Steel Limited

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No. JSW/S/CO/2025/563

Date: 28/11/2025

To,
The Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (Eastern Zone),
A/3, Chandersekharpur, Bhubaneswar – 751023

Sub: - Submission of Six-monthly EC compliance report for the **Jajang Iron Ore Mine of M/s JSW Steel Ltd for the period April 2025 to September 2025**.

Ref: - 1. Vesting Order dated 29th May 2020 issued by GoO, Steel and Mines Department.
2. Environment Clearance Letter dated 13.03.2015 and amendment dated 09.11.2015 issued by MOEF&CC, GOI.

Dear Sir,

We are submitting herewith six-monthly EC compliance report of Jajang Iron Ore Mine, M/s JSW Steel Ltd. for the period April 2025 to September 2025 as per EIA notification 2006.The same is also attached in Soft copy to your good office on e-mail to roez.bsr-mef@nic.in; for your ready reference.

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

Seeking your co-operation as always.

Thanking you,

Yours Faithfully
For JSW Steel Ltd

Vijay Kumar 28/11/25

Vijay Kumar
(Authorized Signatory)

Encl: As above

ENVIRONMENT CLEARANCE COMPLIANCE STATUS - JAJANG MINE

Six Monthly Compliance report of Environmental Clearance for Jajang Iron Ore Mine of JSW Steel Ltd. for the period from- April 2025 to Sept. 2025.

Reference letter from MoEF&CC, New Delhi- J-11015/96/2012-IA. II(M), Dt. 13.03.2015 and 09.11.2015.

Capacity- 16.5 MTPA of iron ore (12.8 MTPA ROM by fresh excavation + 3.7 MTPA by collection from old dumps/ mineral stacks).

S. No.	EC Conditions	Self - Declaration	Compliance Remarks
A.	**Specific Conditions**		
1	The dump height should be maintained up to 60 meter and overall slope of the dump shall be up to 30°.	Complied	The dump height and overall slope of the dump is maintained as per approved final mine closure plan (FMCP).
2	The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.	Complied	CTE vide letter no. 5113/IND-II-CTE-6463 dated 26.03.2021 is in place. CTO issued on dated 31.03.2021 is renewed vide letter no 6972/IND-I-CON-247 on dated 31.03.2025. CTE & CTO has been attached as **Annexure I.**
3	Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.	Complied	Site-specific wildlife conservation plan is approved vide letter no. 1842/CWLW-FDWC-FD-0116-2021, Bhubaneswar, dated 25.02.2022. Budget proposed and paid for the same is Rs. 750.768 Lakh. The same is enclosed as **Annexure II.**
4	The project proponent shall obtain prior approval of the competent authorities for drawl of requisite quantity of surface water and ground water for the project before commencing the mining activity.	Complied	There is no use of surface water. NOC from CGWA for 1000 m3/day is obtained vide NOC number CGWA/NOC/MIN/REN/3/2025/11092 dated 10/03/2025. The copy of the same has been attached as **Annexure III.**
5	No mining activities are allowed in forest area for which the FC is not available.	Complied	The present mining operation is restricted within FC Transfer area over 447.811 ha (Including 44.70ha forest land already diverted) vide letter No. FE-DIV-FLD-0007- 2022- 5306/FE&CC, dated 14.03.2022. FC Transfer letter is attached as **Annexure IV**.
6	The condition 3(iii)b of the guidelines issued by the Forest Conservation Division in this Ministry vide F. No. 1 1-362/2012- FC dated 1st February, 2013 is not being prescribed in view of Hon'ble Supreme Court order dated 27.01.2014 and the EC is subject to the final order of the Supreme Court in the matter.	Noted	

7	Traffic density on the route of mineral transportation shall be regularly monitored and report shall be submitted along with compliance report.	Complied	In view of the closure of mining operations, vehicular movement associated with mineral transportation has ceased, and no traffic density is expected.
8	As part of ambient air quality monitoring during operational phase of the project, the air samples shall also be analyzed for their mineralogical composition and records maintained.	Complied	Mining operations were ceased w.e.f 30.11.2024. Regular ambient air quality monitoring, including analysis of mineralogical composition, has been carried out and all records have been maintained. Environmental Monitoring report is attached as **Annexure-V.**
9	Mineral handling plant shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Complied	Mining operations were ceased w.e.f 30.11.2024. Prior to closure, all mineral handling plants were equipped with an adequate number of high-efficiency dust extraction systems to ensure effective dust control.
10	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.	Complied	Effective dust control and safeguard measures were implemented during the operational phase of the mine. Mining operations have been completely discontinued and there is currently no generation of fugitive dust. Environmental Monitoring report is attached as **Annexure-V.**
11	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	Complied	A detailed hydrological study of the mine was conducted by M/s GCRS, a CGWA-accredited agency, which assessed the site's hydrogeological regime and recommended appropriate conservation measures. The report has been submitted to the Central Ground Water Authority (CGWA). In line with the recommendations, rainwater harvesting structures, settling ponds, and check dams have been established at the site.
12	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing	Complied	Mining operations are ceased w.e.f 30.11.2024. Groundwater level and quality were monitored once every quarter.

	wells and installing new piezo meters during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.		Environmental Monitoring report is attached as **Annexure-V**.
13	The project proponent shall regularly monitor the flow rate of the natural water streams Jalpa, Kakrapani Nallah and Baitarani River and the Suna Nadi flowing adjacent to the mine lease and maintain the records.	Complied	Regular monitoring of the flow rate of the natural water streams of Jalpa, Kakrapani Nallah, Baitarani River and Suna-nadi was been carried out. The same is attached as **Annexure-V.**
14	The reclaimed and rehabilitated area shall be afforested. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly bases.	Complied	Reclamation and afforestation activity is completed in accordance with approved final mine closure plan.
15	Dimension of the retaining wall at the toe of temporary over burden dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.	Complied	Mining operations were discontinued on 30.11.2024. So far, the retaining wall up to a length of 3323 m (1.5 m height, 1 m width) around the OB dump was constructed and maintained. Retaining wall photos has been attached as **Annexure VI.**
16	Plantation shall be raised in a specified area including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around the higher benches of excavated void to be converted in to water body, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be	Complied	A total of 37,809 plantations have been carried out from the year 2020 till date, covering areas such as the safety zone, overburden (OB) dumps, and avenue plantations. Additionally, 3,07,435 plantations were undertaken by the erstwhile lessee prior to the transfer of lease. Photos for the same attached as **Annexure VII**.

	around 2500 plants per Ha.		
17	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Complied	Mining activities were ceased w.e.f 30.11.2024. Effective dust suppression measures, including regular water sprinkling in critical areas vulnerable to air pollution, were implemented. Ambient Air Quality (AAQ) parameters were maintained within the permissible limits as prescribed by the Central Pollution Control Board (CPCB). Environmental Monitoring report is attached as **Annexure-V.**
18	Process water discharge and/or any waste water shall be properly treated to meet the prescribed standards before reuse/discharge. The runoff from temporary OB dumps and other surface run off shall be analyzed for iron and in case its concentration is found higher than the permissible limit, the waste water should be treated before discharge/reuse.	Complied	Mining activities were ceased w.e.f 30.11.2024. No process water is being generated from mine.
19	The decanted water from the beneficiation plant and slime/tailing pond shall be re- circulated within the mine and there shall be zero discharge from the mine	Not applicable	There is no beneficiation plant constructed in the mine.
20	Regular monitoring of the flow rate of the springs and perennial nallahs shall be carried out and records maintained.	Complied	Mining activities were ceased w.e.f 30.11.2024. Regular Monitoring of the flow rate of the springs and perennial nallahs were carried out. The report of the same is attached as **Annexure-V.**
21	Regular monitoring of water quality, upstream and downstream of river shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.	Complied	Mining activities were ceased w.e.f 30.11.2024. Regular monitoring of water quality of upstream and downstream were being carried out. The report of the same is attached as **Annexure-V.**
22	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.	Complied	A detailed hydrological study of the mine was conducted by M/s GCRS, a CGWA-accredited agency, which assessed the site's hydrogeological regime and recommended appropriate conservation measures. The report has been submitted to the Central Ground Water Authority (CGWA). In line with the recommendations, rainwater

<table>
<tr><td></td><td></td><td></td><td>harvesting structures, settling ponds, and check dams have been established at the site.

<table><tr><th>S. No.</th><th>Location</th><th>Capacity s per report (m^3)</th></tr><tr><td>1</td><td>Settling Pond near BIL Railway Sliding Pond-1</td><td>21280.0</td></tr><tr><td>2</td><td>Settling Pond near BIL Railway Sliding Pond-2</td><td>36000.0</td></tr><tr><td>3</td><td>Recharge well (From roof tops)</td><td>1540.0</td></tr><tr><td>4</td><td>Check Dam</td><td>40,000.00</td></tr></table>
The photos for the same has been attached as ANNEXURE VIII.</td></tr>
<tr><td>23</td><td>Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded.</td><td>Complied</td><td>In view of the closure of mining operations, vehicular movement associated with mineral transportation has ceased, and hence there is no vehicular emissions.</td></tr>
<tr><td>24</td><td>Sewage treatment plant shall be installed for the colony. ETP shall also be provided for workshop and wastewater generated during mining operation.</td><td>Complied</td><td>ETP/Oil & Grease trap system was provided for workshop and STP of Capacity 30KLD was provided for colony.</td></tr>
<tr><td>25</td><td>Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.</td><td>Complied</td><td>Mining lease boundary superimposed on High Resolution Satellite image of Jajang Iron Ore Mine duly vetted by M/s ORSAC has been attached as Annexure IX.</td></tr>
<tr><td>26</td><td>Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed</td><td>Complied</td><td>Prior to the cessation of mining operations, periodic medical examinations of all engaged workers were conducted in accordance with statutory requirements, and records are systematically maintained.</td></tr>
</table>

	accordingly.		
27	The project proponent shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.	Complied	JSW started its Mining operations in Jajang Iron Ore mines on 1st July 2020. Since then, various community development initiatives were implemented to address the concerns raised in PH and for community upliftment. JSW has made expenditure in line with the requirement of public hearing points addressed viz. Education- Rs. 371 lakhs, Health care-Rs. 347 Lakhs, Water supply- Rs. 132.92 Lakhs & Infrastructure and peripheral development- Rs. 294 Lakhs in the past
28	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife Conservation Pan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	Complied	The Site-Specific Wild Life Conservation plan has been approved by PCCF vide letter number 1842/CWLW-FDWC-FD-0116-2021, Bhubaneshwar, dated 25/02/2022. An amount of 750.768 Lakhs is deposited against the outlay.
29	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.		Final mine closure plan for Jajang mine is approved by Indian Bureau of Mines in line with Rule 24 of MCDR 2017. All the provision mentioned there in are completed and IBM has issued approval letter in this effect.

GENERAL CONDITIONS

Sl. No.	E C Conditions	Self - Declaration	Compliance Remarks
1	No change in Iron Ore Processing/Beneficiation technology and scope of working should be made without prior approval of the Ministry	Not Applicable.	There was no change in Iron Ore Processing and no beneficiation plant was established.

	of Environment & Forests.		
2	No change in the calendar plan including Processing/Beneficiation of mineral iron ore and waste should be made	Complied	The mining operations was completely stopped by 30.11.2024.
3	At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 microns i.e., PM10) and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board. The data so recorded should be regularly submitted to the Ministry including its regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.	Complied	Four number of Ambient air quality stations were established in both core zone and buffer zone for monitoring PM10, PM 2.5, SO2, NO2, CO considering the meteorological data, topographical features and environmentally and ecologically sensitive targets. The location and frequency of monitoring is undertaken in consultation with the State Pollution Control Board. The monitoring reports were timely submitted to the SPCB and regional office Bhubaneshwar. Ambient air monitoring report is attached as **Annexure-V**.
4	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	Complied	All the noise generating units in the machinery was provided with padded enclosures for attenuation of noise. Workers engaged were provided with ear plugs.
5	There will be zero waste water discharge from the plant.	Not Applicable	The processing of ore at Jajang Mines was completely a dry process.
6	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Complied	Dust mask was given as Mandatory PPE to all the workers.
7	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Complied	Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project were carried out and records are maintained.
8	A separate environmental management cell with suitable qualified personnel should be set- up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Complied	A dedicated Environment Management Cell was in place where the head directly reported to the Head of the organization. The Organization chart is attached as **Annexure X**
9	The funds earmarked for environmental protection measures should be kept in separate account and	Complied	A Separate cost center earmarked for Environment protection and management measures was in place. And

	should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.		Year wise expenditure is reported to the ministry and the regional office.
10	The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Noted	The EC of Jajang Iron Ore Mines was awarded to M/s Rungta vide letter no. J-11015/96/2012-IA. II(M), Dt. 13.03.2015 and 09.11.2015. JSW Steel Limited accorded the lease during the auction process and the EC was vested to JSW vide extant rules. At the time of vesting, the project was in operation at the permitted capacity. Accordingly financial closure and start of land development work was started by erstwhile lessee prior to our acquisition.
11	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hardcopies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.	Complied	EC compliance reports are submitted to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board on six monthly basis including the results of monitoring data. The Last six-monthly compliance report (revised) submitted was for the period of Oct 2024 – March 2025 vide letter no JSW/S/CO/2025/235(1) dated 04/06/2025. It is also uploaded in the JSW group website.
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied	The EC was granted to the Ex-lessee M/s Rungta vide letter no. J-11015/96/2012-IA. II(M), Dt. 13.03.2015 and 09.11.2015. Communications were made by the Ex-lessee post grant of EC. The EC copy is available in JSWs website.
13	The State Pollution Control Board	-	-

	should display a copy of the clearance letter at the regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.		
14	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.	Complied	The Environment Statement in Form V is submitted every year before September 30th to the State Pollution Control Board. The Environment Statement Submitted was vide letter No. JSW/S/CO/2025/430 dated 19/09/2025.
15	The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.	Complied	The EC was granted to the Ex-lessee M/s Rungta vide letter no. J-11015/96/2012-IA. II(M), Dt. 13.03.2015 and 09.11.2015. Advertisement was made by the Ex-lessee post grant of EC.

Annexure-Ia

Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: paribesh1@ospcboard.org
Web site : www.ospcboard.org

ODISHA

OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII
Bhubaneswar – 751 012, INDIA

By Speed Post
Through online

No. 5113 / **IND-II-CTE-6463** Date 26-03-2021 /

CONSENT TO ESTABLISH ORDER

In consideration of the online application no. **3180772** for obtaining Consent to Establish for **Jajang Iron Ore Mine of M/s JSW Steel Ltd.,** the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **production of Iron Ore of quantity 12.80 MTPA (ROM) and maximum waste (OB/IB/SB) of quantity 28.589 MTPA along with installation of Crushing, Screening plants and Railway Siding as follows:**

Sl. No.	Particulars	Existing production capacity of Iron Ore along with capacity of the Crushing, Screening and Railway Siding	Proposed production capacity of Iron Ore along with capacity of the Crushing, Screening and Railway Siding after expansion
1.	Production Capacity	16.5 MTPA (12.8 MTPA ROM by fresh excavation + 3.7 MTPA by collection from old dumps/material stacks)	12.8 MTPA (ROM)
2.	Operation of Stationary Crusher of capacity	1X150 TPH, 1X600 TPH	NA
3.	Operation of Mobile Crusher of capacity	15X100 TPH	3X360 TPH, 2X200 TPH, 1X175 TPH
4.	Operation of Mobile Screen of capacity	7X150 TPH, 12X300 TPH	10X400 TPH, 1X180 TPH, 1X170 TPH
5.	Operation of Stationary Screen of capacity	1X250 TPH	NA
6.	Railway siding of handling capacity of sized iron ore and iron ore fines	7.2 MTPA	18.2 MTPA

over an area of 669.078 ha (as per DGPS Survey)/666.150 ha (as per ROR) land in villages Jajang, Jadibahal, Palsa (Ka), Bandhuabeda, Tehsil Barbil in the district of **Keonjhar,** Odisha with the following conditions.

GENERAL CONDITIONS:

1. **This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years. The proponent shall do substantial mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to do substantial mining activities for the proposal within five years then a renewal of this Consent to Establish shall be sought by the proponent.**
2. The mine shall apply for grant of Consent to Operate under Section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. No change in mining technology and scope of working shall be made without prior approval of the Board.
4. **This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

SPECIAL CONDITIONS:

GENERAL:

1. **The proponent shall obtain Environmental Clearance as per EIA Notification, 2006 and production activity for the proposal shall be commenced after obtaining Environmental Clearance.**
2. **The mine shall install digital display board at mines main gate for display of environmental information for public view within 15 days.**
3. **The mine shall comply all 09-points action plan as per the CSIR NEERI.**
4. **Solar power generation system shall be installed inside the mining lease hold area.**
5. The mine shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of Environment Impact Assessment (EIA) report.
6. The proponent shall submit six monthly progress report every year (i.e. June and December) of mining activity of the project to the Board (at Head Office and Regional Office) for record and verification.
7. The unit shall obtain NOC from CGWA for using of ground water for getting Consent to Operate of State Pollution Control Board, Odisha.
8. The proponent shall obtain requisite permission from the Water Resources Department, Govt. of Odisha for drawal of water.
9. The method of mining shall be Fully Mechanized open cast mining.
10. Adequate care shall be taken to prevent creation of ruts and pot holes in the connecting roads.
11. Speed limit of dumpers/trucks inside the premises shall not exceed 10 kmph.

12. After operation of railway siding, the proponent shall submit an annual return to concerned Regional Office in the prescribed format as per **Annexure – I** by 31st May every year incorporating the quantities and types of materials handled during the preceding financial year (i.e. 1st April to 31st March).

13. A green belt of adequate width and density preferably with local species along the periphery of the mine, inactive dumps, backfilled area, vacant area, colony and any other vacant area shall be raised so as to provide protection against particulates and noise to ameliorate the environment. A detailed plantation programme in this regard shall be prepared and submitted at the time of making application for Consent to Operate for assessment.

14. The project proponent shall develop greenbelt in 7.5 m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the MoEF&CC, Govt. of India irrespective of the stipulation made in approved mine plan.

15. The project proponent shall carryout plantation / afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by plating the native species in consultation with the State Forest Department / Agriculture Department / Rural development department / Tribal Welfare Department / Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per hectare. Adequate budgetary provision shall be made for protection and care of trees.

16. The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface runoff. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer / compactors thereby ensuring proper filling / leveling of dump mass. In critical areas, use of geo textiles / geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

17. A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the organization.

18. The Board may impose further conditions or modify the conditions stipulated in this order during installation and/or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented.

19. The above conditions will be enforced, inter-allia, under the provisions of the water (Prevention & Control of pollution) Act, 1974 and Air (Prevention & Control of Prevention) Act, 1981 and Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rule.

20. The unit shall abide by Environment (Protection) Act, 1986 and the relevant rules framed thereunder.

WATER POLLUTION:

21. Domestic effluent shall be discharged to soak pit via septic tank constructed as per BIS specification.

22. Garland drains along with settling pit shall be provided around the iron ore fines stock yard to control washout of fines from the stockyard along with surface runoff.

23. Surface run-off from OB dump area, mineral stock yard, top soil storage area and rain water to be pumped from quarry shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed standard of SS - 100 mg/l and Oil & Grease-10 mg/l before discharge into natural stream/water courses during monsoon.

24. At stockpile and loading plant area, a network of drains shall be constructed at a depth of 1.5 meter below the lowest level on the sites parallel to the stockpile area with interconnected box culverts. The sloping of surface shall be given inward to the stockpiles so that surface water will only infiltrate in to the drain.

25. The proponent shall do renovation of existing structure as it was an old mine before going for mining activity.

26. Wheel wash facilities are to be provided to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.

27. Garland drain shall be provided along the boundary wall at the appropriate places depending upon the slope of the area, inside the railway siding. Provision shall be made for collection of wash water from the garland drain and the water, so collected shall be treated in a sedimentation tank for further use inside the premises for green belt or water sprinkling etc.

28. In case the wastewater contains any substance which is harmful to the environment, the same shall be treated to remove the substance so as to meet the prescribed norms.

AIR POLLUTION:

29. **Fixed auto sprinklers on both sides of major haul road, approach road of Railway siding and approach roads of the mine shall be installed within one month and frequency of water sprinkling through mobile water tankers shall be enhanced at the said areas till installation of fixed auto sprinklers.**

30. **Regular water sprinkling through mobile water tankers shall be carried out at mineral stockpile area, mines approach road and transportation road (Banspani to Bamebari) to avoid generation of dust during movement of vehicles.**

31. **04 nos. of CAAQM shall be installed within one month as per the vesting CTO order. Fugitive and AAQ monitoring shall be carried out as per vesting CTO order and report shall be submitted to the Board regularly. Online digital display Board fo size 6ftx4ft as per CPCB specification shall be installed at the main entry gate of the mine for public view.**

32. The proponent shall install one Online Continuous Ambient Air Quality Monitoring Station (CAAQMS) in transportation route inside the mining lease area to monitor PM_{10}, $PM_{2.5}$, SO_2, NOx, CO and other important parameters for online real time data transmission through GPRS system to SPCB RTDAS server and also upload data to CPCB.

33. Drill shall be wet operated or with dust extractors and controlled blasting shall be practices. Pre-wetting of blasting site shall be practiced.

34. The proponent shall abide by the stipulations made in MoEF&CC, Govt. of India notification No. G.S.R. 809 (E), dated 4.10.2010 (copy enclosed as **Annexure – I**).

35. The primary crusher, screen and secondary crusher shall be placed in covered shed. All the conveyor shall be covered with corrugated GI Sheets.

36. Both dust suppression (dry fog) and extraction (bag filter) system shall be provided at all dust generating source such as crushing, screening & material transfer points etc. such that, particulate matter concentration in ambient air shall not be more than 1200 $\mu g/m^3$ at a distance of 25.0 ± 2.0 m from the source of fugitive emission in the predominant down wind direction as per MoEF&CC, Govt. of India notification No. G.S.R. 809(E), dated 04.10.2010 (copy enclosed as **Annexure – I**). Fabric bags and cages in bag house shall be checked regularly and replaced whenever required. Separate online energy meters shall be installed for all the pollution control equipment and centralized records shall be maintained for verification of the Board from time to time.

37. The suction points of dust extraction system shall be provided at primary crusher discharge chute, screen, all transfer points, secondary crusher discharge chutes and any other dust generating sources. This system shall be connected to bag filters so that particulate matter emission from the stack shall not exceed 100 mg/Nm^3 as per MoEF&CC, Govt. of India Notification no-GSR.-809(E) dated 4th October 2010 (copy enclosed as **Annexure-I**). Stack height for de-dusting unit shall be calculated as per above notification of MoEF&CC, Govt. of India i.e. $H = 74\ Q^{0.27}$ where H and Q are stack height in meter and particulate matter (PM) emission in ton/hr respectively.

38. All the product conveyor of the screens shall discharge the product into a hopper and chute arrangement fitted with dust extraction and bag filter system. Chute shall be maximum 3 meter height from the ground level. Fixed auto sprinklers shall be provided in the stock yard of product.

39. The mine shall make provision to collect the fine products in hopper instead of heaping by free falling to avoid the dust nuisance. The ore fines shall be stacked properly and systematically with retaining wall at the toe to avoid washings during rain. Ore fine transportation shall be done in covered truck.

40. Dust suppression on mine haul roads, active OB dumps and mine working benches shall be done by spraying water through water sprinklers along with chemical binders/wetting agents at frequent interval in order to reduce water consumption and to improve retention and re-absorption capacity of water. Water sprinklers of fixed type shall also be provided at the mine HEMM maintenance shop, other service centers and approach roads from mines to raw material handling & product handling area to prevent the generation of dust to be air borne.

41. 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 (06:00 AM to 09:00 PM) and 70 dB(A) during night time (09:00 PM to 06:00 AM).

42. The crushing unit shall not be operated in the night time between 6.00 PM and 6.00 AM.

43. Three Ambient Air Quality Monitoring Stations for 24 hours operation should be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2, NOx and CO monitoring. Location of the stations should be decided in consultation with the State Pollution Control Board. Data on ambient air quality (PM10, PM2.5, SO2, NOx and CO) should be submitted to the State Pollution Control Board once in six months.

44. Planting of trees all along the connecting road and regular grading of such road shall be carried out to prevent generation of dust due to movement of dumpers/trucks. Greenbelt of adequate width shall also be provided in the available vacant areas on other side of railway siding

45. Retaining wall of 07 meter height shall be provided all along the railway siding.

46. The height of material stack within storage areas must be kept below the height of the boundary wall at all times to prevent the material from being air borne.

47. Fixed type of water sprinklers shall be provided in the railway siding and stockyard. Sprinkler systems must be maintained and be kept in a good operable condition at all times.

48. Dust suppression arrangement shall be provided on approach road by using water sprinklers / mobile water tanker.

49. All entry points, internal roads and loading/unloading areas must be adequately compacted for movement of heavy vehicles by using low permeability material and be cleaned regularly to minimize potential of dust generation and off-site impact.

50. Proper housekeeping at the material storage areas, loading & dispatch areas, service facilities, etc. shall be practiced.

51. Ambient Air Quality inside the premises shall conform to the National Ambient Air Quality Standard prescribed for industrial and mixed used area under the Environment Protection Act, 1986.

52. During transportation of material by trucks / tippers / wagons the vehicles shall be properly covered with tarpaulin sheets.

SOLID AND HAZARDOUS WASTE:

53. Hazardous waste storage area shall be earmarked before disposal of hazardous waste as per guidelines.

54. Top soil should be stacked separately with proper slope at earmarked site (s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.

55. At stockpile and loading plant area, a network of drains shall be constructed at a depth of 1.5 meter below the lowest level on the sites parallel to the stockpile area with interconnected box culverts. The sloping of surface shall be given inward to the stockpiles so that surface water will only infiltrate in to the drain.

56. The OB/waste dumps shall be properly dressed benched stopped at low angle (300) with terracing and bamboo barricades in the slopes making retaining walls stone barriers at the toe of the dumps gully plugging etc. to prevent the solid erosion during monsoon, besides establishing vegetation on dump top as well as its slope surface. In difficult cases, hydro-seedling technique or use of geo-tiles mat embedded with seeds shall be adopted.

57. The proponent shall comply to the provisions of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and amended thereafter.

Encl: As above

MEMBER SECRETARY

To,

The Deputy Managing Director,
Jajang Iron Ore Mine of
M/s JSW Steel Ltd., JSW Centre,
Bandra Kurla Complex, Mumbai, Maharastra.

Memo No._____/Date_____/

Copy forwarded to:

1. The Secretary, MoEF&CC, Govt. of India, New Delhi.
2. The Secretary Steels & Mines, Govt. of Odisha, Bhubaneswar
3. The Director, Directorate of Mines, Govt. of Odisha, Bhubaneswar
4. The District Magistrate & Collector, Keonjhar.
5. The Deputy Director of Mines, Joda, Keonjhar.
6. The DFO, Keonjhar.
7. The Regional Officer, SPC Board, Keonjhar.
8. Consent to Operate Section, SPC Board, BBSR
9. Hazardous Waste Management Cell, SPC Board, BBSR
10. Copy to Guard file

CHIEF ENV. ENGINEER

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 4th October, 2010

G.S.R. 809(E).—In exercise of the powers conferred by Sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following Rules further to amend the Environment (Protection) Rules, 1986, namely:-

1. (1) These rules may be called the Environment (Protection) (Sixth Amendment) Rules, 2010.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in schedule I, after serial number 17 and the existing entries relating thereto, the following serial number and entries shall be inserted, namely :-

<table>
<tr><th>S. No.</th><th>Industry</th><th>Parameter</th><th>Standard</th></tr>
<tr><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td></tr>
<tr><td>"18</td><td rowspan="6">Iron Ore Mining and Ore Processing</td><td colspan="2">A. Emission Standards for Stack for De-dusting Unit</td></tr>
<tr><td></td><td>Particulate matter</td><td>100 mg/ Nm^3</td></tr>
<tr><td></td><td>Stack height **</td><td>15.0 m</td></tr>
<tr><td></td><td colspan="2">** Stack height for De-dusting unit shall be calculated as $H=74\ Q^{0.27}$, where H and Q are stack height in metre and particulate matter (PM) emission in tonne/hr respectively, i.e.

Q (kg/hr) — H (metre)
up to 2.71 — 15
2.72 - 7.86 — 20
7.87 - 17.96 — 25
17.97 - 35.29 — 30

Note:- Stack attached to De-dusting unit shall have minimum height of 15.0 metres and would be atleast 2.50 metres above the top-most point of the nearby building/shed or plant in the mine.</td></tr>
<tr><td></td><td colspan="2">B. Fugitive Emission Standards</td></tr>
<tr><td></td><td>Particulate matter</td><td>1200 µg/m^3</td></tr>
<tr><td></td><td colspan="2">Note:- Fugitive emission shall be monitored in the predominant downwind direction at a distance 25.0±2.0 metres from the source of fugitive emission as per following:</td></tr>
</table>

1	2	3	4
		Area	**Monitoring location**
		Mine face/ Benches	Drilling, excavation and loading applicable for operating benches above watertable
		Haul Roads/ Service Roads	Haul roads to ore processing plant, waste dumps and loading areas and service road
		Crushing plant	Run-off mine unloading at hopper, crushing areas, screens and transfer points
		Screening Plant	Screens, conveying and transportation of ore discharge points
		Ore Storage & Loading	Intermediate stock bin/pile areas, ore stock bin/pile areas, wagon/truck loading areas
		Waste dump	Active waste/reject dumps
		C. Effluent Standards	
		pH	5.5-9.0
		Suspended solids (non-rainy day)	50 mg/l
		Suspended solids (rainy day)	100 mg/l
		Oil & grease	10 mg/l
		Note:- (i) All efforts shall be made to reuse and re-circulate the treated effluent. (ii) The aforesaid effluent standards shall be complied with for sewage, service water, beneficiation of ore washwater and surface run-off put together.".	

[F. No. Q-15017/21/2007-CPW]

RAJNEESH DUBE, Jt. Secy.

Note :The principal rules were published in the Gazette of India vide number S.O. 844 (E) 19th November, 1986; and subsequently amended vide S.O. 433 (E) dated 18th April 1987; S.O. 64 (E), dated the 18th January 1988 and recently amended vide G.S.R. 97(E), dated the 18th February, 2009; G.S.R. 149 (E), dated the 4th March, 2009; G.S.R. 512(E), dated the 9th July, 2009; G.S.R. 543 (E), dated the 22nd July, 2009; G.S.R. 595(E), dated the 21st August, 2009; G.S.R. 794 (E), dated the 4th November, 2009; G.S.R. 826 (E), dated the 16th November, 2009; G.S.R. 01 (E), dated the 01st January, 2010; G.S.R. 61 (E), dated the 5th February, 2010; GSR 485(E), dated the 9th June, 2010; GSR 608 (E), dated the 21st July, 2010 and GSR 739 (E), dated, the 9th September, 2010.

Printed by the Manager, Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospcboard.org, Website: www.ospcboard.org

CONSENT ORDER

No. 6972 / **IND-I-CON-247** Dt. 31.03.2025 /

CONSENT ORDER NO. 2942

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.5230256, Dated 14-12-2023 and No.6185160, Dated 19-02-2025.

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: **JAJANG IRON & MANGANESE MINES OF M/S. JSW STEEL LTD.**

Name of the Applicant & Designation: **SHRI SURESH KUMAR MOHAPATRA, AVP**

Address: **AT: JAJANG, PO: JURUDI, DIST: KEONJHAR, PIN-758052, ODISHA**

This consent order is valid for the period from **01.04.2025 to 31.03.2026.**

Details of Products Manufactured

Sl. No	Product	Quantity
01.	Iron Ore (ROM)	12.8 MTPA

Details of Mineral Handing Plants /Units

01.	*Railway siding of handling capacity 7.2 MTPA of sized iron ore & Iron ore fines*
02	*Stationary Crushing Plant of capacity 1x600 TPH & 1x150 TPH.*
03.	*Mobile Crushing Plant of capacity 15x100 TPH*
04.	*Stationary Screening Plant of capacity 1x250 TPH*
05.	*Mobile Screening Plant of capacity 12x300 TPH &7x150 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

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge	Prescribed Standard				
				pH	TSS (mg/l)	BOD (mg/l)	Fecal Coliform (MPN/ 100ml)	Oil & Grease (mg/l)
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	--	5.5-9.0	100 (Rainy day) 50 (Non-Rainy day)	--	--	10

B. Fugitive Emission Standards

Particulate Matter	1200 $\mu g/m^3$
Note : Fugitive emission shall be monitored in the predominant downwind direction at a distance 25.0 $\pm$ 2.0 metres from the source of fugitive emission as per following :	
Area	**Monitoring Location**
Mine face / Benches	Drilling, excavation and loading applicable for operating benches above water table
Haul Roads/ Service Roads	Haul roads to ore processing plant, waste dumps and loading areas and service road.
Crushing plant	Run-off mine unloading at hopper, crushing areas, screens and transfer points.
Screening plant	Screens, conveying and transportation of ore discharge points.
Ore storage and loading	Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas.
Waste dump	Active waste / reject dumps

C. Disposal of solid waste permitted in the following manner

Sl. 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

D. GENERAL CONDITIONS FOR ALL UNITS

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 for liable to review/variation/revocation of the consent order under section 27 of the 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.
2. The occupier would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. 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 previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order without any negligence on his/her 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.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
12. 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 measuring devices will be installed.
13. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-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 areas.
14. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
15. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed impervious.
16. 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 access into any drainage channel or other water courses either directly or by overflow.
17. 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.
18. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the occupier must adopt alternate satisfactory treatment and disposal measures.
19. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.
20. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
21. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Acts or Rules made therein.

22. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
23. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
24. 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 the Board.
25. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner so as to meet the standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Poliution) Act, 1974 (as amended).
26. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.
27. There shall not be any fugitive or episodal discharge from the premises.
28. In case of such episodal discharge/emissions the occupier shall take immediate action to bring down the emission within the limits prescribed by the Board and stop the operation of the plant if required. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
29. The applicant shall keep the premises and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
30. Any upset condition in any of the plant/piants of the factory which is likely to result in increased effluent discharge/emission of air poilutants and / or result in violation of the standards mentioned shall be reported to the Headquarters and Regional Office of the Board by E-mail within 2 hours of its occurrence.
31. The occupier 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 be planted along boundaries of the premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
32. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the shall be disposed off scientifically to the satisfaction of the Board.
33. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
    i) 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 ground water or carried away with storm run-off.
    ii) Controlled incineration, wherever possible in case of combustible organic material.
    iii) Composting, in case of bio-degradable material.
34. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of 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.
35. 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 (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.
36. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
37. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
38. Notwithstanding anything contained in this conditional letter of consent, the Board hereby 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 variations as deemed fit for the purpose of the Act by the Board.
39. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
40. The occupier shall comply to the conditions stipulated in CTE order issued by Odisha State Pollution Control Board and conditions stipulated in Environmental Clearances issued by MoEF&CC, Govt. of India.
41. The occupier shall abide by E(P) Act, 1986 and Rules framed there-under.
42. 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 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.

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

1. 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.

2. 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-Monoxide and monitor the same once in a day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.

3. The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall, etc. and the daily reading shall be recorded and the extract sent to the Board once in a month.

4. The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar regularly.
   a. Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month.
   b. Progress on planting of trees quarterly.

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

6. The following information shall be forwarded to the Member Secretary on or before 10th of every month.

   a. Performance / progress of the treatment plant.
   b. Monthly statement of daily discharge of domestic and/or trade effluent.

7. Non-compliance with effluent limitations

   a) 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

      ii) A description of the non-compliance discharge including its impact on the receiving waters.

      iii) 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.

      iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and

      v) 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 dozers 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.

10. In the disposal of treated effluent on land for irrigation, the industry shall keep in view of the need for;

    a) Rotation of crops

    b) Change of point of application of effluent on land

    c) A portion of land kept fallow.

11. The adoption of these would avoid soil becoming sick or slate, 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.

13. Proper housekeeping shall be maintained by a dedicated team.

14. 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. (1) SPECIAL CONDITIONS:(for the mine and railway siding):

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.
2. This consent order is subject to permission from 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. The mine shall confine its activity within the previous lease area of 666.15 ha as EC & CTE are not yet obtained for the new lease deed executed over increased area of 669.078 ha. A declaration to this effect shall be submitted to the Board within 07 days.
5. Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.
6. Controlled blasting shall be practiced to minimize generation of dust and fly rocks.
7. 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.
8. Dust suppression measures preferably dry fog system shall be provided at all appropriate places of mineral handling plants (crusher & screening plant). Loading and 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. Fixed auto sprinklers shall be provided on both sides of major haul road and approach road of the mine and inside railway siding. Frequency of water sprinkling through mobile water tankers shall be increased till installation of fixed sprinklers.
10. 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.
11. The vehicles carrying ore for transportation from the mine shall be covered with tarpaulin (both bottom & top).
12. Fog cannon of at least 40 m throw shall be deployed at fine ore stock piles and loading areas in the mine.
13. A truck parking plaza shall be developed with its runoff management facilities.
14. 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.

15. Regular water sprinkling shall be done on approach roads, stockpiles, railway siding area and transportation road (Banspani to Bamebari) to suppress fugitive dust during plying of vehicles.
16. Four Ambient Air Quality Monitoring Stations shall be established in core zone and buffer zone for monitoring of ambient air quality and location of the stations shall be decided in consultation with the Regional Officer, State Pollution Control Board based on the metrological data, topographical features and environmentally and ecologically sensitive targets.
17. 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.
18. The ambient air quality shall remain within prescribed national ambient air quality standards.
19. Four Continuous Ambient Air Quality Monitoring Stations (CAAQMS), with data transfer facility to SPCB server shall be established in core and buffer zone. The locations of these stations shall be decided in consultation with the Regional Officer, State Pollution Control Board, based on metrological data, topographical features and environmentally and ecologically sensitive targets.
20. The CAAQMS shall be properly maintained and calibrated from time to time to ensure that spurious data are not transmitted to the SPCB server.
21. Fugitive Dust Emission Monitoring shall be carried out at the places as stated in Part-B of this order. The monitoring of fugitive dust shall be carried out twice in a week (24 hourly) at a particular site and consolidated data shall be submitted to the State Pollution Control Board, once in a year.
22. The topsoil generated shall be stored at earmarked site (s) only and stabilized with plantation or shall be used for land reclamation and plantation.
23. The over burden 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.
24. The project proponent shall ensure that no natural watercourse and / or water resources are obstructed due to any mining operations.
25. 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 run off water from the existing runoff management system shall meet the prescribed standards as stated in Sl. 2 of Part-A of this order.
26. 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, mineral stack yards and railway siding area terminating at settling pit to prevent direct disposal of runoff to nearby water bodies.

27. 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 standards prescribed as stated in Sl. 2 of Part-A of this order.
28. 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:

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

29. ETP comprising of oil and grease trap with sedimentation pit shall be provided for treatment of workshop effluent and treated effluent shall remain within the following prescribed standards and shall be re-used for washing of vehicles:

pH	-	6.5 -8.5
TSS	-	50 mg/l
Oil & Grease	-	10 mg/l
COD	-	150 mg/l

30. 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.
31. 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.
32. The mine shall take necessary action for compliance with the air and water quality standards as stipulated in Part-A and Part-B of this order.
33. 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).
34. 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.
35. Online noise monitoring system shall be installed to monitor noise level during night hours.
36. Protective barriers shall be provided for the lights to prevent illumination towards the forest area during night hours.

37. 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.
38. The height of the stack connected to DG sets of capacity more than 800 KW (1000 KVA) shall conform to the following:
    i) $14Q^{0.3}$, Q = Total SO_2 emission from the plant in kg/hr.
    ii) Minimum 6m. above the building where generator set is installed.
    iii) 30 m.
39. The height of the stack connected to DG set of capacity less than and upto 800 KW (1000 KVA) shall conform to the following:
    i) $H = h+0.2\sqrt{KVA}$
    ii) h= Height of the building where it is installed in meter
    iii) KVA = Capacity of DG set
    iv) H = Height of the stack in meter above ground level.
40. All DG sets installed before 1.7.2004 shall be scrapped. DG sets complying with either State-I or Stage-II emission norms shall reduce Particulate Matter Emission by 70% by installing RECD without affecting any other emission parameters as per the CPCB guidelines and Board's letter vide No.17927, dated 14.11.2023 and letter No.7146, dated 10.05.2024, in this regard.
41. 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 plantation details shall be submitted to the Board before end of April every year.
42. 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.
43. The environmental statement report shall be submitted to the Board in prescribed format every year.

E. (2) <u>SPECIAL CONDITIONS: (for railway siding)</u>

1. All entry points, internal roads and loading/unloading areas must be adequately compacted for movement of heavy vehicles by using low permeability material and be cleaned regularly to minimize potential of dust generation and off-site impact.
2. A boundary wall of at least 3 meter height shall be constructed along the periphery of the railway siding to prevent the dust particles from being air borne and/or getting carried away with surface runoff to nearby water bodies.
3. The height of material stack within storage areas must be kept below the height of the boundary wall at all times to prevent the material from being air borne.
4. All mineral storage areas containing fines or dusty materials must be either;
    (a) Covered with tarpaulins when not in use or
    (b) Fitted with Water Sprinkling/Dry fog systems.

5. Green belt of adequate width (at least one row of trees) shall be developed along the boundary of railway siding.
6. At the material storage areas, atomized stationery mist spray of water or conditioning of material with water shall be practiced to prevent dust getting air borne during loading/unloading.
7. Appropriate transfer chutes shall be provided at material discharge points at material storage areas, loading points etc. to minimize the discharge height and spread of air borne dust.
8. Garland drain shall be provided along the boundary wall at the appropriate places depending upon the slope of the area, inside the railway siding. Provision shall be made for collection of wash water from the garland drain and the water, so collected shall be treated in a sedimentation tank for further use inside the premises for green belt or water sprinkling etc.
9. After operation of railway siding, the mine shall submit an annual return to concerned Regional Office in the prescribed format as per Annexure-I by 31st May every year incorporating the quantities and types of materials handled during the preceding financial year (i.e.1st April to 31st March).

31/3/2025

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ODISHA

TO,

SHRI SURESH KUMAR MOHAPATRA, AVP,
JAJANG IRON & MANGANESE MINES OF M/S. JSW STEEL LTD.,
AT/PO: JAJANG, PS: BAMEBARI
DIST- KEONJHAR, PIN-758052

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 & CC Dept., Govt. of Odisha, Bhubaneswar.
v) D.F.O., **Keonjhar**
vi) Deputy Director of Mines, **Joda**
vii) Chief Env. Scientist, Central Lab. SPCB, Bhubaneswar
viii) Addl. Chief Env. Engineer, (Hazardous Waste Management Cell)
ix) Guard File

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

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS

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

Sl. No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/ Odourless as far as practible	--	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	a. 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 5^0C above the receiving water temperature	--	--	Shall not exceed 5^0C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	--	--	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	--	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max.	100	--	--	100
11.	Free ammonia (as NH_3) mg/1 max.	5.0	--	--	5.0
12.	Biochemical Oxygen Demand (5 days at (20^0C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	--	--	250
14.	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/1 max.	0.01	0.01	--	0.001
16.	Lead (as pb) mg/1 max.	01.	1.0	--	2.0

Sl. No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
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	--	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	--	--	--
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	--	--	20 mg/l

NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			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/m³	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO_2), µg/m³	Annual *	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM_{10}µg/m³	Annual *	60	60	-Gravimetric - TOEM
		24 Hours **	100	100	- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$µg/m³	Annual *	40	40	-Gravimetric - TOEM
		24 Hours **	60	60	- Beta Attenuation
5.	Ozone (O_3) µg/m³	8 Hours **	100	100	- UV Photometric - Chemilumunescence
		1 Hours **	180	180	- Chemical Method
6.	Lead (Pb) µg/m³	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter
		24 Hours **	1.0	1.0	
7.	Carbon Monoxide (CO) mg/m³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR) Spectroscopy
		1 Hours **	04	04	
8.	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence
		24 Hours**	400	400	- Indophenol Blue Method
9.	Benzene (C_6H_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/m³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m³	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.

Annexure-Ib

Annexure-25

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA

Government of Odisha, Forest, Environment & Climate Change Department

PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR- 751007

Phone: 0674-2602250, Website: www.wildlife.odisha.gov.in, Email: odishawildlife@gmail.com

No. 1842 / CWLW-FDWC-FD-0116-2021

Bhubaneswar, Dated the 25th February, 2022

To

M/s JSW Steel Limited,
JSW Centre Bandra Kurla Complex,
Bandra West, Mumbai – 400051

Sub: Approval of Site Specific Wildlife Conservation Plan for Jajang Iron Ore mine of M/s JSW Steel Ltd. in Keonjhar Forest Division of Keonjhar District

Sir,

It is to intimate that you have to implement one Site Specific Wildlife Conservation Plan for the above project in compliance to Standard ToR No.16 & 18 for Mining project and ToR No.26 (i) to (iii) as per Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron & Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State" prescribed by MoEF&CC, IA Division vide their letter in F.No.J-11015/57/2020-IA.II(M) dt 05.02.2021 while considering the expansion proposal of the above project.

The Site Specific Wildlife Conservation Plan in respect of the above project is hereby approved with financial forecast of ₹750.768 lakh (Rupees seven crore fifty lakh seventy-six thousand eight hundred) only for implementation of activities in project impact area as detailed in the approved plan. The total cost of ₹750.768 lakh (Rupees seven crore fifty lakh seventy-six thousand eight hundred) only may kindly be deposited in State CAMPA fund for implementation of activities in project impact area by the DFO, Keonjhar Division and DFO, Bonai Division as per jurisdiction.

It is further requested to take note of the following conditions for future compliance.

- The 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.
- Should there be need for Site Specific Wildlife Conservation Plan after expiry of the present plan period, the User agency shall submit another such plan 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/ Environment (Protection) Act, 1986.
- The User Agency shall give an undertaking to bear the differential cost in case of enhancement of wage rate during implementation of the Plan.

Yours faithfully,

Encl: Copy of approved SSWLCP

Principal CCF (WL) & CWLW, Odisha

Memo No. 1843 /dt 25.02.2022

Copy forwarded for information and necessary action to the -

1. Special Secretary to Government of Odisha, FE&CC Department, Bhubaneswar
2. Principal Chief Conservator of Forests, Odisha
3. Regional CCF, Rourkela Circle with reference to his memo No.3699 dt 14.12.2021
4. DFO, Keonjhar/ Bonai Division alongwith a copy of the approved SSWLCP

Principal CCF (WL) & CWLW, Odisha

Urgent / Through E-mail

STATE FOREST HEADQUARTERS, ODISHA
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS & HoFF
PLOT NO. GD-2/12, ARANYA BHAWAN, CHANDRASEKHARPUR
BHUBANESWAR-751023
E-mail-: nodal.pccfhoff@odisha.gov.in / nodal.pccfodisha@gmail.com

Memo No. 7755 /9F (MG) – 75/2021
Dated, Bhubaneswar the 24th April' 2023

To

The Divisional Forest Officer
Keonjhar Forest Division

Sub: Adjustment of Rs 25,88,62,100/- (CA-Rs.11,37,00,400/-, ACA- Rs.7,00,84,900/- + SSWCP- Rs.7,50,76,800/-) demanded amount against already deposited amount of Rs.38,58,39,000/- towards lump sum amount @7.50 lakh/ha (for total forest area within the ML) in respect of Jajang Iron Ore Mines of M/s JSW Steel Limited.

Ref-: (i) Memo No. 430 dated 10.02.2023 of RCCF, Rourkela Circle.
(ii) Representation No. JSW/S/O/B/2023/10 dated 27.03.2023 of the Authorized Signatory, M/s JSW Steel Limited.

In inviting a reference to the subject cited above, it is to inform you that basing on GoI, MoEF & CC (FC Division) guideline issued vide F.No.11-97/2018-FC dated 31.03.2020, letter issued vide F. No. 8-17/2001-FC (Vol) dated 11.11.2022, the total demanded amount of **Rs 25,88,62,100/-** may be adjusted against already deposited amount of **Rs.38,58,39,000/-** towards lump sum amount @7.50 lakh/ha (for total forest area within the ML) in respect of Jajang Iron Ore Mines of M/s JSW Steel Limited.

The adjustments may also be carried out in a similar manner for any other amount, if demanded in future, pertaining to the said project and records may be kept accordingly.

The same shall be followed scrupulously.

24/04/23
Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Memo No. 7756 Dt. 24.04.2023
Copy forwarded to the Steel & Mines Department / Director of Mines and Geology /Collector, Keonjhar for favour of kind information & necessary action.

24/04/23
Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Memo No. 7757 Dt 24.04.2023

Copy forwarded to the Additional Chief Secretary to Government, FE&CC Department for favour of kind information & necessary action.

24/4/23

Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Memo No. 7758 Dt 24.04.2023

Copy forwarded to the PCCF (WL) & CWLW, Odisha, Prakruti Bhawan, Plot No. 1459, Saheed Nagar, Bhubaneswar-751007 for favour of kind information & necessary action.

24/4/23

Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Memo No. 7759 /Dt. 24.04.2023

Copy forwarded to the RCCF, Rourkela Circle for information & necessary action with reference to his Memo No. 430 dated 10.02.2023.

24/4/23

Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Memo No. 7760 /Dt. 24.04.2023

Copy forwarded to the Authorized Signatory, M/s JSW Steel Ltd, Plot No.3, Forest Park, Sishu Bhawan Square, Bhubaneswar-751009 for information and necessary action.

24/4/23

Principal Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Annexure-III

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	M/s Rungta Mines Limited		
Project Address:	M/s Rungta Mines Limited, Jajang Iron And Manganese Mine		
Village:	Palasa(kha)	Block:	Joda
District:	Kendujhar	State:	Odisha
Pin Code:			
Communication Address:	M/s Rungta Mines Limited, Rungta Office Main Road, Barbil, , Kendujhar, Odisha - 758035		
Address of CGWB Regional Office :	Central Ground Water Board South Eastern Region, Bhujal Bhawan, Khandagiri Square, Nh-5, Bhubaneshwar, Khordha, Odisha - 751030		

1.	**NOC No.:**	CGWA/NOC/MIN/REN/3/2025/11092	2.	**Date of Issuence**	10/03/2025
3.	Application No.:	21-4/203/OR/MIN/2009	4.	Category: (GWRE 2024)	Safe
5.	Project Status:	Existing With Additional Ground Water Requirment	6.	NOC Type:	Renewal
7.	**Valid from:**	09/12/2023	8.	**Valid up to:**	08/12/2025

9. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
1000.00	365000.00			764.00	278860.00	1764.00	643860.00

10. Details of ground water abstraction /Dewatering structures

	Total Existing No						Total Proposed No					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	7	0	0	0	0	0	0	0	0	0
Dewatering Structure*	0	0	0	0	0	0	0	0	0	0	2	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

11.	Ground Water Abstraction/Restoration Charges paid (Rs.):	6146800.00
12.	Environment Compensation (if applicable) paid (Rs.):	0.00

13.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers	Monitoring Mechanism		
			Manual	DWLR**	DWLR With Telemetry
	**DWLR - Digital Water Level Recorder	2	0	1	1

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) Industries abstracting ground water in excess of 100 m 3 /d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.

25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.

26) In case of new infrastructure projects having ground water abstraction of more than 20 m3/day, the firm/entity shall ensure implementation of dual water supply system in the projects.

27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.

28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.

29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).
31) In the self-compliance report, the PP shall submit details of Drilling Agency/ Agencies, which has/ have constructed BW(s)/ TW(s) along with undertaking to the effect that all necessary measures have been taken as per directions of Hon'ble Supreme Court provided in Annexure-VII of guidelines dated 24.09.2020 in respect of abandoned/ failed BW(s)/ TW(s)/Piezometer(s), if any. The PP is advised to engage registered drilling agency/ agencies. In the event of any mishap/ unfortunate incident due to negligence in taking measures for prevention of accident due to falling in Bore Well, both PP and concerned drilling agency shall jointly be held responsible and penal action as per extant Government rules shall be taken.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

CENTRAL GROUND WATER AUTHORITY

Department of Water Resources, River Development and Ganga Rejuvenation
Ministry of Jal Shakti, Govt. of India

Receipt

(As per the guideline Gazette Notification S.O. 3281(E) regarding the New Guidelines dated 24.09.2020 of CGWA, MoJS, Govt. of India)
https://cgwa-noc.gov.in

Application No,:	21-4/203/OR/MIN/2009	Date of Issuence:10/03/2025
Name of Firm:	M/S RUNGTA MINES LIMITED	
AppType Category:	*Manganese ore*	
Application Type:	*Mining*	
PAN/GSTIN No. of Firm/Individual:	/	

SN	Description	Amount (Rs.)
1.	Application Processing Fee	5000.00
2.	Ground Water Abstraction charges	6146800.00
3.	Ground Water Restoration charges	0
4.	Environmental Compensation Charges (ECRGW) *(Date From to) Days-*	
5.	Penalty for non-Compliance of NOC conditions *Condition to be mentioned*	50000.00
6.	Adjustment Charges	
7.	Rebate	
8.	Charges for correction/modification in the existing issued No Objection Certificate	

S.No.	Description	Rate
(i)	Change in User ID	Rs. 1000
(ii)	Change in firm Name	Rs. 5000
(iii)	Extension of No Objection Certificate	Rs. 5000
(iv)	Issuance of duplicate No Objection Certificate	Rs. 5000
(v)	Issuance of corrigendum to No Objection Certificate	Rs. 5000
(vi)	Any other items/correction etc.	Rs. 500

Rs. Rupees Sixty Two Lakh One Thousand Eight Hundred Only	**6201800.00**

This is an system generated invoice, hence, does not require ink signed.

Term and conditions:

i. All disputes are subject to Delhi Jurisdiction.
ii. Any complaint in regard to the rates will not be entertained.

Member-Secretary
CGWA, New Delhi

Annexure-IV

By Post/ e-mail

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

No.FE-DIV-FLD-0007-2022-5906/FE&CC, Date 14.03.22

10F (Cons) 106/2013

From

Sri Lingaraj Otta

OSD-cum-Special Secretary to Government

To

The Principal Chief Conservator of Forests & HoFF, Odisha,

Bhubaneswar.

Sub: Transfer of FC approval granted under the Forest (Conservation) Act, 1980 for mining lease from Old lessee M/s Rungta Mines Ltd to new Lessee M/s JSW Steel Ltd as per the provision of the Mines and Minerals (Development and Regulation) Amendment Act, 2021 in respect of Jajang Iron Ore Block under Keonjhar Forest Division, Barbil Tahasil, Dist-Keonjhar for diversion of 447.811 ha of forest land (including 44.70 ha Revenue forest land already diverted)-Compliance of Final approval Order regarding.

Sir,

I am directed to invite a reference to your letter No.1751/9F(MG)-75/2021 dtd.31.01.2022 seeking transfer of FC approval granted under the Forest (Conservation) Act, 1980 for mining lease from Old lessee M/s Rungta Mines Ltd to New lessee M/s JSW Steel Ltd as per the provision of the Mines and Minerals (Development and Regulation) Amendment Act, 2021 in respect of Jajang Iron Ore Block under Keonjhar Forest Division, Barbil Tahasil, Dist-Keonjhar for diversion of 447.811 ha of forest land (including 44.70 ha Revenue forest land already diverted) and with reference to letter File No.FC-11/112/2020-FC (Pt) dtd.07.07.2021 of Govt. of India, MoEF&CC, FC Division, New Delhi.

After careful consideration of the proposal of PCCF & HoFF, Odisha and in pursuance of the guidelines issued by Govt. of India, MoEF &CC vide File No. FC-11/112/2020-FC (Pt) Dated 7th July, 2021, the transfer of approval granted by Govt. of India, MoEF&CC under Section 2 of the Forest (Conservation) Act,

1980 vide F. No.8-88/98-FC (Vol) dtd.28.08.2014 from the erstwhile User Agency M/s Rungta Mines Ltd to M/s JSW Steel Ltd is hereby accorded by the State Govt. for non-forestry use of 447.811 ha of forest land for mining in Jajang Iron Ore Block under Keonjhar Forest Division, Barbil Tahasil, Dist-Keonjhar, Odisha subject to fulfilment of the following conditions.

i. DGPS Survey of 447.811 ha of diverted forest area is to be ensured by DFO, Keonjhar Forest Division in field before handing over the area.
ii. The DFO, Keonjhar Forest Division shall upload the KML files of the area under diversion and the accepted non-forest land for raising Compensatory Afforestation in the e-green watch portal of FSI before handing over forest land to the new lessee.
iii. Erstwhile lessee has deposited the NPV over 543.528 ha forest land which includes the diverted forest area of 447.811 ha. The amount deposited by the new lessee @ Rs.7.50 Lakh per ha is the lumpsum amount realized by State Government on issue of LoI (for the total forest area within the mining lease), which may be adjusted towards balance NPV and any compensatory levies payable in future.
iv. The new lessee shall furnish an undertaking to pay the additional NPV, if so determine, as per the decision of the Hon'ble Supreme Court of India.
v. The new lessee shall also comply the non-complied conditions and if any pointed out by the Govt. of India, MoEF &CC, IRO, Bhubaneswar after conducting the inspection of the area for the appraisal of compliance of approval granted under Forest (Conservation) Act, 1980.
vi. The new lessee, after ceasing mining operation, shall undertake re-grassing the mining area and any other areas which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
vii. Forest Clearance over 102.938 ha forest land will be transferred to the new lessee after issue of FC transfer order and forest clearance over 344.873 ha will be transferred to the new lessee after acceptance of the CA land by the DFO, Keonjhar Forest Division as per the extant procedure for acceptance of CA land.
viii. The new lessee shall have to submit the fresh diversion proposal for the balance forest area of 96.105 ha (99.052 ha as per DGPS) for seeking approval under Section 2 (ii) of FC Act, 1980.
ix. Execution of project activities by the new lessee will be subject to availability of all other statutory clearances required under relevant Acts/Rules for this mining project and compliance of Court's order, if any.

Yours faithfully

14/3/2022

OSD-cum-Special Secretary to Government

FE-DIV-FLD-0007-2022/1/2022

Memo No. 5307 /FE&CC, Date 14-03-22

Copy forwarded to the Assistant Inspector General of Forests (FC), Government of India, Ministry of Environment, Forests & Climate Change (F.C. Division), Indira Paryavaran Bhawan, Alinganj, Jor Bagh Road, New Delhi-110003 for information and necessary action.

dt 14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5308 /FE&CC, Date 14-03-22

Copy forwarded to the Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, IRO, A/3, Chandrasekharpur, Bhubaneswar for information and necessary action.

dt 14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5309 /FE&CC, Date 14-03-22

Copy forwarded to the Principal Chief Conservator of Forests (Wildlife), Chief Wildlife Warden, Odisha / Principal Chief Conservator of Forests (FD&NO), FC Act, O/o PCCF & HoFF, Odisha for information and necessary action.

dt 14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5310 /FE&CC, Date 14-03-22

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle / Divisional Forest Officer, Keonjhar Forest Division for information and necessary action.

dt 14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5311 /FE&CC, Date 14-03-22

Copy forwarded to Steel & Mines Department / R&DM Department/ Director Environment-cum-Special Secretary to Government, FE&CC Department / Director of Mines, Odisha / Member Secretary, SPCB, Odisha/ Collector, Keonjhar for information and necessary action.

dt 14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5312 /FE&CC, Date 14-03-22

Copy forwarded to the Authorized Signatory, M/s JSW Steel Ltd, Plot No.3, Forest Park, Sishu Bhawan Square, Bhubaneswar-751009 for information and

necessary action.

14/3/2022

OSD-cum-Special Secretary to Government

Memo No. 5313 /FE&CC, Date 14-03-22

Copy forwarded to M/s Rungta Mines Ltd, Chaibasa, Dist-West Singhbhum, Jharkhand-833201 / M/s Rungta Mines Ltd, Main Road, Barbil, Dist-Keonjhar, Pin-758035, Odisha for information and necessary action.

14/3/2022

OSD-cum-Special Secretary to Government

Annexure-1

DAILY AMBIENT AIR MONITORING REPORT

CORE ZONE

Ref. No: Envlab/25-26/TR-08836 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS			
Sample Location & Code	S1: Near Mines Office	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	Sampling date after 24 Hrs
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	01.05.2025 TO 31.05.2025	Test Completed on	04.06.2025

Sl. No	Sampling Date	Parameters				
		PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	CO (mg/m3)
1	01.05.2025	70.2	37.2	23.9	26.3	0.51
2	02.05.2025	71.9	39.5	25.4	27.4	0.48
3	03.05.2025	68.6	31.6	21.9	27.8	0.52
4	04.05.2025	73.5	38.6	25.6	30.2	0.51
5	05.05.2025	70.8	32.8	24.1	31.9	0.56
6	06.05.2025	Monitoring not done due to Rain				
7	07.05.2025	69.8	37.6	22.9	31.2	0.59
8	08.05.2025	71.3	36.4	23.8	28.6	0.53
9	09.05.2025	70.8	39.2	24.1	26.9	0.55
10	10.05.2025	68.9	32.9	23.8	28.4	0.51
11	11.05.2025	73.5	38.4	24.5	29.3	0.57
12	12.05.2025	75.9	40.4	23.9	30.7	0.52
13	13.05.2025	76.1	41.9	24.7	31.3	0.58
14	14.05.2025	72.8	36.2	25.6	30.9	0.56
15	15.05.2025	70.7	38.9	22.9	29.7	0.52
16	16.05.2025	68.9	36.7	21.7	28.5	0.55
17	17.05.2025	70.7	37.2	23.6	26.3	0.56
18	18.05.2025	73.1	40.1	24.5	27.4	0.61
19	19.05.2025	71.8	36.9	23.9	29.8	0.53
20	20.05.2025	Monitoring not done due to Rain				
21	21.05.2025	70.2	36.9	24.1	30.9	0.58
22	22.05.2025	66.8	38.4	26.8	31.7	0.51
23	23.05.2025	71.3	37.1	25.2	32.8	0.55
24	24.05.2025	72.9	38.6	22.3	33.1	0.53
25	25.05.2025	Monitoring not done due to Rain				
26	26.05.2025	68.2	38.2	24.6	29.8	0.49
27	27.05.2025	Monitoring not done due to Rain				
28	28.05.2025	72.1	39.4	23.9	30.6	0.51
29	29.05.2025	69.8	37.6	21.8	31.8	0.55
30	30.05.2025	70.4	40.7	22.7	33.2	0.49
31	31.05.2025	71.3	39.8	21.9	30.9	0.53
AVERAGE		71.2	37.7	23.9	29.9	0.54
MAX		76.1	41.9	26.8	33.2	0.61
MIN		66.8	31.6	21.7	26.3	0.48
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, CO-<0.1 mg/m3

Any unusual feature during determination: Nil

Remarks: (All the values of PM-10, PM-2.5, SO2, NOx & CO presented in row no 1-15 are Time Weighted Average.)

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08837 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS			
Sample Location & Code	S2: Entry and Exit Gate	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	Sampling date after 24 Hrs
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	01.05.2025 TO 31.05.2025	Test Completed on	04.06.2025

Sl. No	Sampling Date	Parameters				
		PM_{10}(µg/m^3)	$PM_{2.5}$(µg/m^3)	SO_2(µg/m^3)	NO_2(µg/m^3)	CO (mg/m^3)
1	01.05.2025	75.1	41.2	23.1	30.1	0.62
2	02.05.2025	70.6	36.9	22.8	29.8	0.64
3	03.05.2025	77.4	42.2	21.6	30.9	0.63
4	04.05.2025	72.9	38.9	20.7	31.4	0.61
5	05.05.2025	69.8	39.2	21.9	26.7	0.58
6	06.05.2025	Monitoring not done due to Rain				
7	07.05.2025	70.4	39.2	22.2	29.8	0.59
8	08.05.2025	71.6	40.1	20.9	30.2	0.61
9	09.05.2025	68.5	37.6	23.5	33.2	0.53
10	10.05.2025	66.9	39.8	24.5	28.6	0.58
11	11.05.2025	72.2	40.2	23.9	29.4	0.52
12	12.05.2025	71.4	41.3	25.1	30.1	0.54
13	13.05.2025	70.3	36.5	22.6	31.5	0.61
14	14.05.2025	68.9	37.9	23.4	33.6	0.59
15	15.05.2025	69.7	38.2	21.9	27.2	0.53
16	16.05.2025	70.5	39.2	24.2	26.9	0.55
17	17.05.2025	72.1	37.1	23.9	28.2	0.58
18	18.05.2025	60.8	35.6	20.1	30.1	0.6
19	19.05.2025	69.8	39.5	23.4	26.7	0.54
20	20.05.2025	Monitoring not done due to Rain				
21	21.05.2025	70.4	40.1	22.8	27.3	0.59
22	22.05.2025	68.6	41.3	21.3	28.6	0.55
23	23.05.2025	69.8	35.6	23.9	29.2	0.62
24	24.05.2025	70.2	39.8	20.7	25.1	0.57
25	25.05.2025	Monitoring not done due to Rain				
26	26.05.2025	70.8	37.6	22.9	26.9	0.56
27	27.05.2025	Monitoring not done due to Rain				
28	28.05.2025	68.3	33.9	24.5	27.4	0.51
29	29.05.2025	72.8	39.5	23.9	26.5	0.53
30	30.05.2025	71.6	37.8	21.3	28.9	0.59
31	31.05.2025	69.8	37.2	23.4	30.1	0.52
AVERAGE		70.4	38.6	22.8	29.1	0.57
MAX		77.4	42.2	25.1	33.6	0.64
MIN		60.8	33.9	20.1	25.1	0.51
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3,CO-<0.1 mg/m3

Any unusual feature during determination: Nil

Remarks: (All the values of PM_{10}, $PM_{2.5}$, SO_2, NOx & CO presented in row no 1-15 are **Time Weighted Average.**)

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08838 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS			
Sample Location & Code	S3: Guest house	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	Sampling date after 24 Hrs
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	01.05.2025 TO 31.05.2025	Test Completed on	04.06.2025

Sl. No	Sampling Date	Parameters				
		PM_{10}(µg/m^3)	$PM_{2.5}$(µg/m^3)	SO_2(µg/m^3)	NO_2(µg/m^3)	CO (mg/m^3)
1	01.05.2025	64.3	35.1	17.2	21.9	0.49
2	02.05.2025	60.8	33.6	18.5	20.6	0.52
3	03.05.2025	61.9	30.9	16.3	23.5	0.51
4	04.05.2025	62.7	31.7	16.9	22.7	0.53
5	05.05.2025	65.3	35.6	17.2	25.1	0.55
6	06.05.2025	Monitoring not done due to Rain				
7	07.05.2025	69.8	36.8	17.1	20.1	0.51
8	08.05.2025	65.4	35.2	16.2	21.6	0.55
9	09.05.2025	59.5	33.9	15.9	23.5	0.51
10	10.05.2025	55.2	30.7	17.3	20.5	0.53
11	11.05.2025	60.7	26.9	16.8	21.7	0.59
12	12.05.2025	61.9	31.8	17.2	21.6	0.52
13	13.05.2025	63.8	33.5	16.8	23.3	0.53
14	14.05.2025	64.2	32.7	15.9	22.8	0.51
15	15.05.2025	59.5	31.9	15.5	21.2	0.55
16	16.05.2025	60.3	30.5	14.6	20.6	0.49
17	17.05.2025	68.5	36.8	16.2	24.5	0.43
18	18.05.2025	55.2	29.7	15.9	23.9	0.52
19	19.05.2025	58.1	30.4	15.1	24.1	0.51
20	20.05.2025	Monitoring not done due to Rain				
21	21.05.2025	60.2	30.9	16.2	20.9	0.56
22	22.05.2025	59.4	32.3	17.4	23.5	0.51
23	23.05.2025	60.3	31.9	17.9	24.1	0.57
24	24.05.2025	63.7	33.8	15.6	23.6	0.53
25	25.05.2025	Monitoring not done due to Rain				
26	26.05.2025	60.6	31.7	15.2	22.8	0.52
27	27.05.2025	Monitoring not done due to Rain				
28	28.05.2025	67.3	35.6	16.4	23.9	0.59
29	29.05.2025	61.9	32.9	15.9	24.5	0.55
30	30.05.2025	58.5	30.7	16.1	23.6	0.51
31	31.05.2025	59.4	35.6	15.8	22.8	0.53
AVERAGE		61.8	32.6	16.4	22.7	0.53
MAX		69.8	36.8	18.5	25.1	0.59
MIN		55.2	26.9	14.6	20.1	0.43
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, CO-<0.1 mg/m3

Any unusual feature during determination: Nil

Remarks: (All the values of PM-$_{10}$, PM-$_{2.5}$, SO_2, NOx & CO presented in row no 1-15 are **Time Weighted Average.**)

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08839 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS/			
Sample Location & Code	S4: Near Workshop	Sampled by	VCSPL'S Representative
Sample Description	Ambient Air	Sampling Procedure	IS 5182.
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	Sampling date after 24 Hrs
Sample Condition	Gaseous Sample Solution Refrigerated		
Sampling Date	01.05.2025 TO 31.05.2025	Test Completed on	04.06.2025

Sl. No	Sampling Date	Parameters				
		PM_{10}(µg/m^3)	$PM_{2.5}$(µg/m^3)	SO_2(µg/m^3)	NO_2(µg/m^3)	CO (mg/m^3)
1	01.05.2025	63.9	33.9	15.6	22.6	0.51
2	02.05.2025	67.1	35.1	15.9	21.9	0.55
3	03.05.2025	60.8	34.6	14.2	25.3	0.49
4	04.05.2025	71.4	38.9	16.3	24.2	0.53
5	05.05.2025	68.3	36.8	17.5	23.9	0.51
6	06.05.2025	Monitoring not done due to Rain				
7	07.05.2025	69.5	36.8	14.9	23.1	0.49
8	08.05.2025	70.1	37.2	15.3	24.2	0.53
9	09.05.2025	68.6	35.3	16.8	20.2	0.51
10	10.05.2025	69.5	36.9	14.7	23.5	0.52
11	11.05.2025	72.1	38.2	15.9	25.1	0.55
12	12.05.2025	71.4	37.4	15.3	21.6	0.54
13	13.05.2025	70.6	36.9	15.1	23.3	0.53
14	14.05.2025	68.4	35.2	14.6	22.8	0.53
15	15.05.2025	63.2	33.2	16.2	20.2	0.52
16	16.05.2025	69.8	34.1	15.9	21.7	0.51
17	17.05.2025	64.3	33.2	17.1	23.2	0.56
18	18.05.2025	60.2	31.9	15.3	20.8	0.52
19	19.05.2025	67.9	35.3	15.9	22.4	0.58
20	20.05.2025	Monitoring not done due to Rain				
21	21.05.2025	64.1	33.9	14.8	23.9	0.54
22	22.05.2025	68.9	35.1	13.6	21.8	0.51
23	23.05.2025	69.2	36.5	15.2	25.3	0.55
24	24.05.2025	65.7	34.7	15.1	23.1	0.58
25	25.05.2025	Monitoring not done due to Rain				
26	26.05.2025	63.8	33.6	16.4	20.7	0.49
27	27.05.2025	Monitoring not done due to Rain				
28	28.05.2025	67.4	35.7	14.9	22.9	0.53
29	29.05.2025	69.2	39.8	15.2	20.1	0.48
30	30.05.2025	70.1	33.6	16.3	21.4	0.52
31	31.05.2025	66.8	38.4	15.7	21.6	0.55
AVERAGE		67.5	35.6	15.5	22.6	0.53
MAX		72.1	39.8	17.5	25.3	0.58
MIN		60.2	31.9	13.6	20.1	0.48
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric EPA CFR-40 (pt 50) Appendix-1	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999

BDL Values: SO2< 4 µg/m3, NOX< 6 µg/m3, CO-<0.1 mg/m3

Any unusual feature during determination: Nil

Remarks: (All the values of PM-$_{10}$, PM-$_{2.5}$, SO_2, NOx & CO presented in row no 1-15 are **Time Weighted Average.**)

Reviewed by

Approved by

Annexure-2

MONTHLYA MBIENT AIR MONITORING REPORT

BUFFER ZONE

Ref. No: Envlab/25-26/TR-08840 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**		
SAMPLE DETAILS				
Sample Location & Code	**S5: Jajang Village**		**Sampled by**	**VCSPL'S Representative**
Sample Description	**Ambient Air**		**Sampling Procedure**	**IS 5182.**
Sample Source	**Jajang Iron Ore Mines, JSW**		**Sample Received on**	**Sampling date after 24 Hrs**
Sample Condition	**Gaseous Sample Solution Refrigerated**			
Sampling Date	**01.05.2025, 05.05.2025, 08.05.2025, 12.05.2025, 15.05.2025, 19.05.2025, 22.05.2025, 26.05.2025, 29.05.2025**		**Test Completed on**	**03.06.2025**

Sl. No.	Sampling Date	Parameters				
		PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1	01.05.2025	53.9	28.6	18.1	21.9	0.49
2	05.05.2025	55.9	30.1	16.9	23.5	0.55
3	08.05.2025	51.3	25.3	17.2	22.8	0.51
4	12.05.2025	53.8	26.9	15.3	24.1	0.46
5	15.05.2025	51.4	24.8	16.9	23.6	0.52
6	19.05.2025	50.9	25.9	18.5	22.9	0.51
7	22.05.2025	50.2	26.3	17.1	23.8	0.53
8	26.05.2025	53.7	23.1	15.3	20.7	0.47
9	29.05.2025	55.6	24.7	16.7	21.3	0.42
Monthly Average		53.0	26.2	16.9	22.7	0.50
Maximum		55.9	30.1	18.5	24.1	0.55
Minimum		50.2	23.1	15.3	20.7	0.42
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric IS 5182: Part 24	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999
BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, CO-<0.1 mg/m^3						
Any unusual feature during determination: Nil						

Remarks: (All the values of PM_{-10}, $PM_{-2.5}$, SO_2, NOx & CO presented in row no 1-9 are **Time Weighted Average.**)

Reviewed by **Approved by**

Ref. No: Envlab/25-26/TR-08841 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd		
SAMPLE DETAILS				
Sample Location & Code	S6: Banbhabeda Village		Sampled by	VCSPL'S Representative
Sample Description	Ambient Air		Sampling Procedure	IS 5182.
Sample Source	Jajang Iron Ore Mines, JSW		Sample Received on	Sampling date after 24 Hrs
Sample Condition	Gaseous Sample Solution Refrigerated			
Sampling Date	01.05.2025, 05.05.2025, 08.05.2025, 12.05.2025, 15.05.2025, 19.05.2025, 22.05.2025, 26.05.2025, 29.05.2025		Test Completed on	03.06.2025

Sl. No.	Sampling Date	Parameters				
		PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1	01.05.2025	61.9	32.7	18.9	23.2	0.51
2	05.05.2025	63.8	31.9	19.2	20.5	0.44
3	08.05.2025	59.7	30.6	20.4	21.9	0.49
4	12.05.2025	63.5	33.7	19.7	23.4	0.43
5	15.05.2025	64.5	31.9	20.1	20.7	0.52
6	19.05.2025	56.9	32.5	18.6	25.3	0.51
7	22.05.2025	58.2	30.6	19.8	23.6	0.46
8	26.05.2025	60.7	33.2	16.2	20.9	0.53
9	29.05.2025	61.3	31.9	19.7	24.1	0.52
Monthly Average		61.2	32.1	19.2	22.6	0.49
Maximum		64.5	33.7	20.4	25.3	0.53
Minimum		56.9	30.6	16.2	20.5	0.43
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric IS 5182: Part 24	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999
BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, CO-<0.1 mg/m^3						
Any unusual feature during determination: Nil						

Remarks: (All the values of PM-10, PM-2.5, SO_2, NOx & CO presented in row no 1-9 are **Time Weighted Average.**)

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08842 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**		
SAMPLE DETAILS				
Sample Location & Code		**S7: Jaribahal Village**	**Sampled by**	**VCSPL'S Representative**
Sample Description		**Ambient Air**	**Sampling Procedure**	**IS 5182.**
Sample Source		**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**Sampling date after 24 Hrs**
Sample Condition		**Gaseous Sample Solution Refrigerated**		
Sampling Date	:	**01.05.2025, 05.05.2025, 08.05.2025, 12.05.2025, 15.05.2025, 19.05.2025, 22.05.2025, 26.05.2025, 29.05.2025**	**Test Completed on**	**03.06.2025**

Sl. No.	Sampling Date	Parameters				
		PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1	01.05.2025	58.5	33.6	15.2	21.9	0.53
2	05.05.2025	52.6	29.5	16.4	22.5	0.51
3	08.05.2025	60.3	31.5	14.9	20.3	0.55
4	12.05.2025	53.7	29.5	15.3	24.3	0.49
5	15.05.2025	54.9	30.4	17.7	22.6	0.51
6	19.05.2025	60.6	33.1	16.2	24.1	0.56
7	22.05.2025	63.2	35.0	15.9	20.9	0.52
8	26.05.2025	59.5	31.3	17.2	24.2	0.53
9	29.05.2025	60.1	31.9	16.3	22.6	0.50
Monthly Average		58.2	31.8	16.1	22.6	0.52
Maximum		63.2	35.0	17.7	24.3	0.56
Minimum		52.6	29.5	14.9	20.3	0.49
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric IS 5182: Part 24	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999
BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, CO-<0.1 mg/m^3						
Any unusual feature during determination: Nil						

Remarks: (All the values of PM_{10}, $PM_{2.5}$, SO_2, NOx & CO presented in row no 1-9 are **Time Weighted Average.**)

Reviewed by **Approved by** P. Pati

Ref. No: Envlab/25-26/TR-08843 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**	
SAMPLE DETAILS			
Sample Location & Code	**S8: Kamalpur Village**	**Sampled by**	**VCSPL'S Representative**
Sample Description	**Ambient Air**	**Sampling Procedure**	**IS 5182.**
Sample Source	**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**Sampling date after 24 Hrs**
Sample Condition	**Gaseous Sample Solution Refrigerated**		
Sampling Date	**: 01.05.2025, 05.05.2025, 08.05.2025, 12.05.2025, 15.05.2025, 19.05.2025, 22.05.2025, 26.05.2025, 29.05.2025**	**Test Completed on**	**03.06.2025**

Sl. No.	Sampling Date	Parameters				
		PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO (mg/m^3)
1	01.05.2025	65.6	33.9	16.2	22.8	0.60
2	05.05.2025	60.7	35.4	15.7	26.5	0.62
3	08.05.2025	63.6	36.1	17.9	25.4	0.59
4	12.05.2025	62.4	30.9	17.2	24.9	0.53
5	15.05.2025	61.9	35.2	16.3	23.9	0.55
6	19.05.2025	58.3	33.6	15.4	25.8	0.64
7	22.05.2025	64.2	35.8	16.9	26.1	0.62
8	26.05.2025	60.3	31.7	14.8	24.3	0.63
9	29.05.2025	66.3	36.3	16.2	23.3	0.58
Monthly Average		62.6	34.3	16.3	24.8	0.60
Maximum		66.3	36.3	17.9	26.5	0.64
Minimum		58.3	30.9	14.8	22.8	0.53
CPCB, New Delhi AAQ Standard		100	60	80	80	2
Testing Method		Gravimetric IS 5182: Part 23	Gravimetric IS 5182: Part 24	Improved West & Geake Method IS 5182 (Part-2) RA2006	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2006	Non Dispersive Infrared Method IS 5182 (Part-10):1999
BDL Values: SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, CO-<0.1 mg/m^3						
Any unusual feature during determination: Nil						

Remarks: (All the values of PM_{-10}, $PM_{-2.5}$, SO_2, NOx & CO presented in row no 1-9 are **Time Weighted Average.**)

Reviewed by VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Approved by P. Pati VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Annexure-3

FUGITIVE EMISSION MONITORING REPORT

Ref. No: Envlab/25-26/TR-08844 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS			
Sample Location & Code	F1-Crusher Plant	Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)	Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW	Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter(µg/m3)
1	03.05.2025	734
2	07.05.2025	715
3	10.05.2025	723
4	14.05.2025	735
5	17.05.2025	648
6	21.05.2025	677
7	24.05.2025	707
8	28.05.2025	693
9	31.05.2025	715
Average		705.2
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08845 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd		
SAMPLE DETAILS				
Sample Location & Code	F2-Screen Plant		Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)		Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW		Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter($\mu g/m^3$)
1	03.05.2025	635
2	07.05.2025	617
3	10.05.2025	559
4	14.05.2025	579
5	17.05.2025	596
6	21.05.2025	643
7	24.05.2025	687
8	28.05.2025	606
9	31.05.2025	612
Average		614.9
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08846 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	F3- Loading Plant	Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)	Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW	Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter($\mu g/m^3$)
1	03.05.2025	568
2	07.05.2025	572
3	10.05.2025	564
4	14.05.2025	598
5	17.05.2025	532
6	21.05.2025	546
7	24.05.2025	579
8	28.05.2025	529
9	31.05.2025	602
Average		565.6
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08847 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	F4-Waste Dump	Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)	Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW	Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter($\mu g/m^3$)
1	03.05.2025	712
2	07.05.2025	706
3	10.05.2025	689
4	14.05.2025	694
5	17.05.2025	713
6	21.05.2025	708
7	24.05.2025	724
8	28.05.2025	722
9	31.05.2025	715
Average		709.2
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08848 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	F5-Mines Face Bench	Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)	Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW	Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter(µg/m^3)
1	03.05.2025	521
2	07.05.2025	549
3	10.05.2025	496
4	14.05.2025	578
5	17.05.2025	462
6	21.05.2025	511
7	24.05.2025	530
8	28.05.2025	498
9	31.05.2025	542
Average		520.8
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08849 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	F6-Gate No-2	Sampled by	VCSPL'S Representative
Sample Description	Fugitive Emission (AAQ)	Sampling Procedure	IS 5182 (Part-4)
Sample Source	Jajang Iron Ore Mines, JSW	Test Completed on	03.06.2025

SL. No	Date of Sampling	Test Result
		Suspended Particulate Matter(µg/m3)
1	03.05.2025	513
2	07.05.2025	572
3	10.05.2025	564
4	14.05.2025	492
5	17.05.2025	478
6	21.05.2025	563
7	24.05.2025	521
8	28.05.2025	496
9	31.05.2025	508
Average		523.0
Standard For Crusher/Industrial Area		1200

Reviewed by

Approved by

Annexure-4

SOURCE NOISE MONITORING REPORT

Ref. No: Envlab/25-26/TR-08862 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	N1-N6	Noise Measured By	VCSPL'S Representative
Sample Name	Source Noise	Sampling Procedure	IS 9989:2020
Sample Source	Noise Level (Core Zone)	Noise Measured Date	07.05.2025
Measuring Duration	1 Hr (Min)	Test Completed Date	07.05.2025

SL. No	Sampling Location	Time of Measuring	Leq,	Lmax,	Lmin	L10	L50	L90
01	Dumper	8.15 to 9.30	70.8	77.1	63.6	76.0	69.9	63.5
02	Loader	9.30 to 10.30	69.5	75.8	62.3	74.7	68.6	62.2
03	Crusher Plant	10.30 to 11.30	73.5	79.8	66.3	78.7	72.6	66.2
04	Screen Plant	11.30 to 12.30	71.5	77.8	64.3	76.7	70.6	64.2
05	Mines Office	12.30 to 1.20	68.6	74.9	61.4	73.8	67.7	61.3
06	Excavator	1.30 to 2.30	70.2	76.5	63.0	75.4	69.3	62.9
07	Drozer	2.30 to 3.30	73.1	79.4	65.9	78.3	72.2	65.8

Standard as per Noise Rule 2000		
Time Period	Day	Night
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40
Any feature observed during determination	Nil	

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08863 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	N1-N6	Noise Measured By	VCSPL'S Representative
Sample Name	Source Noise	Sampling Procedure	IS 9989:2020
Sample Source	Noise Level (Core Zone)	Noise Measured date	14.05.2025
Measuring Duration	1 Hr (Min)	Test Completed date	14.05.2025

SL. No	Sampling Location	Time of Measuring	Leq,	Lmax,	Lmin	L_{10}	L_{50}	L_{90}
01	Dumper	8.15 to 9.30	72.1	78.4	64.9	77.3	71.2	64.8
02	Loader	9.30 to 10.30	70.9	77.2	63.7	76.1	70.0	63.6
03	Crusher Plant	10.30 to 11.30	74.3	80.6	67.1	79.5	73.4	67.0
04	Screen Plant	11.30 to 12.30	68.9	75.2	61.7	74.1	68.0	61.6
05	Mines Office	12.30 to 1.20	66.9	73.2	59.7	72.1	66.0	59.6
06	Excavator	1.30 to 2.30	71.2	77.5	64.0	76.4	70.3	63.9
07	Drozer	2.30 to 3.30	70.7	77.0	63.5	75.9	69.8	63.4

Standard as per Noise Rule 2000		
Time Period	Day	Night
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40
Any feature observed during determination	Nil	

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08864 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	**N1-N6**	**Noise Measured By**	**VCSPL'S Representative**
Sample Name	**Source Noise**	**Sampling Procedure**	**IS 9989:2020**
Sample Source	**Noise Level (Core Zone)**	**Noise Measured date**	**21.05.2025**
Measuring Duration	**1 Hr (Min)**	**Test Completed date**	**21.05.2025**

SL. No	Sampling Location	Time of Measuring	Leq,	Lmax,	Lmin	L_{10}	L_{50}	L_{90}
01	Dumper	8.15 to 9.30	70.6	76.9	63.4	75.8	69.7	63.3
02	Loader	9.30 to 10.30	71.5	77.8	64.3	76.7	70.6	64.2
03	Crusher Plant	10.30 to 11.30	68.9	75.2	61.7	74.1	68.0	61.6
04	Screen Plant	11.30 to 12.30	62.3	68.6	55.1	67.5	61.4	55.0
05	Mines Office	12.30 to 1.20	69.5	75.8	62.3	74.7	68.6	62.2
06	Excavator	1.30 to 2.30	70.2	76.5	63.0	75.4	69.3	62.9
07	Drozer	2.30 to 3.30	71.3	77.6	64.1	76.5	70.4	64.0

Standard as per Noise Rule 2000		
Time Period	**Day**	**Night**
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40
Any feature observed during determination	Nil	

Reviewed by **Approved by**

Ref. No: Envlab/25-26/TR-08865 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	N1-N6	Noise Measured By	VCSPL'S Representative
Sample Name	Source Noise	Sampling Procedure	IS 9989:2020
Sample Source	Noise Level (Core Zone)	Noise Measured date	28.05.2025
Measuring Duration	1 Hr (Min)	Test Completed date	28.05.2025

SL. No	Sampling Location	Time of Measuring	Leq,	Lmax,	Lmin	L_{10}	L_{50}	L_{90}
01	Dumper	8.15 to 9.30	72.1	78.4	64.9	77.3	71.2	64.8
02	Loader	9.30 to 10.30	70.9	77.2	63.7	76.1	70.0	63.6
03	Crusher Plant	10.30 to 11.30	69.5	59.8	62.3	58.7	68.6	62.2
04	Screen Plant	11.30 to 12.30	65.3	62.5	58.1	61.4	64.4	58.0
05	Mines Office	12.30 to 1.20	70.1	73.1	62.9	72.0	69.2	62.8
06	Excavator	1.30 to 2.30	66.8	72.4	59.6	71.3	65.9	59.5
07	Drozer	2.30 to 3.30	69.3	66.8	62.1	65.7	68.4	62.0

Standard as per Noise Rule 2000		
Time Period	Day	Night
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40
Any feature observed during determination	Nil	

Reviewed by

Approved by

Annexure-5

BUFFER ZONE NOISE MONITORING REPORT

Ref.No: Envlab/25-26/TR-08868 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	**N1-N6**	**Noise Measured By**	**VCSPL'S Representative**
Sample Name	**AAQ Noise**	**Sampling Procedure**	**IS 9989:2020**
Sample Source	**Noise Level Buffer & Core Zone**	**Noise measured date**	**16.05.2025**
Measuring Duration	**24 Hr**	**Test Completed on**	**16.05.2025**

SL. No	Sampling Location	Date of Monitoring	Noise level dB (A) day time (6.00am to 10.00pm)				Noise level dB (A) night time (10.00pm to 06.00am)			
			DAY Leq,	Lmax,	Lmin	L_{90}	NIGHT Leq,	Lmax,	Lmin	L_{90}
01	North Boundary	16.05.2025	69.7	76	63.4	62.1	56.9	63.2	50.6	49.3
02	South Boundary	16.05.2025	71.2	77.5	64.9	63.6	52.1	58.4	45.8	44.5
03	East Boundary	16.05.2025	73.6	79.9	67.3	66.0	58.9	65.2	52.6	51.3
04	West Boundary	16.05.2025	68.9	75.2	62.6	61.3	55.6	61.9	49.3	48.0
05	Guest House	16.05.2025	67.1	73.4	60.8	59.5	59.7	66.0	53.4	52.1

Standard as per Noise Rule 2000		
Time Period	**Day**	**Night**
Industrial Area	**75**	**70**
Commercial Area	**65**	**55**
Residential Area	**55**	**45**
Silence Zone	**50**	**40**
Any feature observed during determination	**Nil**	

Reviewed by VISIONTEK CONSULTANCY SERVICES PVT. LTD.

VISIONTEK CONSULTANCY SERVICES PVT. LTD. **Approved by**

Annexure-6

ILLUMINATION MONITORING REPORT

Ref. No: Envlab/25-26/TR-08866 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Code	IL1-IL10	LUX Measured By	VCSPL'S Representative
Sample Name	Illumination	Sampling Procedure	NA
Sample Source	Illumination range (Core Zone)	Illumination measured date	13.05.2025
Measuring Duration	5 Min	Test Completed on	13.05.2025

SL. No	Sampling Location	Illumination (in Lux)		Minimum Standard of Illumination (in Lux)	
		Horizontal	Vertical	Horizontal	Vertical
01	Workshop Area	144	102	100	50
02	Screen Plant	132	115	50	--
03	Haul Road	92	86	10	--
04	Loading Point	101	124	15	15
05	Crusher Plant	128	90	50	--
06	Parking Yard	90	104	50	--
07	Permanent Path	86	103	10	--
08	Electric Substation	124	90	100	50
09	Rest Shelter	98	87	30	--
10	Mines Bench foot Path	90	85	10	--

Reviewed by

Approved by P. Pati

Annexure-7

GROUND WATER LEVEL MONITORING

Ref. No: Envlab/25-26/TR-08850 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Narayanposhi Iron Ore Mines of M/s JSW Steel Ltd, Sundargarh

SAMPLE DETAILS

Sample Location & Code	--	Measured by	VCSPL'S Representative
Sample Name	Ground Water Level	Sampling Procedure	NA
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	NA

SL. No	Date of Measuring	Time of Measuring	Name of the Location	Water Level (Mbgr)
1	30.05.2025	8.40 am	Kamalpur Village, Dugwell	10.9
2	30.05.2025	9.10 am	Dugwell Jajang Village	9.2
3	30.05.2025	9.20 am	Jurudi Village Dugwell	6.8
4	30.05.2025	10.40 am	Jalahari Village	10.1
5	30.05.2025	11.10 am	Jaribahal Village	6.3
6	30.05.2025	11.30 am	Dugwell Near Bil-Siding	2.8

Note: The above tested parameters results are related to the sample tested.

Reviewed by

Approved by

Annexure-8

SURFACE WATER QUALITY ANALYSIS REPORT

FLOW RATE MEASUREMENT REPORT

Ref. No: Envlab/25-26/TR-08851 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**	
SAMPLE DETAILS			
Sample Location & Code	**SW1: Baitarani River Upstream SW2: Baitarani River Downstream**	**Sampled by**	**VCSPL'S Representative**
Sample Description	**Surface Water**	**Sampling Procedure**	**APHA 1060**
Sample Source	**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**31.05.2025**
Sample Condition	**Sealed Plastic & Sterilized Glass Bottle**		
Sampling Date	**30.05.2025**	**Test Completed on**	**31.05.2025 TO 07.06.2025**

Sl. No	Parameters	Units	Standards as per IS 2296-Class C	Test methods	SW-1	SW-2
1	Color	Hazen, max	300	APHA 2120 B	<10	<15
2	Odour	--	Agreeable	APHA 2150 B	Agreeable	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H^+B	7.13	7.21
4	Suspended Solids	mg/l, max	--	APHA 2540 D	56	64.0
5	Total dissolved solids	mg/l, max	1500	APHA 2540 C	112.0	128.0
6	Temperature	^{0}c	--	--	26.0	28.4
7	Oil & Grease	mg/l, max	0.1	APHA 5220 B	ND	ND
8	Dissolved Oxygen (as DO)	mg/l, min	4	APHA 4500 O C	5.6	6.1
9	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	APHA 4500 P D	19.3	19.5
10	Chemical Oxygen Demand (as COD)	mg/l, max	--	APHA 3111 B	60.6	68.2
11	Chloride (as Cl)	mg/l, max	600	APHA 23RD Ed,2017: 4500Cl- B	ND	ND
12	Free Ammonia (as NH3)	mg/l, max	--	--	29.8	30.3
13	Iron (as Fe)	mg/l, max	50	APHA 3500 Fe B	1.19	1.3
14	Fluoride (as F)	mg/l, max	1.5	APHA 4500 F^-D	0.42	0.39
15	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	APHA 3500 Cr B	<0.02	<0.02
16	Cyanide (as CN)	mg/l, max	0.05	APHA 4500 CN E	<0.01	<0.01
17	Sulphate (as $SO_{4)}$	mg/l, max	--	APHA 4500SO_4^{2-}B	22.6	20.8
18	Nitrate (as NO3)	mg/l, max	50	APHA4500NO_3^-B	4.65	5.59
19	Phenolic Compound (as C6H5OH)	mg/l, max	--	APHA 5530 C	<0.05	<0.05
20	Anion detergents (as MBAS)	mg/l, max	--	APHA:4500 NO3- B	ND	ND
21	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs in 100% effluent	IS 6582	91%	90%
22	Selenium (as S)	mg/l, max	0.05	APHA 3500 Se C	<0.001	<0.001
23	Manganese (as Mn)	mg/l, max	--	APHA 3111 B	<0.05	<0.05
24	Copper (as Cu)	mg/l, max	1.5	APHA 3111Cu B	<0.02	<0.02
25	Zinc (as Zn)	mg/l, max	15	APHA 3111 B	0.23	0.19
26	Cadmium	mg/l, max	0.01	APHA 3111 B	<0.01	<0.01
27	Lead (as Pb)	mg/l, max	0.1	APHA 3112 B	<0.01	<0.01
28	Mercury (as Hg)	mg/l, max	--	APHA 3111 B	<0.004	<0.004
29	Nickel (as Ni)	mg/l, max	--	APHA 3500As B	<0.05	<0.05
30	Arsenic (as As)	mg/l, max	0.2	APHA 3111 B	<0.004	<0.004
31	Total Chromium (as TCr)	mg/l, max	--	IS3025(P44)1993	<0.05	<0.05
32	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	140	124
Any unusual feature observed during determination				Nil		

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08852 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd	
SAMPLE DETAILS			
Sample Location & Code	SW3: Jalpa Nallah upstream SW4: Jalpa Nallah Downstream	Sampled by	VCSPL'S Representative
Sample Description	Surface Water	Sampling Procedure	APHA 1060
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	31.05.2025
Sample Condition	Sealed Plastic & Sterilized Glass Bottle		
Sampling Date	30.05.2025	Test Completed on	31.05.2025 TO 07.06.2025

Sl. No	Parameters	Units	Standards as per IS 2296-Class C	Test methods	SW-3	SW-4
1	Color	Hazen, max	300	APHA 2120 B	10	15
2	Odour	--	Agreeable	APHA 2150 B	Agreeable	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H+B	7.19	7.24
4	Suspended Solids	mg/l, max	--	APHA 2540 D	48.2	50.3
5	Total dissolved solids	mg/l, max	1500	APHA 2540 C	236.0	250.0
6	Temperature	0c	--	--	29.1	30.1
7	Oil & Grease	mg/l, max	0.1	APHA 5220 B	ND	ND
8	Dissolved Oxygen (as DO)	mg/l, min	4	APHA 4500 O C	5.2	4.8
9	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	APHA 4500 P D	17.6	14.2
10	Chemical Oxygen Demand (as COD)	mg/l, max	--	APHA 3111 B	62.9	60.3
11	Chloride (as Cl)	mg/l, max	600	APHA 23RD Ed,2017: 4500Cl- B	ND	ND
12	Free Ammonia (as NH3)	mg/l, max	--	--	27.6	33.8
13	Iron (as Fe)	mg/l, max	50	APHA 3500 Fe B	1.35	2.09
14	Fluoride (as F)	mg/l, max	1.5	APHA 4500 F-D	0.25	0.29
15	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	APHA 3500 Cr B	<0.02	<0.02
16	Cyanide (as CN)	mg/l, max	0.05	APHA 4500 CN E	<0.01	<0.01
17	Sulphate (as SO_4)	mg/l, max	--	APHA 4500SO42-B	24.9	21.9
18	Nitrate (as NO3)	mg/l, max	50	APHA4500NO3-B	7.96	11.03
19	Phenolic Compound (as C6H5OH)	mg/l, max	--	APHA 5530 C	<0.05	<0.05
20	Anion detergents (as MBAS)	mg/l, max	--	APHA:4500 NO3- B	ND	ND
21	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs in 100% effluent	IS 6582	93%	92%
22	Selenium (as S)	mg/l, max	0.05	APHA 3500 Se C	<0.001	<0.001
23	Manganese (as Mn)	mg/l, max	--	APHA 3111 B	<0.05	<0.05
24	Copper (as Cu)	mg/l, max	1.5	APHA 3111Cu B	<0.02	<0.02
25	Zinc (as Zn)	mg/l, max	15	APHA 3111 B	0.21	0.23
26	Cadmium	mg/l, max	0.01	APHA 3111 B	<0.01	<0.01
27	Lead (as Pb)	mg/l, max	0.1	APHA 3112 B	<0.01	<0.01
28	Mercury (as Hg)	mg/l, max	--	APHA 3111 B	<0.004	<0.004
29	Nickel (as Ni)	mg/l, max	--	APHA 3500As B	<0.05	<0.05
30	Arsenic (as As)	mg/l, max	0.2	APHA 3111 B	<0.004	<0.004
31	Total Chromium (as TCr)	mg/l, max	--	IS3025(P44)1993	<0.05	<0.05
32	Total Coli form	MPN/100 ml	Shall not be detected in any 100 ml sample	APHA 9221 B	108	120
Any unusual feature observed during determination				Nil		

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08853 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**		
SAMPLE DETAILS				
Sample Location & Code	**SW5: Suna River Upstream SW6: Suna River Downstream**		**Sampled by**	**VCSPL'S Representative**
Sample Description	**Surface Water**		**Sampling Procedure**	**APHA 1060**
Sample Source	**Jajang Iron Ore Mines, JSW**		**Sample Received on**	**31.05.2025**
Sample Condition	**Sealed Plastic & Sterilized Glass Bottle**			
Sampling Date	**30.05.2025**	**Test Completed on**		**31.05.2025 TO 07.06.2025**

Sl. No	Parameters	Units	Standards as per IS 2296-Class C	Test methods	SW-5	SW-6
1	Color	Hazen, max	300	APHA 2120 B	<15	20
2	Odour	--	Agreeable	APHA 2150 B	Agreeable	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H^+B	7.07	6.98
4	Suspended Solids	mg/l, max	--	APHA 2540 D	41.6	46.9
5	Total dissolved solids	mg/l, max	1500	APHA 2540 C	164.0	189.0
6	Temperature	^{0}c	--	--	24.6	25.9
7	Oil & Grease	mg/l, max	0.1	APHA 5220 B	ND	ND
8	Dissolved Oxygen (as DO)	mg/l, min	4	APHA 4500 O C	5.4	5.2
9	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	APHA 4500 P D	10.8	16.9
10	Chemical Oxygen Demand (as COD)	mg/l, max	--	APHA 3111 B	56.9	59.4
11	Chloride (as Cl)	mg/l, max	600	APHA 23RD Ed,2017: 4500Cl- B	ND	ND
12	Free Ammonia (as NH3)	mg/l, max	--	--	29.6	35.4
13	Iron (as Fe)	mg/l, max	50	APHA 3500 Fe B	1.64	2.02
14	Fluoride (as F)	mg/l, max	1.5	APHA 4500 F^-D	0.31	0.35
15	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	APHA 3500 Cr B	<0.02	<0.02
16	Cyanide (as CN)	mg/l, max	0.05	APHA 4500 CN E	<0.01	<0.01
17	Sulphate (as $SO_{4)}$	mg/l, max	--	APHA 4500SO_4^{2-}B	13.6	17.9
18	Nitrate (as NO3)	mg/l, max	50	APHA4500NO_3^-B	6.87	7.26
19	Phenolic Compound (as C6H5OH)	mg/l, max	--	APHA 5530 C	<0.05	<0.05
20	Anion detergents (as MBAS)	mg/l, max	--	APHA:4500 NO3- B	ND	ND
21	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs in 100% effluent	IS 6582	94%	91%
22	Selenium (as S)	mg/l, max	0.05	APHA 3500 Se C	<0.001	<0.001
23	Manganese (as Mn)	mg/l, max	--	APHA 3111 B	<0.05	<0.05
24	Copper (as Cu)	mg/l, max	1.5	APHA 3111Cu B	<0.02	<0.02
25	Zinc (as Zn)	mg/l, max	15	APHA 3111 B	0.17	0.2
26	Cadmium	mg/l, max	0.01	APHA 3111 B	<0.01	<0.01
27	Lead (as Pb)	mg/l, max	0.1	APHA 3112 B	<0.01	<0.01
28	Mercury (as Hg)	mg/l, max	--	APHA 3111 B	<0.004	<0.004
29	Nickel (as Ni)	mg/l, max	--	APHA 3500As B	<0.05	<0.05
30	Arsenic (as As)	mg/l, max	0.2	APHA 3111 B	<0.004	<0.004
31	Total Chromium (as TCr)	mg/l, max	--	IS3025(P44)1993	<0.05	<0.05
32	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	98	112
Any unusual feature observed during determination				Nil		

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08854 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address :	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**		
SAMPLE DETAILS			
Sample Location & Code	**SW7: Kakarapani River Upstream SW8: Kakarapani River Downstream**	**Sampled by**	**VCSPL'S Representative**
Sample Description	**Surface Water**	**Sampling Procedure**	**APHA 1060**
Sample Source	**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**31.05.2025**
Sample Condition	**Sealed Plastic & Sterilized Glass Bottle**		
Sampling Date	**30.05.2025**	**Test Completed on**	**31.05.2025 TO 07.06.2025**

Sl. No	Parameters	Units	Standards as per IS 2296-Class C	Test methods	SW-7	SW-8
1	Color	Hazen, max	300	APHA 2120 B	10	<15
2	Odour	--	Agreeable	APHA 2150 B	Agreeable	Agreeable
3	pH value	--	6.5-8.5	APHA 4500 H^+B	7.03	7.25
4	Suspended Solids	mg/l, max	--	APHA 2540 D	42.8	55.1
5	Total dissolved solids	mg/l, max	1500	APHA 2540 C	94.0	106.0
6	Temperature	^{0}c	--	--	26.8	27.6
7	Oil & Grease	mg/l, max	0.1	APHA 5220 B	ND	ND
8	Dissolved Oxygen (as DO)	mg/l, min	4	APHA 4500 O C	4.6	5.1
9	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	APHA 4500 P D	14.8	10.9
10	Chemical Oxygen Demand (as COD)	mg/l, max	--	APHA 3111 B	70.4	48.2
11	Chloride (as Cl)	mg/l, max	600	APHA 23RD Ed,2017: 4500Cl- B	ND	ND
12	Free Ammonia (as NH3)	mg/l, max	--	--	30.1	28.3
13	Iron (as Fe)	mg/l, max	50	APHA 3500 Fe B	1.96	2.11
14	Fluoride (as F)	mg/l, max	1.5	APHA 4500 F^-D	0.26	0.29
15	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	APHA 3500 Cr B	<0.02	<0.02
16	Cyanide (as CN)	mg/l, max	0.05	APHA 4500 CN E	<0.01	<0.01
17	Sulphate (as SO_4)	mg/l, max	--	APHA 4500SO_4^{2-}B	13.6	15.8
18	Nitrate (as NO3)	mg/l, max	50	APHA4500NO_3^-B	6.54	7.13
19	Phenolic Compound (as C6H5OH)	mg/l, max	--	APHA 5530 C	<0.05	<0.05
20	Anion detergents (as MBAS)	mg/l, max	--	APHA:4500 NO3- B	ND	ND
21	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs in 100% effluent	IS 6582	92%	90%
22	Selenium (as S)	mg/l, max	0.05	APHA 3500 Se C	<0.001	<0.001
23	Manganese (as Mn)	mg/l, max	--	APHA 3111 B	<0.05	<0.05
24	Copper (as Cu)	mg/l, max	1.5	APHA 3111Cu B	<0.02	<0.02
25	Zinc (as Zn)	mg/l, max	15	APHA 3111 B	0.19	0.23
26	Cadmium	mg/l, max	0.01	APHA 3111 B	<0.01	<0.01
27	Lead (as Pb)	mg/l, max	0.1	APHA 3112 B	<0.01	<0.01
28	Mercury (as Hg)	mg/l, max	--	APHA 3111 B	<0.004	<0.004
29	Nickel (as Ni)	mg/l, max	--	APHA 3500As B	<0.05	<0.05
30	Arsenic (as As)	mg/l, max	0.2	APHA 3111 B	<0.004	<0.004
31	Total Chromium (as TCr)	mg/l, max	--	IS3025(P44)1993	<0.05	<0.05
32	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample	APHA 9221 B	108	220
Any unusual feature observed during determination				Nil		

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08855 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	Stream flow	Flow measured by	VCSPL'S Representative
Sample Name	Surface Water	Sampling Procedure	IS 14975:2001 (Reaffimed-2022)
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	NA

SL. No	Date of Measuring	Time of measuring	Stream Location	Stream Flow Rate of Velocity (m/sec)
1	30.05.2025	7.30 am	Baitarani River	0.65
2	30.05.2025	08.20 am	Jalpa Nallah	0.70
3	30.05.2025	10.40 am	Suna River	0.75
4	30.05.2025	04.30 pm	Kakarpani River	0.67

Note: The above tested parameters results are related to the sample tested.

Reviewed by

Approved by

Annexure-9

PORTABLE DRINKING WATER QUALITY ANALYSIS REPORT

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref. No: Envlab/25-26/TR-08856 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**

SAMPLE DETAILS

Sample Location & Code	**DW1: Workshop Canteen RO Water DW2: Hatipit RO Water**	**Sampled by**	**VCSPL'S Representative**
Sample Description	**Drinking Water**	**Sampling Procedure**	**APHA 1060**
Sample Condition	**Sealed Plastic & Sterilized Glass Bottle**	**Sample Received on**	**31.05.2025**
Sampling Date	**30.05.2025**	**Test Completed on**	**31.05.2025 TO 07.06.2025**

Sl. No	Parameters	Unit	Standard as per IS 10500:2012, Amnd. 2015 & 2018		Test methods	DW-1	DW-2
Organoleptic & Physical Parameters			**Acceptable**	**Permissible**			
1	Color	Hazen	5	15	APHA 2120 B, C	<5.0	<5.0
2	Odour	--	Agreeable	Agreeable	APHA 2120 B	Agreeable	Agreeable
3	pH value	--	6.5-8.5	No relaxation	APHA 4500 H+B	7.32	7.28
4	Turbidity	NTU, max	1.0	5.0	APHA 2130 B	1.5	<1.0
5	Total Dissolved Solids	mg/l	500	2000	APHA 2540 C	212.0	192.0
6	Temperature	^{0}C	-	-	--	30.2	30.4
7	Conductivity	µS/cm	-	-	APHA 2510 C	322.0	302.0
General Parameters Concerning Substances Undesirable in Excessive Amounts							
8	Calcium (as Ca)	mg/l	75	200	APHA 3500Ca B	31.2	30.8
9	Chloride (as Cl)	mg/l	250	1000	APHA 4500Cl- B	21.3	20.5
10	Copper (as Cu)	mg/l	0.05	1.5	APHA 3111B,C	<0.02	<0.02
11	Fluoride (as F)	mg/l	1.0	1.5	APHA 4500F-C	0.19	0.14
12	Free residual Chlorine	mg/l	0.2	1.0	APHA 4500Cl B	ND	ND
13	Iron (as Fe)	mg/l	1.0	No relaxation	APHA 3500Fe B	0.32	0.28
14	Magnesium (as Mg)	mg/l	30	100	APHA 3500Mg,B	16.2	17.3
15	Manganese (as Mn)	mg/l	0.1	0.3	APHA 3500Mn B	<0.05	<0.05
16	Aluminium (as Al)	mg/l	0.03	0.2	APHA 3500Al B	<1.0	<1.0
17	Mineral oil	mg/l	0.5	No relaxation	APHA 5220 B	<0.02	<0.02
18	Acidity	mg/l	-	-	APHA 2310 B	<1.0	<1.0
19	Phenolic Compounds	mg/l	0.001	0.002	APHA 5530 B,C	<0.05	<0.05
20	Selenium(as Se)	mg/l	0.01	No relaxation	APHA 3114B	<0.001	<0.001
21	Sulphate (as SO_4)	mg/l	200	400	APHA 4500SO42-B	10.9	12.4
22	Total Alkalinity	mg/l	200	600	APHA 2320 B	102.0	97.0
23	Total Hardness	mg/l	200	600	APHA 2340 C	98.0	102.0
24	Zinc(as Zn)	mg/l	5.0	15.0	APHA 3111B,C	0.13	0.10
25	Nitrate (as NO3)	mg/l	45	No relaxation	APHA 4500 NO-B	4.3	5.1
26	Anion detergents (as MBAS)	mg/l	0.2	1.0	APHA:4500 NO3- B	ND	ND
27	Boron	mg/l	0.5	1.0	APHA 4500 B,B	<0.1	<0.1
Parameters Concerning Toxic Substances							
28	Cadmium (as Cd)	mg/l	0.003	No relaxation	APHA 3111B,C	<0.01	<0.01
29	Total Chromium (as TCr)	mg/l	0.05	No relaxation	IS3025(P44)1993	<0.05	<0.05
30	Cyanide (as CN)	mg/l	0.05	No relaxation	APHA 4500CN-C,D	<0.01	<0.01
31	Lead (as Pb)	mg/l	0.01	No relaxation	APHA 3111B,C	<0.01	<0.01
32	Mercury (as Hg)	mg/l	0.001	No relaxation	APHA 3500 Hg	<0.004	<0.004
33	Total arsenic	mg/l	0.01	No relaxation	APHA 3114B	<0.004	<0.004
34	Pesticide	mg/l	0.0005	No relaxation	APHA 6630 B	<0.0001	<0.0001
35	Polyaromatic hydrocarbons (PAH)	mg/l	0.001	0.002	APHA 6440 B	<0.0001	<0.0001
BACTERIOLOGICAL QUALITY							
36	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample		APHA 9221 B	<1.1	<1.1
37	E. Coli	MPN/100ml	Shall not be detected in any 100 ml sample		APHA 9221 F	<1.8	<1.8
Any unusual feature observed during determination						**NIL**	

Reviewed by **Approved by**

Ref. No: Envlab/25-26/TR-08857 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	DW3: Officer Canteen	Sampled by	VCSPL'S Representative
Sample Description	Drinking Water	Sampling Procedure	APHA 1060
Sample Condition	Sealed Plastic & Sterilized Glass Bottle	Sample Received on	31.05.2025
Sampling Date	30.05.2025	Test Completed on	31.05.2025 TO 07.06.2025

Sl. No	Parameters	Unit	Standard as per IS 10500:2012, Amnd. 2015 & 2018		Test methods	DW-1
Organoleptic & Physical Parameters			Acceptable	Permissible		
1	Color	Hazen	5	15	APHA 2120 B, C	<5.0
2	Odour	--	Agreeable	Agreeable	APHA 2120 B	Agreeable
3	pH value	--	6.5-8.5	No relaxation	APHA 4500 H+B	7.16
4	Turbidity	NTU, max	1.0	5.0	APHA 2130 B	<1.0
5	Total Dissolved Solids	mg/l	500	2000	APHA 2540 C	182.0
6	Temperature	^{0}C	-	-	--	32.5
7	Conductivity	µS/cm	-	-	APHA 2510 C	319.5
General Parameters Concerning Substances Undesirable in Excessive Amounts						
8	Calcium (as Ca)	mg/l	75	200	APHA 3500Ca B	30.3
9	Chloride (as Cl)	mg/l	250	1000	APHA 4500Cl- B	22.5
10	Copper (as Cu)	mg/l	0.05	1.5	APHA 3111B,C	<0.02
11	Fluoride (as F)	mg/l	1.0	1.5	APHA 4500F-C	0.16
12	Free residual Chlorine	mg/l	0.2	1.0	APHA 4500Cl B	ND
13	Iron (as Fe)	mg/l	1.0	No relaxation	APHA 3500Fe B	0.26
14	Magnesium (as Mg)	mg/l	30	100	APHA 3500Mg,B	16.3
15	Manganese (as Mn)	mg/l	0.1	0.3	APHA 3500Mn B	<0.05
16	Aluminium (as Al)	mg/l	0.03	0.2	APHA 3500Al B	<1.0
17	Mineral oil	mg/l	0.5	No relaxation	APHA 5220 B	<0.02
18	Acidity	mg/l	-	-	APHA 2310 B	<1.0
19	Phenolic Compounds	mg/l	0.001	0.002	APHA 5530 B,C	<0.05
20	Selenium(as Se)	mg/l	0.01	No relaxation	APHA 3114B	<0.001
21	Sulphate (as SO_4)	mg/l	200	400	APHA 4500SO42-B	11.2
22	Total Alkalinity	mg/l	200	600	APHA 2320 B	90.0
23	Total Hardness	mg/l	200	600	APHA 2340 C	98.0
24	Zinc(as Zn)	mg/l	5.0	15.0	APHA 3111B,C	0.11
25	Nitrate (as NO3)	mg/l	45	No relaxation	APHA 4500 NO-B	4.6
26	Anion detergents (as MBAS)	mg/l	0.2	1.0	APHA:4500 NO3- B	ND
27	Boron	mg/l	0.5	1.0	APHA 4500 B,B	<0.1
Parameters Concerning Toxic Substances						
28	Cadmium (as Cd)	mg/l	0.003	No relaxation	APHA 3111B,C	<0.01
29	Total Chromium (as TCr)	mg/l	0.05	No relaxation	IS3025(P44)1993	<0.05
30	Cyanide (as CN)	mg/l	0.05	No relaxation	APHA 4500CN-C,D	<0.01
31	Lead (as Pb)	mg/l	0.01	No relaxation	APHA 3111B,C	<0.01
32	Mercury (as Hg)	mg/l	0.001	No relaxation	APHA 3500 Hg	<0.004
33	Total arsenic	mg/l	0.01	No relaxation	APHA 3114B	<0.004
34	Pesticide	mg/l	0.0005	No relaxation	APHA 6630 B	<0.0001
35	Polyaromatic hydrocarbons (PAH)	mg/l	0.001	0.002	APHA 6440 B	<0.0001
BACTERIOLOGICAL QUALITY						
36	Total Coli forms	MPN/100ml	Shall not be detected in any 100 ml sample		APHA 9221 B	<1.1
37	E. Coli	MPN/100ml	Shall not be detected in any 100 ml sample		APHA 9221 F	<1.8
Any unusual feature observed during determination						NIL

Reviewed by

Approved by

Annexure-10

STP WATER QUALITY ANALYSIS REPORT

FLOW RATE MEASUREMENT REPORT

Ref. No: Envlab/25-26/TR-08858 **Date: 11.06.2025**

TEST REPORT

Customer Name & Address	:	**Jajang Iron Ore Mines of M/s JSW Steel Ltd**	
SAMPLE DETAILS			
Sample Location & Code	**S1: STP In Let Near Security Barak S2: STP Out Let Near Security Barak**	**Sampled by**	**VCSPL'S Representative**
Sample Description	**Treated Water**	**Sampling Procedure**	**APHA 1060**
Sample Source	**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**31.05.2025**
Sample Condition	**Sealed Plastic & Sterilized Glass Bottle**		
Sampling Date	**30.05.2025**	**Test Completed on**	**31.05.2025 TO 07.06.2025**

Sl. No	Parameters	Units	Standard for discharge of Effluent in (Inland Surface Water) 1986 Env. Protection act	Test methods	In Let	Out Let
ORGANOLEPTIC & PHYSICAL PARAMETERS						
1	pH value	-	5.5-9.0	APHA 4500H$^+$B	6.13	6.97
2	Total dissolved solids	mg/l, max	--	APHA 2540 C	1186	164
3	Total Suspended Solids	mg/l, max	100	APHA 2540 D	780	86
4	Biochemical Oxygen Demand (as BOD) for 3 days at 27°C)	mg/l, max	30	APHA 5210-B	174	34
5	Chemical Oxygen Demand (as COD)	mg/l, max	250	APHA 5220-C	568	152
6	Oil & Grease	mg/l, max	10.0	APHA 5220-B	7.1	5.5
7	Fecal Coliform	MPN/100ml	1000	APHA 9221-B	1040	320
Any unusual feature observed during determination				**Nil**		

Reviewed by **Approved by**

Ref. No: Envlab/25-26/TR-08859 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	**Stream flow**	**Sampled by**	**VCSPL'S Representative**
Sample Name	**STP water**	**Sampling Procedure**	**IS 14975:2001 (Reaffimed-**
Sample Source	**Jajang Iron Ore Mines, JSW**	**Sample Received on**	**NA**

SL. No	Date of Sampling	Stream Location	Stream Flow Rate of Velocity (m/sec)
1	30.05.2025	STP flow rate Near Security Barak	1.15

Note: The above tested parameters results are related to the sample tested.

Reviewed by

Approved by

Annexure-11

ETP WATER QUALITY ANALYSIS REPORT

FLOW RATE MEASUREMENT REPORT

Ref. No: Envlab/25-26/TR-08860 Date: 11.06.2025

TEST REPORT

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	S1: ETP In- Let Near Workshop S2: ETP Out -Let Near Workshop	Sampled by	VCSPL'S Representative
Sample Description	Treated Water	Sampling Procedure	APHA 1060
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	31.05.2025
Sample Condition	Sealed Plastic & Sterilized Glass Bottle		
Sampling Date	30.05.2025	Test Completed on	31.05.2025 TO 07.06.2025

Sl. No	Parameters	Units	Standard for discharge of Effluent in (Inland Surface Water)	Test methods	In Let	Out Let
ORGANOLEPTIC & PHYSICAL PARAMETERS						
1	pH value	-	5.5-9.0	APHA 4500H$^+$B	6.83	7.11
2	Total dissolved solids	mg/l, max	--	APHA 2540 C	376	34.9
3	Total Suspended Solids	mg/l, max	100	APHA 2540 D	921	320
4	Biochemical Oxygen Demand (as BOD) for 3 days at 27°C)	mg/l, max	30	APHA 5210-B	90	34
5	Chemical Oxygen Demand (as COD)	mg/l, max	250	APHA 5220-C	356	126
6	Oil & Grease	mg/l, max	10.0	APHA 5220-B	6.2	5.2
Any unusual feature observed during determination				Nil		

Reviewed by

Approved by

Ref. No: Envlab/25-26/TR-08861 Date: 11.06.2025

TEST REPORT

Customer Name & Address : Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Location & Code	Stream flow	Sampled by	VCSPL'S Representative
Sample Name	ETP Water	Sampling Procedure	IS 14975:2001 (Reaffimed-
Sample Source	Jajang Iron Ore Mines, JSW	Sample Received on	NA

SL. No	Date of Sampling	Stream Location	Stream Flow Rate of Velocity (m/sec)
1	30.05.2025	ETP In Let flow Near Workshop	1.20

Note: The above tested parameters results are related to the sample tested.

Reviewed by

Approved by

Annexure-12

PERSONAL NOISE LEVEL MONITORING REPORT

Ref. No: Envlab/25-26/TR-08867 Date: 11.06.2025

PERSONAL NOISE LEVEL MONITORING REPORT MAY-2025

Customer Name & Address	:	Jajang Iron Ore Mines of M/s JSW Steel Ltd

SAMPLE DETAILS

Sample Description	Personal Noise	Sampled by	VCSPL'S Representative
Sample Source	Jajang Iron Ore Mines, JSW		

Sl. No.	Date of monitoring	Sampler attached to person	Day Time (6.00am to 10.00pm)
			Noise Level in dB(A)
1	24.05.2025	Near Crusher Plant	62.8
2	24.05.2025	Near Screen Plant	59.7
3	24.05.2025	Near Loading Point	66.3
4	24.05.2025	Near Haulage Road	61.8
5	24.05.2025	Excavator Operator	67.9
6	24.05.2025	Drozer Operation	53.2
7	24.05.2025	Near Mines Office	54.9
8	24.05.2025	Gate No-2	63.9
9	24.05.2025	Haulage Road	60.1
10	24.05.2025	Near View Pont	59.7

Reviewed by

Approved by P. Pati

ANNEXURE VI

Annexure-VII

Mango Plantation

Dump Plantation

Drip Irrigation


ASHOKA

Annexure- VIII

Rooftop Rain water harvesting system

Collection pit of Rooftop Rain water harvesting

Rain water harvesting pits

Annexure-IX

LANDUSE / LANDCOVER MAP OF JAJANGA IRON ORE MINE IN KEONJHAR DISTRICT OF M/S JSW STEEL LTD.

0 0.375 0.75 1.5 Kilometers

SCALE - 1:5,000

N W E S

Annexure- XI

Legend

- Habitation
- Agricultural Land
- Forest Plantation
- Tree Clad Area
- Plantation Over Dump
- Land With Scrub
- Land Without Scrub
- Waterlogging / Marshy / Swampy
- Tank / Pond
- Mining Quarry
- Sub - Grade Dump
- OB Dump
- Stock Yard / Ore Stack
- Back Filling
- Site Services
- Workshop
- Processing Yard
- Magazine
- State Highway
- Haul Road
- Other Road
- Railway Line
- Park / Garden / Zoo
- Safety Zone
- Mining Lease Boundary

ORISSA SPACE APPLICATIONS CENTRE
Map No. 2601/1
Date 09-12-2021
Auth. Signatory
BHUBANESWAR

SOURCE : -

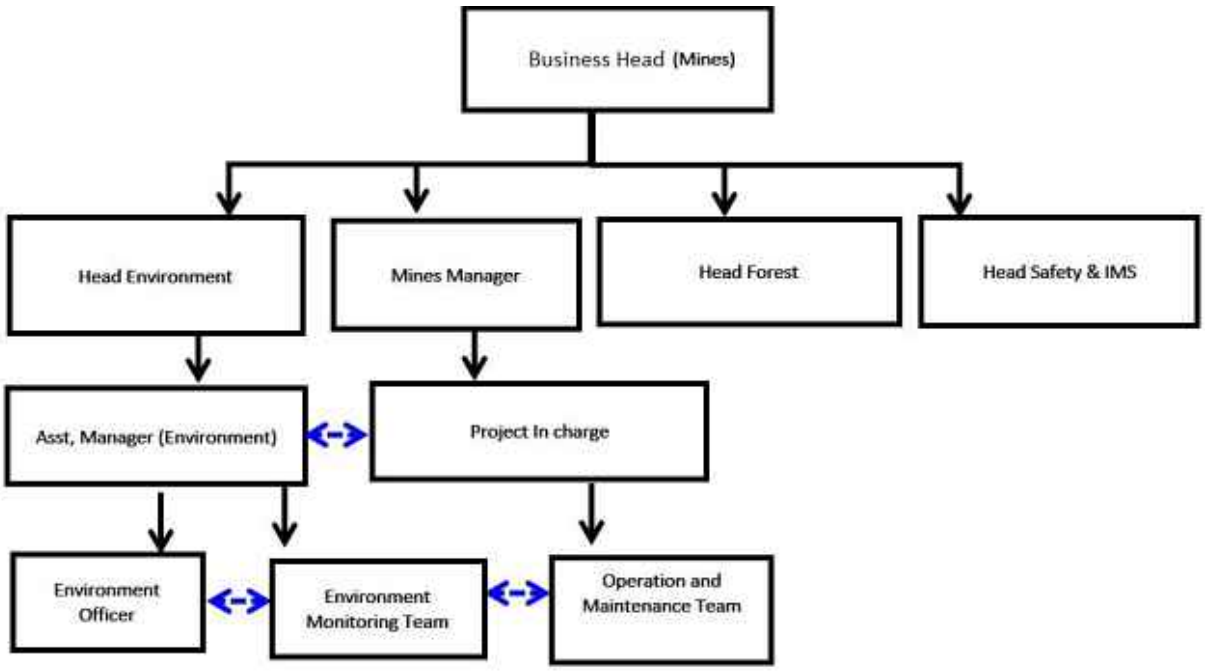
Drone Image Supplied By M/s JSW Steel Ltd.
Month - August , Year - 2021

ORSAC

Annexure-X

FORMATION OF ENVIRONMENTAL MANAGEMENT CELL (EMC)

In order to maintain the environmental quality, regular inspections, audits & monitoring of various environmental components is necessary. M/s. JSW Steel Ltd. has a full-fledged Environmental Management Cell (EMC) for environmental monitoring and control. The EMC team will be responsible for pollution monitoring aspects and implementation of control measures.



Organizational Structure of EMC