverse effects of manganese exposure. Both the US Department of Labor and a recent meta-analysis, considering individual participant data, identified the lowest observed adverse effect limit for manganese exposure to be 0.05 mg/m3. However, assessing exposure to manganese can be challenging due to variations in particle size and shape. This complexity means that adverse effects may be more likely to occur in mining environments where dust contains larger particle sizes. Careful monitoring and control of manganese exposure are crucial in such settings to protect workers from potential neurological deficits associated with this metal.

Studies dating back to the 1970s have demonstrated severe adverse health effects resulting from very high manganese exposure. Even before overt clinical manifestations of manganese toxicity resembling Parkinson's-like features, early signs of nervous system impairment may manifest as poor neurological function, as measured by neuropsychological tests like finger tapping. These effects are often referred to as 'sub-clinical,' indicating that they are at a stage where patients or workers may not yet notice them.

It is assumed that if exposure continues, these sub-clinical symptoms could progress to the stage

of diagnosable clinical manganese toxicity. However, the transition from sub-clinical to clinical disease has not been definitively established.

Motor function test performance may begin to show deterioration at mean concentrations of inhalable manganese ranging from 0.05 mg/m3 to 0.30 mg/m3. However, the relationship between airborne exposure levels, corresponding blood manganese levels, and their association with adverse health outcomes remains unclear. Further research is necessary to better understand these relationships and to establish reliable exposure guidelines to protect the health of workers and individuals at risk of manganese exposure.

Dose-dependent effects are commonly associated with exposure, implying that certain low levels may not pose significant harm. Consequently, having accurate knowledge of exposure levels that do not result in health effects is crucial for the safety and protection of workers in their workplaces. Employers and workplaces must prioritize this information to adequately safeguard their workers' well-being.

To ensure the health and safety of employees, many countries have implemented policies that enforce low occupational and environmental exposure limits for manganese. These regulations state that employers are responsible for ensuring that work-related exposure does not lead to illness among their workers. By adhering to these guidelines, we can effectively protect workers from potential adverse health effects associated with manganese exposure in the workplace.

Despite the considerable research conducted on manganese (Mn) exposure, several critical questions remain unanswered. It is still uncertain what range of health effects may arise, at which specific exposure levels, and over what duration. Additionally, the strength of these relationships is yet to be fully understood.

Furthermore, the outcome and prognosis of toxic effects from manganese exposure are influenced by various individual factors, including genetic profiles, which add complexity to the overall picture.

Finally, exposure to manganese often occurs in combination with other exposures within the same industries or due to non-occupational factors, such as liver disease or iron deficiency. These confounding factors can make it challenging to isolate the specific effects of manganese

exposure, making the assessment and interpretation of results more intricate.

To gain a comprehensive understanding of the health effects of manganese exposure, future research needs to address these uncertainties and consider the various contributing factors. Only by doing so can we develop well-informed strategies to protect individuals from the potential adverse effects of manganese exposure in various settings.

To prevent manganese exposure and safeguard workers from potential occupational diseases and disabilities, it is crucial to identify risk levels and competing factors. Additionally, clear criteria are essential to determine the occupational origin of symptoms, serving as a basis for fair financial compensation in case of exposure.

Conducting a systematic appraisal of the literature can yield valuable insights into several key aspects, including the types and nature of exposure, the health effects resulting from exposure, the influence of competing factors, and the prognosis after exposure has ceased.

By thoroughly examining these factors, we can obtain clear and well-founded findings that will aid in developing effective preventive measures and providing proper support to workers who may have been affected by manganese exposure. Such insights are essential for promoting worker safety and well-being in industries where manganese exposure is a concern.

The objectives of the study to conduct occupational surveillance of mine workers in the Manganese Group of Mines of FAMD, Tata Steel, Joda, to assess their exposure to Manganese and identify the possibility of Manganese Poisoning. We will summarize the symptoms, analyze test results, and evaluate existing evidence on the potential adverse health effects of manganese for these workers. The ultimate objective is to provide a comprehensive report detailing the available evidence related to exposure, its consequences, and potential contributing factors. Additionally, if any cases of manganese poisoning are identified, the report will include appropriate recommendations and remedial measures to address the issue effectively.

The scope of the study encompasses a wide range of aspects related to Manganese Poisoning among mine workers in the Manganese Group of Mines of FAMD. The key components include:

1. Occupational surveillance of Manganese Poisoning among mine workers in the specified

mines.

- 2. Analysis of symptoms and/or medical history of Manganese Poisoning in the mine workers.
- 3. Collection of blood and urine samples on-site for further examination.
- 4. Sampling criteria comprising 90% uncontrolled samples and 10% controlled samples for comparison.
- 5. Thorough testing and individual reports generated, along with a comprehensive overall report.
- 6. Recommendations for preventive and remedial measures, adhering to WHO guidelines and other Indian Standards.

By covering these diverse elements, the study aims to provide valuable insights and practical recommendations to address Manganese Poisoning effectively in the mining workforce.

To achieve our study objectives, we conducted sample collections at four specific mine locations: Joda West Iron & Manganese Mine, Bamebari Iron & Manganese Mine, Tiringpahar Iron & Manganese Mine, and Khondbond Iron & Manganese Mine. A total of 300 samples were gathered from these mine locations and categorized as uncontrolled samples. Additionally, we collected about fifteen controlled samples from employees who had minimal or no exposure to manganese mines.

To enhance the reliability of our study, we conducted an extensive review of existing literature, including meta-analyses, pertaining to manganese exposure in occupational settings. We carefully compared the data from these studies with our test results to evaluate the causal association between manganese exposure and its potential health effects. By combining evidence from various sources, we aimed to gain deeper insights into the impact of manganese exposure on health.

Methods

a) Specified a question consisting of previous illness, present disease condition, use of regular medication, symptoms, location of exposure (yard, mines and open sites) and outcome (e.g. neurological function deficits).

b) Random Sample Collection (Blood and Urine), **Uncontrolled Samples: 170 (Blood-85, Urine-85), Controlled Samples: 30 (Blood-15, Urine-15)**

Uncontrolled samples were collected from four different mine locations-

1. Joda West Iron & Manganese Mine:

- a. HQUARRY: No. of Samples: 20
- b. GGQ: No. of Samples: 22
- c. DQUARRY: No. of Samples: 16
- 2. Bamebari Iron & Manganese Mine: Joribari Block: No. of Samples: 26
- 3. Tiringpahar Iron & Manganese Mine: 26
- 4. Khondbond Iron & Manganese Mine: No. of Samples: 25

Participants and Comparison

Our study encompassed both male and female mine workers, as well as administrative staff of all age groups. We carefully compared the test results of blood and urine samples from mine workers who were occupationally exposed to manganese with those of the unexposed administrative staff. This allowed us to assess the potential differences in manganese exposure levels between the two groups and draw relevant conclusions from our findings.

Searching and including studies:

In our quest to gather comprehensive information, we conducted an extensive search using multiple databases and non-electronic sources, without imposing any date or language restrictions. Our thorough approach involved utilizing PubMed to develop a sensitive search, which was later translated and applied to other databases.

We focused on identifying all relevant systematic reviews and empirical studies available to date. Two independent reviewers meticulously assessed the fulfillment of inclusion criteria first by examining titles and abstracts, and later by evaluating the full text. Any disagreements that arose during the review process were resolved through constructive discussions between the reviewers. This meticulous approach ensured that we collected a comprehensive and reliable body of evidence for our research.

Gender, Age, Mine Locations, controlled and uncontrolled Subgroup analysis

Our evaluation was structured to consider the following aspects:

- 1. Age, gender, and the outcomes of blood and urine samples.
- 2. Comparison of results between controlled and uncontrolled samples of blood and urine.
- 3. Analysis based on mine location site, gender, age, and the outcomes of blood and urine samples.

By organizing our assessment in this manner, we aimed to gain a comprehensive understanding of the various factors that could potentially impact the results of the study and draw meaningful conclusions from the data.

Results

Our findings are organized in a clear manner, categorized by sample collection method and the location of Manganese exposure in the mines. Subsequently, we provide a comprehensive synthesis summarizing the overall study, encompassing all mine locations, ages, and genders for both sample groups. For our analysis, we employed the ICPMS test method and used the reference values for Blood (4-15 ug/L) and Urine (0.50-9.80 ug/L) in males and females.

The conclusive summary of the laboratory analysis comprised a total of 300 samples, equally split into 150 blood samples and 150 urine samples. In order to assess the significance of positive results related to manganese exposure, we employed a sampling approach that involved both controlled and uncontrolled random sampling methodologies. Out of the total samples, 270 were uncontrolled and derived from mine workers, comprising 135 blood samples and 135 urine samples. Additionally, we collected 30 controlled samples, consisting of 15 blood samples and 15 urine samples, from staff members who had no exposure to manganese.

We conducted a thorough questionnaire and discussions with both the controlled and uncontrolled groups to gather information on their previous illnesses, medication usage, and the nature of their manganese exposure (whether in mines, yards, or open sites). Additionally, we inquired about the duration and frequency of their duties in manganese mines, as well as their drinking water sources and overall water consumption patterns.

To ensure the validity of our findings, we excluded mine workers and controlled groups who had a history of consuming Gadolinium or Iodine-containing contrast media, vitamins, minerals, or herbal supplements within the 7 days leading up to the sampling, or within 96 hours (4 days) prior to the administration. This was done to eliminate any potential interference with the study results.

An encouraging discovery from our investigation was that all mining site locations maintained a high standard of cleanliness and hygiene, offering proper filtered water for drinking. Moreover, the washroom facilities for both genders in the mining sites were well-maintained and clean. For

detailed results, please refer to Annexure-A.

In our comprehensive study, we conducted age and gender-specific comparisons across all six mine locations. Our findings revealed that the Bamebari Iron & Manganese Mine, Joribari Block (n=6), had the youngest female mine workers, while the Joda West Iron & Manganese Mine, HQUARRY (n=12), had the oldest female workers. Among male mine workers, the youngest were observed in Joda West Iron & Manganese Mine, GGQ (n=6), while the oldest were in Joda West Iron & Manganese Mine, HQUARRY (n=8).

The data indicates a notable trend, with the oldest mine workers found in Joda West Iron & Manganese Mine, HQUARRY, for both genders. As a result, this specific mine location demands closer attention and regular periodic medical examinations (PME), including X-rays (Chest PA), to ensure the health and well-being of its workers. As for the controlled group, the average age was 32.70 (n=15) for males and 44.20 (n=15) for females.

The comparison of average results for the male population in blood samples revealed that the Khondbond Iron & Manganese Mine workers' values were nearly identical to those of the controlled group. Similarly, among the female mine workers from the Khondbond Iron & Manganese Mine, the blood values were also very similar to those of the controlled group. This indicates that the Khondbond Iron & Manganese Mine workers are exposed to lower levels of manganese compared to others.

It's noteworthy that no single mine worker, male or female, tested positive for manganese exposure in their blood across all six mine locations.

In the study comparing urine samples between mine workers and the controlled group for both genders, it was observed that the Joda West Iron & Manganese Mine, HQUARRY group, exhibited values close to those of the controlled group among males. On the other hand, among females in the uncontrolled group from all six mine locations, the values were also in close proximity to the controlled group.

The overall summary of results indicates that the mean blood value among male and female mine workers was 5.36 (n=135), while for urine, it was 4.25 (n=135). Comparatively, the controlled group's blood value was 2.51 (n=15), and urine value was 2.95 (n=15).

Final Conclusion & Recommendations

The overall level of evidence in our study, encompassing the data from all 300 samples from both controlled and uncontrolled groups, along with systematic reviews and meta-analyses, indicates a low likelihood of manganese exposure. Our findings provide sufficient evidence to conclude that there is no manganese contamination detected in any of the six mine locations, whether through oral intake in the yards, air circulation near open sites, or the source of drinking water.

However, despite the lack of current health effects on mine workers from manganese exposure within the established limits, we highly recommend conducting regular periodic medical examinations (PME) to continuously evaluate any potential risks over time. Such assessments could include other health function tests to ensure the well-being of the mine workers. In summary, our study suggests that the current manganese exposure limits have not impacted the health of mine workers, as evidenced by cross-sectional and data studies. Nevertheless, it is prudent to conduct ongoing evaluations to monitor and safeguard the health of these workers.

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Annexure-A

Results for the Joda West Iron & Manganese Mine:

HQUARRY:

Average Age Males (n=8): 44.5 Average Age Females (n=12): 42.75 Males Blood Samples Report Analysis Mean Value (n=8): 5.34 Females Blood Samples Report Analysis Mean Value (n=12): 7.45 Males Urine Samples Report Analysis Mean Value (n=8): 3.70 Females Urine Samples Report Analysis Mean Value (n=12): 3.44 Both Male & Female Blood Samples Report Analysis Mean Value (n=20): 6.18 Both Male & Female Urine Samples Report Analysis Mean Value (n=20): 3.60

GGQ:

Average Age Males (n=6): 32.50 Average Age Females (n=16): 38.50 Males Blood Samples Report Analysis Mean Value (n=6): 5.84 Females Blood Samples Report Analysis Mean Value (n=16): 6.64 Males Urine Samples Report Analysis Mean Value (n=6): 4.60 Females Urine Samples Report Analysis Mean Value (n=16): 4.42 Both Male & Female Blood Samples Report Analysis Mean Value (n=22): 6.42 Both Male & Female Urine Samples Report Analysis Mean Value (n=22): 4.47

DQUARRY:

Average Age Males (n=12): 37.10

Average Age Females (n=4): 39.25

Males Blood Samples Report Analysis Mean Value (n=12): 5.36

Females Blood Samples Report Analysis Mean Value (n=4): 6.61

Males Urine Samples Report Analysis Mean Value (n=12): 3.81

Females Urine Samples Report Analysis Mean Value (n=4): 2.57

Both Male & Female Blood Samples Report Analysis Mean Value (n=16): 5.56

Both Male & Female Urine Samples Report Analysis Mean Value (n=16): 3.50

Lab report analysis results for the Bamebari Iron & Manganese Mine: Joribari Block:

Average Age Males (n=20): 39.5 Average Age Females (n=6): 35.10 Males Blood Samples Report Analysis Mean Value (n=20): 5.29 Females Blood Samples Report Analysis Mean Value (n=6): 5.82 Males Urine Samples Report Analysis Mean Value (n=20): 4.81 Females Urine Samples Report Analysis Mean Value (n=6): 3.96 Both Male & Female Blood Samples Report Analysis Mean Value (n=26): 5.41 Both Male & Female Urine Samples Report Analysis Mean Value (n=26): 4.61

Lab report analysis results for the Tiringpahar Iron & Manganese Mine:

Average Age Males (n=16): 36.06

Average Age Females (n=10): 42.4

Males Blood Samples Report Analysis Mean Value (n=16): 6.31

Females Blood Samples Report Analysis Mean Value (n=10): 6.77

Males Urine Samples Report Analysis Mean Value (n=16): 4.86

Females Urine Samples Report Analysis Mean Value (n=10): 4.22

Both Male & Female Blood Samples Report Analysis Mean Value (n=26): 6.48

Both Male & Female Urine Samples Report Analysis Mean Value (n=26): 4.61

Lab report analysis results for the Khondbond Iron & Manganese Mine:

Average Age Males (n=20): 39.35

Average Age Females (n=5): 44.20

Males Blood Samples Report Analysis Mean Value (n=20): 2.51

Females Blood Samples Report Analysis Mean Value (n=5): 1.93

Males Urine Samples Report Analysis Mean Value (n=20): 4.27

Females Urine Samples Report Analysis Mean Value (n=5): 4.38

Both Male & Female Blood Samples Report Analysis Mean Value (n=25): 2.49

Both Male & Female Urine Samples Report Analysis Mean Value (n=25): 4.49

Lab report analysis results for Controlled Samples:

Average Age Males (n=15): 32.70

Average Age Females (n=15): 44.2

Males Blood Samples Report Analysis Mean Value (n=15): 2.47

Females Blood Samples Report Analysis Mean Value (n=15): 1.93

Males Urine Samples Report Analysis Mean Value (n=15): 2.90

Females Urine Samples Report Analysis Mean Value (n=15): 4.38

Both Male & Female Blood Samples Report Analysis Mean Value (n=15): 2.51

Both Male & Female Urine Samples Report Analysis Mean Value (n=15): 2.95