



No. JSW/S/O/2021/247

Date: 18/11/2021

To,  
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 in respect of Narayanposhi Iron & Manganese Ore Mine of M/s JSW Steel Ltd for the period April 2021 to September 2021.**

Ref: - 1. Vesting Order dated 30<sup>th</sup> May 2020 issued by GoO, Steel and Mines Department.  
2. Environment Clearance Letter dated 18.06.2019 issued by MOEF&CC, GOI.

Dear Sir,

We would like to submit that M/s JSW Steel Limited has been granted mining lease over the Narayanposhi Iron & Manganese Ore block after emerging as the 'Preferred Bidder' in the e-auction conducted by the State Government of Odisha in March, 2020. Subsequent to the issuance of grant order the lease deed has been executed and registered on 27/06/2020. Now the mining operation has already been commenced from the beginning of July, 2020.

Prior to issuance of grant order, the vesting order has been issued under Rule 9(A)(2) of the Minerals Concession (Amendment) Rules, 2020, by virtue of which M/S JSW Steel has been deemed to have acquired all valid rights, approvals, clearances, licenses and the like vested with the previous lessee for a period of two years. The list of such clearances which got vested with us includes Environment Clearance, FC, Mining Plan, CTO, CTE, Surface right groundwater drawl etc.

We are submitting herewith six-monthly EC compliance report of Narayanposhi Iron & Manganese Ore Mine, M/s JSW Steel Ltd. for the period April 2021 to September 2021 as per EIA



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notification 2006. The same is also attached in Soft copy to your good office on e-mail to [roez.bsr-mef@nic.in](mailto: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**

**Baswaraj M Dalgade**  
(Authorized Signatory)

Encl: As above

Copy to:

1. The Member Secretary, Central Ground Water Authority, Government of India, Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Bhujal Bhawan, CGO Complex, NH-IV, Faridabad- 121 001.
2. Zonal Office Kolkata, Central Pollution Control Board, South end Conclave, Block 502, 5th and 6th Floors, 1582 Razidanga Main Road, Kolkata, West Bengal 700107.
3. The Regional Director, Central Ground Water Board, South Eastern Region, Bhujal Bhawan, Khandagiri Square, NH-5, Bhubaneswar, Odisha, Pin- 751001
4. The Member Secretary, State Pollution Control Board, A/118, Nilakantha Nagar, Bhubaneswar, Odisha-751012.
5. The Regional Officer, Regional Office, Rourkela Office of the State Pollution Control Board Rourkela Town Engineering Office Premises, Sector – 5, Rourkela – 769 002, Odisha

## **ENVIRONMENT CLEARANCE COMPLIANCE STATUS –NARAYANPOSHI MINE**

**Compliance report of Environmental Clearance for Narayanposhi Iron & Manganese Ore Mine, JSW Steel Ltd.**

**Reference letter from MoEF&CC, New Delhi- J-11015/288/2008-IA.II(M), Dtd. 18.06.2019.**

**Capacity- 6.0 MTPA Iron Ore (ROM) & 0.036 MTPA Mn Ore and 2 MTPA Beneficiation Plant.**

**Status- Operating Mine of 6.0 MTPA Iron Ore & 0.036 MTPA Mn Ore. 2 MTPA Beneficiation Plant detailed engineering & procurement is in under progress and same will install within due course of time.**

<b>Sl. No.</b>	<b>Specific Conditions</b>	<b>Compliance</b>
1	<b>The enhance production shall be on pro-rata basis for the effective period of valid environment clearance granted herein. The PP shall ensure its compliance by getting concurrence in mining plan approved by concern authority in this regard.</b>	Not Applicable
2	<b>This EC for expansion proposal (iron ore production from 3.0 MTPA to 6.0 MTPA (ROM) and existing 0.036 MTPA Manganese ore and establishment of Beneficiation Plant with capacity of 2.0 Million TPA along with crusher and screening plant within the mine lease area) shall be operational after submission of an undertaking through affidavit to MoEF &amp; CC within 15 days of receipt of this letter, for compliance of all the conditions prescribed herein.</b>	2 MTPA Beneficiation Plant detailed engineering & procurement is in under progress and same will install within due course of time.  TOR has been approved from MOEF&CC on 31.12.2020 for the proposed project of 6 MTPA Beneficiation Plant and EIA/EMP report for the same is under progress.
3	<b>Project Proponent and Department of Steel &amp; mines, Govt. of Odisha shall ensure the implementation of recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of iron Ore and/or manganese in the State of Odisha.</b>	Not Applicable
4	Department of Steel & Mines, Govt. of Odisha should prepare 5 years' regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.	Not Applicable
5	Project Proponent shall construct the cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road with minimum 300 m inside the mine. This should be done within one year for existing mines and new mine should have since beginning. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as	Being Complied. Existing cement concrete road from mine entrance and exit to the main road being maintained. In addition to existing, new cement concrete road, has been constructed in Gate No 2 area along with Automatic Wheel Washing facility.

	suggested. <b>This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.</b>	
6	The Committee observed that as per the recommendations of NEERI report the PP needs to do regular vacuum cleaning of all mineral carrying roads aiming at “zero dust re-suspension” within 3 months. <b>This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.</b>	Regular water sprinkling through mobile water sprinkler tankers being carried out on haul roads and nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles. Regular maintenance of Haul roads is being carried out to avoid generation of dust during movement of vehicles. In addition to this, regular vacuum cleaning system procurement order has been awarded to M/s TPS and same is in process of supply of the machines.
7	Project Proponent shall monitor the environmental quality parameters as per EC and CTE/CTO conditions, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable Acts.	Regular monitoring of environmental quality parameters as per EC and CTE/CTO conditions being carried out and Monitoring Reports are attached as <u><b>Annexure 1a, 1b &amp; 1c.</b></u> Vendor is a recognized NABET, MoEF&CC accredited laboratory.
8	Project Proponent shall ensure the compliance of Suggested Ore Transport Mode (SOTM) with association of the State Government of Odisha. All existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.	Project Proponent will follow the Suggested Ore Transport Mode (SOTM) in association with Government of Odisha. As proposed in new applied EC for which TOR approved on dated 31.12.2020, the ore will be transported through slurry pipeline/road/railway to the designated port or directly to the JSW Steel Plant or to Nuagaon Mine through road/pipe conveyor for onward transportation to end use plant through slurry pipe line.
9	The State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha. Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional	The State Govt of Odisha will do the needful. Mobile water sprinkler tankers are provided for regular water sprinkling on nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles



	railway network/conveyor belt/ pipelines etc. shall be submitted periodically to Regional office of the MoEF&CC.	
10	Project Proponent shall develop the parking plazas for trucks with proper basic amenities/ facilities inside the mine. This should be done within one year for existing mines and new mines should have since beginning. <b>This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.</b>	Existing parking plaza being maintained. Additional basic amenities will be provided, if required.
11	Department of Steel & Mines shall ensure the construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. This shall be completed within 2 Years.	Not Applicable.
12	Regular vacuum cleaning of all mineral carrying roads aiming at “Zero Dust Re- suspension” shall be adopted by PWD / NHAI/ Mine Lease Holders within a time Period of 3 months for existing roads. <b>This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.</b>	Regular water sprinkling through mobile water sprinkler tankers being carried out on haul roads and nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles. Regular maintenance of Haul roads is being carried out to avoid generation of dust during movement of vehicles. In addition to this, regular vacuum cleaning system procurement order has been awarded to M/s TPS and same is in process of supply of the machines.
13	In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.	Not Applicable
14	R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content up to 45% by 2020 and up to 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for	The low grade ores being stacked in earmarked area. Once technology through R & D study for the beneficiation & commercial use is established same will be utilised.  Approved TOR dated 31.12.2020 having proposal of 6 MTPA Beneficiation Plant

	techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders.	and EIA/EMP report for the same is under progress.
15	The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system up to public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.	Not Applicable
16	State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.	Not Applicable.
17	<b>Mining Operations/Process Related:</b> Project Proponent shall implement the following mitigation measures: (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis. Efforts should be	Mining being carried out as per approved mine plan. Dust Suppression System (Dry fog system) being provided at all appropriate places of mineral handling plants (crusher & screening plant) and other areas. Same are being maintained for proper dust control. DGPS Surveyed Mining lease boundary superimposed on High Resolution Satellite image of Narayanposhi Iron & Mn Mine duly vetted by M/s ORSAC has already been submitted along with last half yearly compliance report vide letter dated 21.05.2021.

	<p>made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders.</p> <p>(iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.</p>	
18	<p><b>Air Environment Related:</b> Project Proponent shall implement the following mitigation measures: (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO2, NOx and CO monitoring. Location of air quality monitoring 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 (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in</p>	<p>Existing Fixed water sprinkling being maintained and operated. For, additional Fixed auto sprinklers on both sides of major haul road and approach roads of the mine is in commissioning phase. However, as an interim arrangement frequency of the Mobile water tankers sprinkling has been increased to suppress the dust emission generated due to transportation of vehicles.</p> <p>Regular water sprinkling through mobile water sprinkler tankers being carried out on haul roads and nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles. Regular maintenance of Haul roads is being carried out to avoid generation of dust during movement of vehicles. Regular Monitoring of ambient air quality parameters being carried out at four AAQ monitoring stations in core zone and four stations in buffer zone. Monitoring reports are attached as <b><u>Annexure 1a</u></b>.</p>

	<p>larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM10, PM2. 5, SO<sub>2</sub>, NO<sub>x</sub> and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable.</p> <p>(iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate), Responsibility: Individual Mine Lease Holders and SPCB</p>	<p>Mineral carrying trucks are not allowed to go out of the lease area without tarpaulin cover and is being monitored by security personnel at the exit gate.</p> <p>Vehicular emissions will be regularly monitored. Also, Security personnel are also do not allow the vehicles to enter into the mines without having valid PUC.</p>
19	<p><b>Noise and Vibration Related:</b> Project Proponent shall implement the following mitigation measures: (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate measures should be taken for control of noise levels below 85 DB in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored at least once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.</p>	<p>Noise producing equipment's are covered as far as practicable. Workers engaged in Operations are provided with ear plugs / muffs. Besides this, acoustic enclosures are provided for all machines operating within the mines. Controlled blasting is in place. Regular Noise Monitoring being carried out at 10 stations in core zone and buffer zone and Monitoring reports are attached as <b><u>Annexure 1c</u></b>. Vendor is a recognized NABET, MoEF &amp; CC accredited laboratory.</p>
20	<p><b>Water/Wastewater Related:</b> Project Proponent shall implement the following mitigation measures: (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough</p>	<p>No natural water courses and/or water resources are obstructed due to mining operation. Majority of the runoff is channelized to in-pit settling cum percolation pits.</p>

<p>resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro-geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable. (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable. (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and</p>	<p>Regular monitoring of water quality of upstream and downstream being carried out and Monitoring Reports are attached as <b><u>Annexure 1b</u></b>. Vendor is a recognized NABET, MoEF &amp; CC accredited laboratory.</p> <p>Existing water conservation measures are being maintained for collecting rain water in the mining lease area. New conservation measures if required will be implemented in consultation with CGWB.</p> <p>The waste water generated from workshop will be treated by ETP/Mechanized Oil Grease Trap System and automatic wheel washing system (with complete recirculation system).</p> <p>Existing Retention wall, Garland drains and setting pits being maintained and will be desilted before monsoon season. Runoff discharge being maintained within standard. New Garland Drains, settling pit will be constructed as per approved mine plan requirement, if any, to prevent any direct flow of runoff to nearby water bodies.</p>
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	<p>management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls. (xi) Trenches/ garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.</p>	
21	<p><b>Land/Soil/Overburden Related:</b> Project Proponent shall implement the following mitigation measures: (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site (s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc.</p>	<p>Working is restricted into broken-up area only. However, if any, Top soil generation, same will be stored at earmarked site and will be used for land reclamation, plantation purpose or stabilized with plantation.</p> <p>Over burden being generated and stacked at earmarked site as per approved Mine Plan. Active dump will be stabilised with plantation after maturity.</p> <p>Hazardous waste storage area having covered shed constructed in mine. Same is being used for storage of the hazardous waste and subsequently disposed to the authorised recyclers</p> <p>Existing Retention wall, Garland drains and setting pits being maintained and will be desilted before monsoon season. Runoff discharge being maintained within standard. New Garland Drains, settling pit will be constructed as per approved mine plan requirement, if any, to prevent any direct flow of runoff to nearby water bodies.</p>

	<p>(iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil. OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.</p>	
22	<p><b>Ecology/Biodiversity (Flora-Fauna) Related:</b> Project Proponent shall implement the following mitigation measures: (i) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (ii) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (iii) Green belt development carried out by mines should be monitored regularly in every</p>	<p>This instant mining lease was executed on 27.06.2020 and the working has been continuing with the strength of vesting order.</p> <p>More than 2500 Saplings have been planted in FY 2021-22 as per the approved mine plan in the safety zone area and in the old dump area.</p> <p>No Wild Life Sanctuary/Tiger Reserve/National Park/ Elephant corridor within the core as well as within the buffer zone of the project.</p> <p>As regards to Site specific conservation plan, we have submitted the new Site Specific Conservation plan for approval and will be submitted to your good office after approval from PCCF (WL) cum Chief Wildlife Warden.</p>

	<p>season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (iv) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (v) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (vi) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. Responsibility: Individual Mine Lease Holders and State Forest &amp; Wildlife Department.</p>	
23	<p><b>Socio-Economic Related:</b> Project Proponent shall implement the following mitigation measures: (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outeers and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for “Samagra Vikas” of these blocks well as other blocks of the district. While planning for different</p>	<p>Being complied. Narayanposhi Mining operation was started from 1<sup>st</sup> July 2020 and various community development initiatives are under implementation for community upliftment. Need based assessment survey has been completed and action plan is under implementation for the compliance.</p>



	<p>schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.</p>	
24	<p><b>Road Transport Related:</b> Project Proponent shall implement the following mitigation measures: (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM:t0 should be monitored near the roads towards entry &amp; exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel &amp; Mines.</p>	<p>Project Proponent will follow the Suggested Ore Transport Mode (SOTM) in association with Government of Odisha. As proposed in new applied EC for which TOR approved on dated 31.12.2020, the ore will be transported through slurry pipeline/road/railway to the designated port or directly to the JSW Steel Plant or to Nuagaon Mine through road/pipe conveyor for onward transportation to end use plant through slurry pipe line.</p> <p>Existing cement concrete road from mine entrance and exit to the main road being maintained. In addition to existing, new cement concrete road, has been constructed in Gate No 2 area along with Automatic Wheel Washing facility.</p> <p>Mineral carrying trucks are not allowed to go out of the lease area without tarpaulin cover and is being monitored by security personnel at the exit gate.</p> <p>Vehicular emissions will be regularly monitored. Also, Security personnel are also do not allow the vehicles to enter into the mines without having valid PUC.</p>
25	<p><b>Occupational Health Related:</b> Project Proponent shall implement the following mitigation measures: (i) 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 periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed.</p> <p>(iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified</p>	<p>Personnel working in dusty areas are provided with nose mask, safety glass and ear plug with proper safety training.</p> <p>Dust Suppression System (Dry fog system) being provided at all appropriate places of mineral handling plants (crusher &amp; screening plant) and other areas. Same are being maintained for proper dust control.</p> <p>Workers engaged in Operations are provided with PPE's. Besides this, acoustic enclosures are provided for all machines operating within the mines. The noise level is being monitored by Noise Level Meter; the results reveal that the parameter is well within the prescribed norms.</p>

	<p>doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer).</p>	<p>Initial Medical Examination &amp; Periodical Medical Examination of the workers engaged in the project are being carried periodically and records are maintained.</p> <p>A medical dispensary with full time Doctor has been appointed at mine area for the health check-up of employees and also the locals.</p> <p>Medical health camps will be organized in the nearby villages after the ongoing Covid-19 pandemic over and as per the Guidelines of State Government</p> <p>Existing Fixed water sprinkling being maintained and operated. For, additional Fixed auto sprinklers on both sides of major haul road and approach roads of the mine is in commissioning phase. However, as an interim arrangement frequency of the Mobile water tankers sprinkling has been increased to suppress the dust emission generated due to transportation of vehicles.</p> <p>Mobile water sprinkler tankers are provided for regular water sprinkling on haul roads and nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles. Regular maintenance of Haul roads is being carried out to avoid generation of dust during movement of vehicles.</p> <p>Regular Monitoring of ambient air quality parameters being carried out. Monitoring reports are attached as <b><u>Annexure 1a.</u></b></p>
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Sl. No.	Standard Conditions	Compliance
<b>I. Statutory Compliance</b>		
1	<b>This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.</b>	Not applicable
2	<b>This EC is valid up to 31.03.2020 as the lease validity i.e. valid up to 31" March 2020 as Der the Amended MMDR Act. 2015</b>	EC has been vested to JSW Steel Ltd for 2 years. As per MOEF&CC OM dated 13.07.2021, EC transfer till life of the mine has been applied and same is in process. TOR has been approved dated 31.12.2020

		for new EC, and EIA report is under process.
3	<b>The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &amp; Ors. before commencing the mining operations.</b>	Not applicable
4	<b>The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining &amp; Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &amp; Ors.</b>	Not applicable
5	This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.	No Wild Life Sanctuary/Tiger Reserve/National Park/ Elephant corridor within the core as well as within the buffer zone of the project. As regards to Site specific conservation plan, we would like to submit that we have submitted new Site Specific Conservation plan for approval from PCCF (WL) cum Chief Wildlife Warden and same will be submitted after approval.
6	This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.	The present mining operation is restricted within vested Forest area only as per FC F.No.8-34/2000-FC (Vol-I), Dt:15.11.2007 over 244.327 ha. The fresh FC proposal has been applied for 252.179 ha vide Proposal No. FP/OR/MIN/51059/2020 dated 14.10.2020 and same is under evaluation. Advance NPV has already been paid. Further, as per MMDR Amendment Act 2021, the Forest clearances and other permissions continue to be valid even after expiry or permission of lease till the minerals exhausted. Hence, the Forest Clearance for 244.327 ha. will be valid till life of the mine.
7	Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.	Being Complied. CTO has been vested to JSW Steel Ltd for 2 years. New CTO vide letter no 5453/IND-I-CTO-2258 dated 31.03.2021 has been obtained from OSPCB.
8	The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development &	Noted and being complied.

	Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.	
9	The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.	The present mining operation is restricted within vested Surface right granted over 324.800 ha for 2 years. Further, as per MMDR Amendment Act 2021, the Surface rights and other permissions continue to be valid even after expiry or permission of lease till the minerals exhausted.
10	The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".	Noted and being complied.
11	The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.	NOC from CGWA for 1715 m3/day is already vested to JSW for 2 years. New application for the NOC has been applied.
12	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.	Not Applicable.
13	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.	Not Applicable.
14	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change ( <a href="http://www.parivesh.nic.in">www.parivesh.nic.in</a> ). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.	Not Applicable.
15	The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per	Noted and being complied.

	provisions of the para II of EIA Notification, 2006 as amended from time to time	
<b>II. Air quality monitoring and preservation</b>		
16	<p>The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/go/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.</p>	<p>Three Continuous Ambient Air Quality Monitoring Stations (CAAQMS) and Digital Display Board have been installed in consultation with Regional Officer, Rourkela.</p> <p>All 3 CAAQMS are equipped with data transfer facility to SPCB and we have authorized Phoenix Robotix Pvt. Ltd. (Datoms) for transmitting data to OSPCB and already completed the necessary setup for data transfer from all 3 locations to OSPCB Server. Data is transmitting from all 3 CAAQMS to OSPCB server.</p> <p>Regular Ambient air quality monitoring being carried out at four AAQ monitoring stations in core zone and four stations in buffer zone. Monitoring Reports are attached as <b><u>Annexure 1a.</u></b></p>
17	<p>Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipment's/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.</p>	<p>Existing Fixed water sprinkling being maintained and operated. For, additional Fixed auto sprinklers on both sides of major haul road and approach roads of the mine is in commissioning phase. However, as an interim arrangement frequency of the Mobile water tankers sprinkling has been increased to suppress the dust emission generated due to transportation of vehicles.</p> <p>Regular Ambient air quality monitoring being carried out at four AAQ monitoring stations in core zone and four stations in buffer zone. Monitoring Reports are attached as <b><u>Annexure 1a.</u></b></p>
<b>III. Water quality monitoring and preservation</b>		
18	<p>In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro- geological study of the area.</p>	<p>The mining plan envisages intersection of Ground water at Manganese working zone and NOC from CGWA for 1715 m3/day is already vested to JSW for 2 years. New application for the NOC has been applied.</p>

19	<p>Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six- monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board</p>	<p>No natural watercourse and water resources are obstructed due to mining operations &amp; the same will be taken care of.</p> <p>Monitoring of flow rate measurement of the different water bodies is being carried out and Monitoring Reports are attached as <b><u>Annexure 1b.</u></b></p> <p>Drinking water to the villagers being provided through mobile water tankers.</p>
20	<p>Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.</p>	<p>Regular monitoring of ground water level and quality being carried out and Monitoring Reports are attached as <b><u>Annexure 1b.</u></b></p>
21	<p>The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall Carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a Year viz. pre- monsoon (April-May). monsoon (August), post-monsoon (November) and winter (January) and the record of</p>	<p>Regular monitoring of water quality of upstream and downstream being carried out and Monitoring Reports are attached as <b><u>Annexure 1b.</u></b> Vendor is a recognized NABET, MoEF &amp; CC accredited laboratory.</p> <p>No natural watercourse and water resources are obstructed due to mining operations &amp; the same will be taken care of. Existing check dams being maintained to prevent any pollution of the nearby water bodies.</p>

	monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.	
22	Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006- IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.	No polluted water generated from the Mine. Regular monitoring of water quality of being carried out and Monitoring Reports are attached as <b>Annexure 1b</b> . Vendor is a recognized NABET, MoEF & CC accredited laboratory. Digital Display board showing monitored data being provided at Main Gate for general public. Monthly water quality monitoring data is regularly being uploaded in JSW website and Link of the same is <a href="https://www.jsw.in/investors/steel/jsw-steel-investor-information-environmental-clearances#">https://www.jsw.in/investors/steel/jsw-steel-investor-information-environmental-clearances#</a>
23	Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.	Maximum rain water has already been channelized to Mine Pits and same is being utilized in dust suppression and other mining activities. Existing surface run-off Retention wall, Garland drains, Check Dams and setting pits being maintained. Detailed Hydrology study is under progress, recommendations of the study and consultation with CGWB, additional rain water harvesting measures/structures will be implemented for rainwater harvesting.
24	Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.	Workshop along with ETP/Oil Grease Trap System being developed in the mine. No process water being discharged from the mine. The waste water generated from workshop being treated by ETP/Mechanized Oil Grease Trap System and automatic wheel washing system (with complete recirculation system). Regular Monitoring of water quality parameters being carried out by NABET Accredited laboratory.
25	The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.	Rain water collected in pits being utilising for dust suppression in the mining operations. Fixed Sprinklers, Pressurised mobile water tankers, Mist Gun for dust

		suppression being provided for reducing the water consumption.
<b>IV. Noise and vibration monitoring and prevention</b>		
26	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	Being Complied. Controlled blasting is in place.
27	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.	Mining is being carried out in the already broken up area as per approved mine plan. Illumination and sound is restricted into core zone only. No project sites disturb the villages in respect of both human and animal population.
28	The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including labourers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ labourers are working without personal protective equipment.	Noise producing equipment's are covered as far as practicable. Workers engaged in Operations are provided with ear plugs / muffs. Besides this, acoustic enclosures are provided for all machines operating within the mines. Regular Noise Monitoring being carried out and Monitoring reports are attached as <b><u>Annexure 1c</u></b> .
<b>V. Mining Plan</b>		
29	The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.	All mining activities being carried out in accordance with approved mining plan and EC conditions.
30	The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of	As per Fresh Approved Mining Plan in favour of JSW, the life of the mine is estimated ~18 years for iron ore and ~14



	Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.	for manganese ore. The same will be submitted 2 years' prior the exhaustion of ore as per statutes.
31	The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.	Noted and being complied as per approved mine plan.

#### **VI. Land Reclamation**

32	The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.	Being complied. Over burden being stacked at earmarked site and after maturity same will be stabilized with plantation.
33	The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.	Being complied.
34	The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.	Noted and being complied as per approved Mine Plan.
35	The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. 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	Being complied. Over burden being stacked at earmarked site and after maturity same will be stabilized with plantation.

	impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ levelling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.	
36	The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.	Noted and being complied.
37	Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.	Existing Garland drains and siltation ponds being maintained to prevent any direct flow of runoff to nearby water bodies. New garland drains will be constructed as per requirement of approved mine plan. Desilting of the settling pond being carried out on regular interval.
38	Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years' data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.	Existing Check dams, Garland drains and siltation ponds being maintained to prevent any direct flow of runoff to nearby water bodies. New garland drains will be constructed as per requirement of approved mine plan. Desilting of the settling pond being carried out on regular interval.
39	The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.	Working is restricted into broken-up area only. However, if any, Top soil generation, same will be stored at earmarked site and will be used for land reclamation, plantation purpose or stabilized with plantation.

## VII. Transportation

40	No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be	Regular water spraying being carried out at nearby mineral dispatch roads (NH) to avoid generation of dust during movement of vehicles. Mineral carrying trucks are not allowed to go out of the lease area without tarpaulin
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	<p>mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centres.</p>	<p>cover and is being monitored by security personnel at the exit gate.</p> <p>Vehicular emissions will be regularly monitored. Also, Security personnel are also do not allow the vehicles to enter into the mines without having valid PUC.</p> <p>Regular Monitoring of ambient air quality parameters being carried out. Monitoring reports are attached as <b><u>Annexure 1a.</u></b></p>
41	<p>The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt- conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.</p>	<p>Existing Fixed water sprinkling being maintained and operated. For, additional Fixed auto sprinklers on both sides of major haul road and approach roads of the mine is in commissioning phase. However, as an interim arrangement frequency of the Mobile water tankers sprinkling has been increased to suppress the dust emission generated due to transportation of vehicles.</p> <p>Mobile water sprinkling arrangement has been provided for the haul roads, processing area and loading / unloading points to minimize dispersion of air borne dust particles.</p> <p>Dust Suppression System (Dry fog system) being provided at all appropriate places of mineral handling plants (crusher &amp; screening plant) and other areas. Same are being maintained for proper dust control.</p> <p>Wet drilling arrangement with acoustic enclosure is in practice to control dust right at the source.</p>
<b>VIII. Green Belt</b>		
42	<p>The Project Proponent shall develop greenbelt in 7.5m 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 Ministry irrespective of the stipulation made in approved mine plan.</p>	<p>More than 2500 Saplings have been planted in FY 2021-22 as per the approved mine plan in the safety zone area and in the old dump area.</p>

43	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 planting 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.	Backfilling and reclamation will be carry out as per approved mine plan. More than 2500 Saplings have been planted in FY 2021-22 as per the approved mine plan in the safety zone area and in the old dump area.
44	The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.	Noted and will be complied
45	The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.	No Wild Life Sanctuary/Tiger Reserve/National Park/ Elephant corridor within the core as well as within the buffer zone of the project. As regards to Site specific conservation plan, we would like to submit that we have submitted new Site Specific Conservation plan for approval from PCCF (WL) cum Chief Wildlife Warden and same will be submitted.
46	And implemented in consultation with the State Forest and Wild Life Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.	No Wild Life Sanctuary/Tiger Reserve/National Park/ Elephant corridor within the core as well as within the buffer zone of the project. As regards to Site specific conservation plan, we would like to submit that we have submitted new Site Specific Conservation plan for approval from PCCF (WL) cum Chief Wildlife Warden and same will be submitted.
<b>IX. Public hearing and human health issues</b>		
47	The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS	Workers engaged in Operations are provided with PPE's. Besides this, acoustic enclosures are provided for all machines operating within the mines. The noise

	<p>guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of Workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.</p>	<p>level is being monitored by Noise Level Meter; the results reveal that the parameter is well within the prescribed norms.</p> <p>Initial Medical Examination &amp; Periodical Medical Examination of the workers engaged in the project are being carried periodically and records are maintained.</p> <p>A medical dispensary with full time Doctor has been appointed at mine area for the health check-up of employees and also the locals.</p> <p>Medical health camps will be organized in the nearby villages after the ongoing Covid-19 pandemic over and as per the Guidelines of State Government.</p>
48	<p>The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighbourhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years</p>	<p>Being complied.</p>
49	<p>The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Pin) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due</p>	<p>Workers engaged in Operations are provided with PPE's. Besides this, acoustic enclosures are provided for all machines operating within the mines. The noise level is being monitored by Noise Level Meter; the results reveal that the parameter is well within the prescribed norms.</p> <p>Initial Medical Examination &amp; Periodical Medical Examination of the workers engaged in the project are being carried periodically and records are maintained.</p> <p>A medical dispensary with full time Doctor has been appointed at mine area for the health check-up of employees and also the locals.</p> <p>Medical health camps will be organized in the nearby villages after the ongoing</p>

	to materials like Asbestos, Hard Rock f4ining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X- Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality}.	Covid-19 pandemic over and as per the Guidelines of State Government.
50	<p>The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEVI),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age,</p> <p>(d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having above indications.</p>	<p>Workers engaged in Operations are provided with PPE's. Besides this, acoustic enclosures are provided for all machines operating within the mines. The noise level is being monitored by Noise Level Meter; the results reveal that the parameter is well within the prescribed norms.</p> <p>Initial Medical Examination &amp; Periodical Medical Examination of the workers engaged in the project are being carried periodically and records are maintained.</p> <p>A medical dispensary with full time Doctor has been appointed at mine area for the health check-up of employees and also the locals.</p> <p>Medical health camps will be organized in the nearby villages after the ongoing Covid-19 pandemic over and as per the Guidelines of State Government.</p>
51	The Projects Proponent shall ensure that 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.	<p>Personnel working in dusty areas are provided with nose mask, safety glass and ear plug with proper safety training.</p> <p>Dust Suppression System (Dry fog system) being provided at all appropriate places of mineral handling plants (crusher &amp; screening plant) and other areas. Same are being maintained for proper dust control.</p> <p>Pre-placement medical examination and periodical examination of the workers engaged are being conducted &amp; record maintained.</p>
52	Project Proponent shall make provision for the housing for workers/labours or shall construct labour camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form	No colony provided in the working lease area. STP will be provided during colony construction.

	of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.	
53	The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.	Noted. TOR has been approved same will be complied after obtaining the new EC
<b>X. Corporate Environment Responsibility (CER)</b>		
54	The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O. M No 22-65/20 17-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.	This instant mining lease was executed on 27.06.2020 and the working has been continuing with the strength of vesting order. We are in a process to obtain all the statutory clearances afresh. It would be pertinent to mention that TOR had been approved on 31.12.2020 & EIA/EMP report is under preparation and same will be complied after public hearing and as per new EC for proposed project.
55	Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.	We are in process for implementation of various measures undertaken for environment management plan since the operation started in July 2020. Details of environmental management measures expenditure (head wise breakup) has already been submitted along with last half yearly EC compliance report vide letter dated 21.05.2021.
<b>XI. Miscellaneous</b>		
56	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five Years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.	DGPS Surveyed Mining lease boundary superimposed on High Resolution Satellite image of Narayanposhi Iron & Mn Ore Mine duly vetted by M/s ORSAC has already been submitted along with last half yearly EC compliance report vide letter dated 21.05.2021.
57	The Project Authorities should inform to the Regional Office 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 and being complied.
58	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned	Being complied. Last six monthly compliance report along with monitoring data vide letter no JSW/S/O/2021/122 dated 21.05.2021 was submitted to

	Regional Office, Central Pollution Control Board and State Pollution Control Board.	Regional Office, MOEF&CC, Bhubaneswar, Zonal Office, CPCB, Kolkata, MS and RO Offices SPCB, Odisha.
59	A separate Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.	A dedicated Environment Management Cell under the leadership of AGM Environment has been formed and reporting to Mine Senior Management i.e. Head of Operations (AVP).
60	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF & CC officer(s) by furnishing the requisite data / information /monitoring reports.	We will extend full co-operation to the officers of the Regional Office during their visit and furnish the required data, information and monitoring reports.



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

AAQ REPORT

**APRIL-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Mines Office Area		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/04/2021	63	22	9.3	10.9	0.41
2	02/04/2021	57	19	10.1	11.7	0.56
3	03/04/2021	66	23	9.9	11.4	0.49
4	04/04/2021	59	20	10.4	11.9	0.53
5	05/04/2021	68	24	9.5	10.8	0.42
6	06/04/2021	61	21	11.1	12.7	0.56
7	07/04/2021	72	27	11.5	13.1	0.61
8	08/04/2021	56	19	10.8	12.3	0.48
9	09/04/2021	59	21	11.1	12.7	0.55
10	10/04/2021	64	23	10.4	11.8	0.43
11	11/04/2021	67	25	11.7	13.2	0.59
12	12/04/2021	59	20	10.2	11.9	0.52
13	13/04/2021	62	21	11.3	12.9	0.45
14	14/04/2021	69	25	11.8	13.5	0.58
15	15/04/2021	58	20	11.1	12.7	0.41
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Mines Office Area		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/04/2021	71	27	10.6	11.8	0.64
17	17/04/2021	56	18	11.4	13	0.41
18	18/04/2021	66	23	10.3	11.7	0.52
19	19/04/2021	59	21	9.7	11.4	0.49
20	20/04/2021	68	24	10.9	12.5	0.65
21	21/04/2021	61	22	11.5	13.2	0.51
22	22/04/2021	74	27	10.2	11.9	0.43
23	23/04/2021	61	22	12.1	13.7	0.61
24	24/04/2021	68	25	11.6	12.8	0.56
25	25/04/2021	59	20	11.2	12.9	0.42
26	26/04/2021	56	18	10.7	12.2	0.67
27	27/04/2021	63	23	11.3	12.7	0.46
28	28/04/2021	67	24	10.1	11.6	0.38
29	29/04/2021	55	18	9.4	10.9	0.42
30	30/04/2021	61	21	10.8	12.2	0.51
<b>Average</b>		<b>63</b>	<b>22</b>	<b>10.7</b>	<b>12.2</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
 Authorized Signatory

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## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location : Rest Shelter				
Month : April-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/04/2021	69	25	10.6	12.1	0.44
2	02/04/2021	75	27	11.4	12.9	0.57
3	03/04/2021	61	22	10.9	12.3	0.49
4	04/04/2021	58	20	11.1	12.7	0.61
5	05/04/2021	63	22	11.7	13.1	0.43
6	06/04/2021	60	21	10.2	11.8	0.37
7	07/04/2021	68	24	9.9	11.4	0.48
8	08/04/2021	64	22	10.3	11.9	0.52
9	09/04/2021	70	26	10.8	12.3	0.66
10	10/04/2021	62	21	11.2	12.7	0.46
11	11/04/2021	59	20	9.1	10.8	0.61
12	12/04/2021	73	28	8.9	10.4	0.53
13	13/04/2021	61	21	9.5	10.9	0.58
14	14/04/2021	77	29	10.1	11.6	0.69
15	15/04/2021	65	23	9.2	10.9	0.55
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



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## TEST REPORT

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Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Rest Shelter		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/04/2021	62	22	11.1	12.5	0.51
17	17/04/2021	57	20	11.7	13.3	0.44
18	18/04/2021	68	23	8.9	10.6	0.63
19	19/04/2021	75	28	12.2	13.7	0.49
20	20/04/2021	64	22	9.6	11.1	0.65
21	21/04/2021	67	25	10.1	11.6	0.46
22	22/04/2021	70	26	10.7	12.2	0.53
23	23/04/2021	66	24	9.8	11.4	0.69
24	24/04/2021	62	22	10.2	11.8	0.54
25	25/04/2021	73	26	9.4	10.9	0.61
26	26/04/2021	65	24	9.1	10.6	0.56
27	27/04/2021	78	30	10.4	11.8	0.43
28	28/04/2021	68	24	10.6	12.2	0.58
29	29/04/2021	61	21	9.7	11.2	0.63
30	30/04/2021	58	20	9	10.5	0.54
<b>Average</b>		<b>66</b>	<b>24</b>	<b>10.2</b>	<b>11.7</b>	<b>0.54</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-02		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/04/2021	66	25	10.7	12.1	0.57
2	02/04/2021	73	28	11.5	13.2	0.62
3	03/04/2021	62	22	12.1	13.6	0.51
4	04/04/2021	58	21	11.8	13.1	0.48
5	05/04/2021	67	25	11.3	12.6	0.67
6	06/04/2021	74	28	10.9	12.3	0.53
7	07/04/2021	65	23	11.6	12.9	0.44
8	08/04/2021	69	25	11.2	12.5	0.72
9	09/04/2021	77	30	12.1	13.6	0.49
10	10/04/2021	63	23	10.5	11.8	0.58
11	11/04/2021	69	25	10.8	12.3	0.65
12	12/04/2021	57	20	11.4	12.7	0.53
13	13/04/2021	68	26	11.1	12.5	0.46
14	14/04/2021	72	28	12.2	13.9	0.56
15	15/04/2021	80	31	11.5	12.8	0.61
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NP(MO)/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-02		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/04/2021	73	26	10.4	11.9	0.77
17	17/04/2021	66	23	11.9	13.3	0.59
18	18/04/2021	58	20	11.2	12.7	0.71
19	19/04/2021	74	29	10.7	12.2	0.64
20	20/04/2021	65	24	11.9	13.6	0.73
21	21/04/2021	59	21	12.2	13.8	0.69
22	22/04/2021	79	30	11.4	12.9	0.55
23	23/04/2021	71	28	11.7	13	0.51
24	24/04/2021	63	23	11.1	12.5	0.67
25	25/04/2021	66	25	10.5	11.8	0.54
26	26/04/2021	70	27	11.8	13.3	0.63
27	27/04/2021	63	24	12.5	13.9	0.46
28	28/04/2021	77	29	12.1	13.7	0.71
29	29/04/2021	65	23	11.3	12.8	0.68
30	30/04/2021	60	21	12.4	13.9	0.6
<b>Average</b>		<b>68</b>	<b>25</b>	<b>11.4</b>	<b>12.9</b>	<b>0.59</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



*[Signature]*  
**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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 CIN No : U74210TG1909PTCC32358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No 01		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/04/2021	61	22	11.4	13.1	0.77
2	02/04/2021	77	29	11.9	13.6	0.63
3	03/04/2021	68	25	10.6	11.9	0.59
4	04/04/2021	62	23	11.3	12.7	0.68
5	05/04/2021	71	26	12.1	13.6	0.44
6	06/04/2021	80	31	11.7	13.1	0.52
7	07/04/2021	67	24	11.1	12.7	0.75
8	08/04/2021	76	28	12.4	13.8	0.49
9	09/04/2021	69	26	11.5	12.9	0.56
10	10/04/2021	60	21	12.2	13.6	0.63
11	11/04/2021	75	27	13.6	14.1	0.57
12	12/04/2021	61	22	11.8	13.3	0.62
13	13/04/2021	73	25	12.3	13.8	0.69
14	14/04/2021	68	24	11.5	12.9	0.75
15	15/04/2021	62	23	11.9	13.3	0.61
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-01		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/04/2021	77	29	12.4	13.8	0.55
17	17/04/2021	69	27	11.6	13.2	0.48
18	18/04/2021	66	25	11.3	12.7	0.58
19	19/04/2021	71	27	12.1	13.6	0.41
20	20/04/2021	62	22	11.4	12.9	0.72
21	21/04/2021	65	24	10.9	12.3	0.66
22	22/04/2021	76	30	11.8	13.4	0.59
23	23/04/2021	70	26	12.2	13.7	0.5
24	24/04/2021	77	31	11.4	12.9	0.63
25	25/04/2021	64	23	10.7	12.2	0.71
26	26/04/2021	61	21	11.6	12.9	0.65
27	27/04/2021	71	26	11.3	12.7	0.58
28	28/04/2021	77	31	12	13.4	0.67
29	29/04/2021	63	23	12.4	13.8	0.74
30	30/04/2021	70	26	11.7	13.3	0.53
<b>Average</b>		<b>69</b>	<b>26</b>	<b>11.7</b>	<b>13.1</b>	<b>0.61</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Kasira Basti		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/04/2021	59	21	10.6	12.1	0.66
2	08/04/2021	66	24	11.2	12.8	0.51
3	14/04/2021	55	20	11.7	13.1	0.48
4	15/04/2021	69	27	9.9	11.4	0.57
5	21/04/2021	61	23	11.3	12.7	0.43
6	22/04/2021	57	20	10.8	12.2	0.62
7	28/04/2021	63	22	10.1	11.5	0.46
8	29/04/2021	61	21	11	12.4	0.41
<b>Average</b>		<b>62</b>	<b>22</b>	<b>10.8</b>	<b>12.2</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>50 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**  


\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Koira Basti		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/04/2021	62	21	11.7	13.3	0.73
2	08/04/2021	69	25	11.3	12.8	0.62
3	14/04/2021	58	21	10.9	12.3	0.55
4	15/04/2021	72	28	11.2	12.7	0.69
5	21/04/2021	66	24	10.4	11.8	0.48
6	22/04/2021	61	21	11.5	12.9	0.53
7	28/04/2021	67	26	11.1	12.4	0.57
8	29/04/2021	70	27	10.6	11.8	0.65
<b>Average</b>		<b>66</b>	<b>24</b>	<b>11.0</b>	<b>12.5</b>	<b>0.60</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**

  
**Authorized Signatory**



\*Complaints Register is available at Laboratory.

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Website : www.bsenvitech.com  
CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location : Segasahi Village				
Month : April-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd ,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/04/2021	58	20	8.8	10.4	0.47
2	08/04/2021	55	19	9.7	11.3	0.41
3	14/04/2021	63	23	10.2	11.6	0.56
4	15/04/2021	59	21	9.9	11.4	0.43
5	21/04/2021	67	24	10.4	11.8	0.58
6	22/04/2021	57	19	8.7	10.3	0.52
7	28/04/2021	62	22	9.5	10.9	0.49
8	29/04/2021	59	20	9.1	10.6	0.39
<b>Average</b>		<b>60</b>	<b>21</b>	<b>9.5</b>	<b>11.0</b>	<b>0.48</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Ambient Air Quality				
Location		: Bhanjapali Village		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/04/2021	69	26	9.9	11.5	0.53
2	08/04/2021	57	21	11.2	12.8	0.49
3	14/04/2021	64	23	10.1	11.5	0.56
4	15/04/2021	59	22	10.8	12.2	0.44
5	21/04/2021	66	24	9.7	11.1	0.51
6	22/04/2021	58	20	10.4	11.9	0.68
7	28/04/2021	61	22	11.5	12.8	0.42
8	29/04/2021	59	21	11.1	12.6	0.59
<b>Average</b>		<b>62</b>	<b>23</b>	<b>10.5</b>	<b>12.0</b>	<b>0.52</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

FUGITIVE DUST  
MONITORING  
REPORT

**APRIL-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Mines Face/Bench		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/04/2021	744	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/04/2021	715	
3	03/04/2021	723	
4	04/04/2021	643	
5	05/04/2021	628	
6	06/04/2021	520	
7	07/04/2021	732	
8	08/04/2021	551	
9	09/04/2021	750	
10	10/04/2021	739	
11	11/04/2021	546	
12	12/04/2021	688	
13	13/04/2021	638	
14	14/04/2021	585	
15	15/04/2021	628	
16	16/04/2021	597	
17	17/04/2021	763	
18	18/04/2021	651	
19	19/04/2021	550	
20	20/04/2021	715	
21	21/04/2021	745	
22	22/04/2021	682	
23	23/04/2021	864	
24	24/04/2021	827	
25	25/04/2021	767	
26	26/04/2021	815	
27	27/04/2021	764	
28	28/04/2021	819	
29	29/04/2021	673	
30	30/04/2021	715	
<b>Average</b>		<b>693</b>	

**Legend: SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Mines Haulage Road		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/04/2021	825	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/04/2021	764	
3	03/04/2021	815	
4	04/04/2021	822	
5	05/04/2021	643	
6	06/04/2021	685	
7	07/04/2021	693	
8	08/04/2021	873	
9	09/04/2021	836	
10	10/04/2021	747	
11	11/04/2021	724	
12	12/04/2021	630	
13	13/04/2021	831	
14	14/04/2021	722	
15	15/04/2021	654	
16	16/04/2021	817	
17	17/04/2021	743	
18	18/04/2021	649	
19	19/04/2021	702	
20	20/04/2021	715	
21	21/04/2021	648	
22	22/04/2021	826	
23	23/04/2021	699	
24	24/04/2021	741	
25	25/04/2021	820	
26	26/04/2021	846	
27	27/04/2021	823	
28	28/04/2021	765	
29	29/04/2021	748	
30	30/04/2021	728	
<b>Average</b>		<b>751</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Crusher Plant		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/04/2021	813	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/04/2021	764	
3	03/04/2021	902	
4	04/04/2021	926	
5	05/04/2021	877	
6	06/04/2021	650	
7	07/04/2021	903	
8	08/04/2021	764	
9	09/04/2021	645	
10	10/04/2021	783	
11	11/04/2021	755	
12	12/04/2021	909	
13	13/04/2021	895	
14	14/04/2021	826	
15	15/04/2021	764	
16	16/04/2021	830	
17	17/04/2021	848	
18	18/04/2021	832	
19	19/04/2021	769	
20	20/04/2021	815	
21	21/04/2021	945	
22	22/04/2021	897	
23	23/04/2021	872	
24	24/04/2021	793	
25	25/04/2021	911	
26	26/04/2021	882	
27	27/04/2021	896	
28	28/04/2021	907	
29	29/04/2021	924	
30	30/04/2021	873	
<b>Average</b>		<b>839</b>	

**Legend: SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.05.2021	<b>Analysis Starting on</b>	01.05.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.05.2021	<b>Analysis Completed on</b>	03.05.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring				
<b>Location</b>	: Screen Plant			
<b>Month</b>	: April-2021			
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/04/2021	760	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/04/2021	876	
3	03/04/2021	819	
4	04/04/2021	760	
5	05/04/2021	547	
6	06/04/2021	874	
7	07/04/2021	752	
8	08/04/2021	918	
9	09/04/2021	901	
10	10/04/2021	675	
11	11/04/2021	876	
12	12/04/2021	863	
13	13/04/2021	735	
14	14/04/2021	722	
15	15/04/2021	925	
16	16/04/2021	649	
17	17/04/2021	852	
18	18/04/2021	815	
19	19/04/2021	765	
20	20/04/2021	795	
21	21/04/2021	907	
22	22/04/2021	897	
23	23/04/2021	872	
24	24/04/2021	854	
25	25/04/2021	917	
26	26/04/2021	910	
27	27/04/2021	747	
28	28/04/2021	793	
29	29/04/2021	840	
30	30/04/2021	877	
<b>Average</b>		<b>816</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Fugitive Dust Monitoring				
Location : Ore Storage & Loading Point				
Month : April-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/04/2021	744	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/04/2021	684	
3	03/04/2021	597	
4	04/04/2021	723	
5	05/04/2021	802	
6	06/04/2021	642	
7	07/04/2021	728	
8	08/04/2021	649	
9	09/04/2021	539	
10	10/04/2021	762	
11	11/04/2021	821	
12	12/04/2021	598	
13	13/04/2021	750	
14	14/04/2021	750	
15	15/04/2021	679	
16	16/04/2021	828	
17	17/04/2021	813	
18	18/04/2021	764	
19	19/04/2021	597	
20	20/04/2021	597	
21	21/04/2021	583	
22	22/04/2021	681	
23	23/04/2021	692	
24	24/04/2021	715	
25	25/04/2021	593	
26	26/04/2021	679	
27	27/04/2021	661	
28	28/04/2021	586	
29	29/04/2021	718	
30	30/04/2021	729	
<b>Average</b>		<b>690</b>	

**Legend:SPM-Suspended Particulate Matter**

  
**Authorized Signatory**

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-04				Issued to:
Reporting Date	03.05.2021	Analysis Starting on	01.05.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.05.2021	Analysis Completed on	03.05.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Waste Dump		
Month		: April-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/04/2021	733	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/04/2021	824	
3	03/04/2021	672	
4	04/04/2021	755	
5	05/04/2021	803	
6	06/04/2021	725	
7	07/04/2021	671	
8	08/04/2021	579	
9	09/04/2021	864	
10	10/04/2021	834	
11	11/04/2021	597	
12	12/04/2021	780	
13	13/04/2021	644	
14	14/04/2021	579	
15	15/04/2021	572	
16	16/04/2021	794	
17	17/04/2021	711	
18	18/04/2021	584	
19	19/04/2021	674	
20	20/04/2021	592	
21	21/04/2021	378	
22	22/04/2021	681	
23	23/04/2021	628	
24	24/04/2021	606	
25	25/04/2021	715	
26	26/04/2021	734	
27	27/04/2021	587	
28	28/04/2021	682	
29	29/04/2021	670	
30	30/04/2021	743	
<b>Average</b>		<b>687</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

AAQ REPORT

**MAY-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Mines Office Area				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/05/2021	56	19	10.6	12.1	0.58
2	02/05/2021	60	21	9.9	11.5	0.51
3	03/05/2021	58	20	10.1	11.8	0.44
4	04/05/2021	66	24	9.5	10.9	0.56
5	05/05/2021	61	22	10.3	11.7	0.53
6	06/05/2021	57	20	9.8	11.4	0.49
7	07/05/2021	64	23	10.4	11.9	0.62
8	08/05/2021	66	25	8.9	10.4	0.57
9	09/05/2021	59	21	9.4	10.8	0.5
10	10/05/2021	67	26	10	11.3	0.66
11	11/05/2021	59	20	11.2	12.6	0.46
12	12/05/2021	66	24	10.6	12.1	0.52
13	13/05/2021	61	22	9.7	11.4	0.59
14	14/05/2021	70	27	10.3	11.9	0.43
15	15/05/2021	63	23	9.5	10.9	0.47
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- NitrogenDioxide

CO-Carbon Monoxide

  
**Authorized Signatory**



\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270x71/73,  
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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location		: Mines Office Area		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/05/2021	69	26	9.1	10.6	0.53
17	17/05/2021	58	20	10.4	11.7	0.62
18	18/05/2021	64	23	10.8	12.3	0.38
19	19/05/2021	66	24	9.9	11.5	0.45
20	20/05/2021	56	20	11.2	12.7	0.66
21	21/05/2021	71	27	9.3	10.9	0.59
22	22/05/2021	65	25	9.6	11.1	0.51
23	23/05/2021	59	21	10.1	11.5	0.48
24	24/05/2021	63	22	9.8	11.3	0.55
25	25/05/2021	57	20	10.7	12.2	0.63
26	26/05/2021	40	14	11.1	12.6	0.54
27	27/05/2021	42	15	9.5	10.9	0.47
28	28/05/2021	47	16	10.6	12	0.44
29	29/05/2021	50	17	9.1	10.7	0.5
30	30/05/2021	55	19	9.7	11.4	0.41
31	31/05/2021	61	22	10.3	11.9	0.37
<b>Average</b>		<b>60</b>	<b>22</b>	<b>10.0</b>	<b>11.5</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- NitrogenDioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.06.2021	<b>Analysis Starting on</b>	01.06.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.06.2021	<b>Analysis Completed on</b>	02.06.2021	
<b>Sample Description:</b> Ambient Air Quality				
<b>Location</b> : Rest Shelter				
<b>Month</b> : May-2021				
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/05/2021	61	21	10.3	11.9	0.62
2	02/05/2021	67	24	10.8	12.4	0.56
3	03/05/2021	70	26	11.4	12.9	0.69
4	04/05/2021	65	23	10.6	12	0.51
5	05/05/2021	59	21	11.9	13.4	0.64
6	06/05/2021	62	22	12.3	13.7	0.48
7	07/05/2021	68	25	10.5	11.9	0.53
8	08/05/2021	71	27	11.2	12.6	0.66
9	09/05/2021	64	23	12.1	13.4	0.57
10	10/05/2021	60	20	11.6	13	0.71
11	11/05/2021	65	23	9.9	11.3	0.55
12	12/05/2021	72	28	10.7	12.1	0.63
13	13/05/2021	61	22	9.5	10.8	0.59
14	14/05/2021	66	25	10.4	11.6	0.67
15	15/05/2021	68	20	10.1	11.5	0.56
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Rest Shelter				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/05/2021	65	24	11.5	12.7	0.49
17	17/05/2021	61	22	12.1	13.6	0.58
18	18/05/2021	56	19	11.1	12.4	0.61
19	19/05/2021	63	23	11.7	13.4	0.69
20	20/05/2021	59	21	10.8	12.2	0.54
21	21/05/2021	68	25	11.3	12.8	0.62
22	22/05/2021	73	27	10.4	11.8	0.39
23	23/05/2021	62	22	11.6	13.3	0.46
24	24/05/2021	59	21	10.9	12.5	0.51
25	25/05/2021	65	24	11.2	12.6	0.49
26	26/05/2021	41	14	9.9	11.4	0.53
27	27/05/2021	44	15	9.4	10.8	0.62
28	28/05/2021	49	17	10.3	11.7	0.44
29	29/05/2021	52	18	10.9	12.3	0.68
30	30/05/2021	55	19	11.3	12.8	0.42
31	31/05/2021	60	21	10	11.5	0.48
<b>Average</b>		<b>61</b>	<b>22</b>	<b>10.8</b>	<b>12.3</b>	<b>0.56</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74210TG1999PRC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Gate No-02				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/05/2021	75	28	11.8	13.3	0.66
2	02/05/2021	69	25	11.1	12.6	0.59
3	03/05/2021	61	22	10.6	11.9	0.53
4	04/05/2021	67	24	11.4	12.8	0.68
5	05/05/2021	65	23	10.9	12.3	0.49
6	06/05/2021	62	22	11	12.6	0.57
7	07/05/2021	59	20	10.4	11.9	0.72
8	08/05/2021	64	24	11.2	12.7	0.54
9	09/05/2021	66	24	10.9	12.3	0.61
10	10/05/2021	57	20	11.3	13	0.58
11	11/05/2021	60	21	11.1	12.7	0.65
12	12/05/2021	69	26	11.8	13.4	0.49
13	13/05/2021	62	23	12.2	13.9	0.63
14	14/05/2021	56	19	11.5	12.8	0.55
15	15/05/2021	63	22	10.8	12.4	0.71
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.

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 CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Gate No-02				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/05/2021	61	21	11.6	13.1	0.64
17	17/05/2021	66	25	10.9	12.5	0.57
18	18/05/2021	69	27	10.3	11.9	0.48
19	19/05/2021	62	23	11.8	13.4	0.54
20	20/05/2021	73	29	10.7	12.2	0.63
21	21/05/2021	60	21	12.5	13.9	0.45
22	22/05/2021	66	20	11.9	13.3	0.41
23	23/05/2021	58	19	12.1	13.7	0.5
24	24/05/2021	62	21	10.6	11.9	0.62
25	25/05/2021	65	23	11.5	12.8	0.69
26	26/05/2021	46	16	10.3	11.7	0.77
27	27/05/2021	48	17	10.9	12.5	0.56
28	28/05/2021	51	18	11.6	13.3	0.46
29	29/05/2021	54	19	10.4	12	0.53
30	30/05/2021	59	21	12	13.6	0.65
31	31/05/2021	63	22	10.8	12.4	0.55
<b>Average</b>		<b>62</b>	<b>22</b>	<b>11.2</b>	<b>12.7</b>	<b>0.58</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanpeshi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-01		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/05/2021	54	23	11.3	13	0.58
2	02/05/2021	69	25	10.9	12.6	0.61
3	03/05/2021	58	21	11.5	12.9	0.73
4	04/05/2021	65	24	12.1	13.6	0.61
5	05/05/2021	73	27	11.2	12.8	0.77
6	06/05/2021	67	26	10.6	11.9	0.56
7	07/05/2021	59	21	9.9	11.5	0.62
8	08/05/2021	65	25	11.4	12.8	0.69
9	09/05/2021	71	26	11.8	13.3	0.57
10	10/05/2021	66	23	10.7	12.2	0.61
11	11/05/2021	70	28	11.6	12.9	0.54
12	12/05/2021	57	20	10.2	11.8	0.71
13	13/05/2021	64	24	11.1	12.8	0.63
14	14/05/2021	69	25	10.5	12.1	0.55
15	15/05/2021	57	20	12	13.4	0.65
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory

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 CIN No. : U74210TG1899PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-01		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/05/2021	74	29	11.3	12.7	0.56
17	17/05/2021	69	26	10.7	12.2	0.67
18	18/05/2021	66	23	11.9	13.3	0.71
19	19/05/2021	63	22	10.1	11.6	0.54
20	20/05/2021	70	26	11.2	12.9	0.49
21	21/05/2021	72	28	12.3	13.7	0.66
22	22/05/2021	67	25	11.5	12.6	0.72
23	23/05/2021	63	21	10.4	11.9	0.59
24	24/05/2021	76	30	11	12.4	0.54
25	25/05/2021	65	24	9.9	11.5	0.61
26	26/05/2021	43	15	10.8	12.3	0.7
27	27/05/2021	46	16	10.5	11.9	0.58
28	28/05/2021	50	17	12.1	13.7	0.64
29	29/05/2021	54	19	11.7	13.4	0.67
30	30/05/2021	57	20	11	12.6	0.73
31	31/05/2021	59	21	10.7	12.2	0.6
<b>Average</b>		<b>64</b>	<b>23</b>	<b>11.0</b>	<b>12.5</b>	<b>0.62</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Kasira Basti				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/05/2021	62	22	10.5	12.1	0.57
2	07/05/2021	57	20	9.7	11.3	0.44
3	13/05/2021	66	24	10.1	11.6	0.51
4	14/05/2021	54	18	9.4	10.8	0.63
5	20/05/2021	60	20	10.8	12.2	0.46
6	21/05/2021	65	23	9.9	11.5	0.5
7	27/05/2021	41	14	10.2	11.8	0.55
8	28/05/2021	43	15	10.9	12.2	0.49
<b>Average</b>		<b>56</b>	<b>20</b>	<b>10.1</b>	<b>11.6</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.06.2021	<b>Analysis Starting on</b>	01.06.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.06.2021	<b>Analysis Completed on</b>	02.06.2021	
<b>Sample Description:</b> Ambient Air Quality				
<b>Location</b> : Koira Basti				
<b>Month</b> : May-2021				
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/05/2021	70	27	11.2	12.7	0.58
2	07/05/2021	63	23	10.6	11.9	0.67
3	13/05/2021	56	19	11.5	13.1	0.51
4	14/05/2021	65	23	10.9	12.4	0.65
5	20/05/2021	60	21	11.1	12.5	0.73
6	21/05/2021	67	24	10.7	12.2	0.49
7	27/05/2021	48	16	10.2	11.8	0.54
8	28/05/2021	50	17	11	12.1	0.56
<b>Average</b>		<b>60</b>	<b>21</b>	<b>10.9</b>	<b>12.3</b>	<b>0.59</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NFIMO/ENV/2021/AAQ/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Ambient Air Quality				
Location : Segasahi Village				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/05/2021	56	19	9.3	10.9	0.38
2	07/05/2021	60	22	9.1	10.5	0.44
3	13/05/2021	65	23	8.9	10.2	0.51
4	14/05/2021	58	20	9.5	10.8	0.4
5	20/05/2021	61	21	9	10.3	0.54
6	21/05/2021	64	24	10.1	11.6	0.47
7	27/05/2021	40	13	8.5	9.9	0.42
8	28/05/2021	44	15	8.8	10.3	0.5
<b>Average</b>		<b>56</b>	<b>20</b>	<b>9.1</b>	<b>10.5</b>	<b>0.45</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-05</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.06.2021	<b>Analysis Starting on</b>	01.06.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.06.2021	<b>Analysis Completed on</b>	02.06.2021	
<b>Sample Description:</b> Ambient Air Quality				
<b>Location</b> : Bhanjapali Village				
<b>Month</b> : May-2021				
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/05/2021	65	23	10.9	12.3	0.64
2	07/05/2021	60	21	11.4	12.9	0.52
3	13/05/2021	69	25	11.8	13.4	0.69
4	14/05/2021	58	20	12.1	13.7	0.57
5	20/05/2021	62	22	11.2	12.8	0.49
6	21/05/2021	64	24	10.7	12.2	0.63
7	27/05/2021	45	16	11	12.5	0.55
8	28/05/2021	49	17	11.6	13.1	0.46
<b>Average</b>		<b>59</b>	<b>21</b>	<b>11.3</b>	<b>12.8</b>	<b>0.56</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**  


\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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 CIN No. : U74210TG1999PTC032358

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **MINERALOGICAL COMPOSITION REPORT**

**MAY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron Ore Mines  
**Month** : May  
**Date** : 21.05.2021  
**Location** : Mines Office Area

### Mineralogical composition of PM<sub>10</sub>

Constituent	Unit	Concentration (%)
Silica as SiO <sub>2</sub>	% by mass	18.15
Calcium as CaO		0.62
Magnesium as MgO		1.13
Alumina as Al <sub>2</sub> O <sub>3</sub>		15.59
Iron as Fe <sub>2</sub> O <sub>3</sub>		38.85
Loss of Ignition		7.3

For B.S Envi-Tech (P) Ltd.,



Authorised Signatory

\*Complaints Register is available at Laboratory.

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

FUGITIVE DUST  
MONITORING  
REPORT

**MAY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:  Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location : Mines Face/Bench				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/05/2021	685	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/05/2021	827	
3	03/05/2021	805	
4	04/05/2021	794	
5	05/05/2021	668	
6	06/05/2021	584	
7	07/05/2021	974	
8	08/05/2021	905	
9	09/05/2021	848	
10	10/05/2021	583	
11	11/05/2021	580	
12	12/05/2021	673	
13	13/05/2021	817	
14	14/05/2021	585	
15	15/05/2021	872	
16	16/05/2021	595	
17	17/05/2021	712	
18	18/05/2021	720	
19	19/05/2021	749	
20	20/05/2021	624	
21	21/05/2021	795	
22	22/05/2021	833	
23	23/05/2021	719	
24	24/05/2021	695	
25	25/05/2021	819	
26	26/05/2021	511	
27	27/05/2021	480	
28	28/05/2021	540	
29	29/05/2021	571	
30	30/05/2021	602	
31	31/05/2021	661	
<b>Average</b>		<b>704</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Mines Haulage Road		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/05/2021	844	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/05/2021	715	
3	03/05/2021	827	
4	04/05/2021	956	
5	05/05/2021	754	
6	06/05/2021	963	
7	07/05/2021	827	
8	08/05/2021	802	
9	09/05/2021	709	
10	10/05/2021	813	
11	11/05/2021	779	
12	12/05/2021	821	
13	13/05/2021	794	
14	14/05/2021	659	
15	15/05/2021	793	
16	16/05/2021	827	
17	17/05/2021	846	
18	18/05/2021	686	
19	19/05/2021	750	
20	20/05/2021	827	
21	21/05/2021	748	
22	22/05/2021	596	
23	23/05/2021	550	
24	24/05/2021	793	
25	25/05/2021	847	
26	26/05/2021	517	
27	27/05/2021	505	
28	28/05/2021	566	
29	29/05/2021	612	
30	30/05/2021	643	
31	31/05/2021	678	
<b>Average</b>		<b>744</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at the location

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Crusher Plant		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/05/2021	746	<b>1200 (<math>\mu\text{g}/\text{m}^3</math>)</b>
2	02/05/2021	813	
3	03/05/2021	713	
4	04/05/2021	749	
5	05/05/2021	856	
6	06/05/2021	660	
7	07/05/2021	810	
8	08/05/2021	587	
9	09/05/2021	764	
10	10/05/2021	681	
11	11/05/2021	590	
12	12/05/2021	814	
13	13/05/2021	731	
14	14/05/2021	751	
15	15/05/2021	690	
16	16/05/2021	825	
17	17/05/2021	750	
18	18/05/2021	835	
19	19/05/2021	395	
20	20/05/2021	817	
21	21/05/2021	793	
22	22/05/2021	893	
23	23/05/2021	876	
24	24/05/2021	764	
25	25/05/2021	749	
26	26/05/2021	525	
27	27/05/2021	496	
28	28/05/2021	525	
29	29/05/2021	616	
30	30/05/2021	670	
31	31/05/2021	702	
<b>Average</b>		<b>722</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

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**CIN No** : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location		: Screen Plant		
Month		: May-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/05/2021	847	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/05/2021	585	
3	03/05/2021	968	
4	04/05/2021	815	
5	05/05/2021	726	
6	06/05/2021	750	
7	07/05/2021	782	
8	08/05/2021	869	
9	09/05/2021	813	
10	10/05/2021	795	
11	11/05/2021	883	
12	12/05/2021	942	
13	13/05/2021	747	
14	14/05/2021	847	
15	15/05/2021	791	
16	16/05/2021	847	
17	17/05/2021	709	
18	18/05/2021	847	
19	19/05/2021	707	
20	20/05/2021	649	
21	21/05/2021	679	
22	22/05/2021	831	
23	23/05/2021	685	
24	24/05/2021	843	
25	25/05/2021	795	
26	26/05/2021	493	
27	27/05/2021	471	
28	28/05/2021	499	
29	29/05/2021	506	
30	30/05/2021	544	
31	31/05/2021	618	
<b>Average</b>		<b>738</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at: [bsenvitech.com](http://bsenvitech.com)

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CIN No. : U74210TG1989PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:  Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location : Ore Storage & Loading Point				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/05/2021	549	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/05/2021	924	
3	03/05/2021	844	
4	04/05/2021	589	
5	05/05/2021	750	
6	06/05/2021	793	
7	07/05/2021	585	
8	08/05/2021	815	
9	09/05/2021	880	
10	10/05/2021	846	
11	11/05/2021	649	
12	12/05/2021	713	
13	13/05/2021	627	
14	14/05/2021	936	
15	15/05/2021	750	
16	16/05/2021	948	
17	17/05/2021	657	
18	18/05/2021	692	
19	19/05/2021	587	
20	20/05/2021	795	
21	21/05/2021	682	
22	22/05/2021	749	
23	23/05/2021	713	
24	24/05/2021	623	
25	25/05/2021	643	
26	26/05/2021	477	
27	27/05/2021	483	
28	28/05/2021	495	
29	29/05/2021	517	
30	30/05/2021	544	
31	31/05/2021	612	
<b>Average</b>		<b>693</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Lab/Office

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-05				Issued to:  Narayanpeshi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Reporting Date	02.06.2021	Analysis Starting on	01.06.2021	
Sample Received on	01.06.2021	Analysis Completed on	02.06.2021	
Sample Description: Fugitive Dust Monitoring				
Location : Waste Dump				
Month : May-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/05/2021	585	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/05/2021	593	
3	03/05/2021	546	
4	04/05/2021	826	
5	05/05/2021	741	
6	06/05/2021	750	
7	07/05/2021	771	
8	08/05/2021	624	
9	09/05/2021	683	
10	10/05/2021	826	
11	11/05/2021	750	
12	12/05/2021	791	
13	13/05/2021	613	
14	14/05/2021	585	
15	15/05/2021	592	
16	16/05/2021	814	
17	17/05/2021	749	
18	18/05/2021	643	
19	19/05/2021	519	
20	20/05/2021	674	
21	21/05/2021	463	
22	22/05/2021	473	
23	23/05/2021	493	
24	24/05/2021	578	
25	25/05/2021	696	
26	26/05/2021	461	
27	27/05/2021	450	
28	28/05/2021	493	
29	29/05/2021	514	
30	30/05/2021	550	
31	31/05/2021	571	
<b>Average</b>		<b>627</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Lab location

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

AAQ REPORT

**JUNE-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Mines Office Area				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd ,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136 G 20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/06/2021	55	20	9.5	10.9	0.47
2	02/06/2021	51	18	9.8	11.3	0.53
3	03/06/2021	60	23	9.2	10.6	0.61
4	04/06/2021	57	20	10.4	11.8	0.44
5	05/06/2021	49	17	9.6	11	0.39
6	06/06/2021	56	19	10.1	11.5	0.48
7	07/06/2021	61	21	9.9	11.3	0.57
8	08/06/2021	53	19	11.2	12.8	0.41
9	09/06/2021	56	20	10.7	12	0.63
10	10/06/2021	62	22	11.5	12.9	0.49
11	11/06/2021	54	19	10.9	12.3	0.55
12	12/06/2021	49	17	11.3	12.6	0.43
13	13/06/2021	44	16	9.1	10.9	0.59
14	14/06/2021	40	15	10	11.4	0.56
15	15/06/2021	45	16	9.6	10.8	0.51
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- NitrogenDioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Lab/Office

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Mines Office Area				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/06/2021	49	18	10.5	11.9	0.46
17	17/06/2021	43	14	9.8	11.3	0.54
18	18/06/2021	46	16	10.3	11.7	0.67
19	19/06/2021	51	18	10.7	12.1	0.53
20	20/06/2021	54	19	11	12.5	0.62
21	21/06/2021	47	17	10.5	11.7	0.58
22	22/06/2021	50	19	9.2	10.8	0.67
23	23/06/2021	43	16	10.8	12.3	0.43
24	24/06/2021	45	16	9.9	11.4	0.71
25	25/06/2021	52	19	10.3	11.7	0.49
26	26/06/2021	55	20	9.4	10.9	0.51
27	27/06/2021	50	18	8.9	10.3	0.65
28	28/06/2021	47	17	9.1	10.6	0.46
29	29/06/2021	51	19	8.7	10.4	0.4
30	30/06/2021	44	16	9.3	10.8	0.52
<b>Average</b>		<b>51</b>	<b>18</b>	<b>10.0</b>	<b>11.4</b>	<b>0.53</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- NitrogenDioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Lakshmi

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 CIN No. : U74210TG1989PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:	
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.	
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021		
Sample Description: Ambient Air Quality					
Location : Rest Shelter					
Month : June-2021					
Sample Collected by: B.S. Envi-Tech (P) Ltd.,					
Instruments used	Respirable Dust Sampler & Fine dust Sampler				
Model	Enviro RDS/EI 142 & Enviro EI 133				
Serial no	64-K-17 & 31-L-17				
Calibration validity	05/10/2021 & 19/10/2021				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/06/2021	61	23	10.7	12.2	0.54
2	02/06/2021	66	25	11.1	12.6	0.46
3	03/06/2021	68	26	11.6	13	0.58
4	04/06/2021	61	22	10.9	12.4	0.63
5	05/06/2021	65	25	11.3	12.8	0.55
6	06/06/2021	59	21	10.5	11.9	0.41
7	07/06/2021	63	22	11.4	12.8	0.61
8	08/06/2021	57	20	10.8	12.3	0.56
9	09/06/2021	55	19	11.2	12.7	0.68
10	10/06/2021	60	21	10.3	11.6	0.5
11	11/06/2021	58	20	11.5	12.9	0.72
12	12/06/2021	53	18	12.1	13.5	0.65
13	13/06/2021	47	16	11	12.4	0.57
14	14/06/2021	45	15	10.8	12.3	0.61
15	15/06/2021	50	17	10.4	11.9	0.52
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73  
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Website : [www.bsenvitech.com](http://www.bsenvitech.com)  
CIN No. : U74210TG1994PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location		: Rest Shelter		
Month		: June-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64 K-17 & 31-L-17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/06/2021	53	18	9.9	11.3	0.59
17	17/06/2021	45	16	10.6	12	0.64
18	18/06/2021	51	17	11.3	12.8	0.7
19	19/06/2021	54	19	11.9	13.3	0.56
20	20/06/2021	57	20	12.1	13.7	0.69
21	21/06/2021	50	18	11.5	12.8	0.52
22	22/06/2021	55	19	11.8	13.1	0.75
23	23/06/2021	48	17	12	13.6	0.62
24	24/06/2021	51	19	10.7	12.2	0.58
25	25/06/2021	57	21	11.4	12.9	0.44
26	26/06/2021	61	22	10.2	11.8	0.59
27	27/06/2021	53	20	9.8	11.3	0.41
28	28/06/2021	51	17	10.6	12.1	0.5
29	29/06/2021	56	20	10.3	11.8	0.66
30	30/06/2021	48	17	11.1	12.6	0.49
<b>Average</b>		<b>55</b>	<b>20</b>	<b>11.0</b>	<b>12.4</b>	<b>0.57</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Gate No-02				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro EI 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/06/2021	67	26	11.4	12.9	0.53
2	02/06/2021	70	27	10.7	12.2	0.61
3	03/06/2021	74	29	11.2	12.8	0.59
4	04/06/2021	69	26	11.8	13.1	0.66
5	05/06/2021	63	22	12.1	13.6	0.74
6	06/06/2021	65	24	11.5	12.9	0.62
7	07/06/2021	60	22	10.9	12.3	0.57
8	08/06/2021	61	23	11.3	12.6	0.69
9	09/06/2021	58	21	10.6	11.9	0.71
10	10/06/2021	53	18	11.9	13.4	0.77
11	11/06/2021	55	19	12.1	13.8	0.58
12	12/06/2021	50	17	11.5	12.8	0.45
13	13/06/2021	47	17	12.4	14	0.67
14	14/06/2021	43	16	11.7	13.3	0.73
15	15/06/2021	51	18	10.9	12.5	0.49
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location		: Gate No-02		
Month		: June-2021		
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro El 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	HSET SOP AA-09
16	16/06/2021	55	19	11.3	12.6	0.55
17	17/06/2021	48	16	12.1	13.6	0.61
18	18/06/2021	53	19	10.5	11.8	0.52
19	19/06/2021	58	22	12.4	13.9	0.63
20	20/06/2021	61	24	10.9	12.4	0.56
21	21/06/2021	45	16	11.1	12.7	0.64
22	22/06/2021	59	21	12.8	14.1	0.7
23	23/06/2021	52	19	11.5	12.7	0.81
24	24/06/2021	47	17	10.9	12.3	0.73
25	25/06/2021	51	18	11.8	13.2	0.77
26	26/06/2021	56	21	10.3	11.7	0.54
27	27/06/2021	59	22	9.9	11.4	0.62
28	28/06/2021	61	23	10.7	12.2	0.51
29	29/06/2021	58	21	11.4	12.8	0.65
30	30/06/2021	53	19	10.3	11.9	0.6
<b>Average</b>		<b>57</b>	<b>21</b>	<b>11.3</b>	<b>12.7</b>	<b>0.62</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Gate No-01				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/06/2021	64	23	12.1	13.8	0.65
2	02/06/2021	69	25	11.8	13.4	0.51
3	03/06/2021	66	24	10.6	11.9	0.69
4	04/06/2021	61	21	11.3	12.7	0.55
5	05/06/2021	58	20	11	12.4	0.62
6	06/06/2021	59	22	10.2	11.6	0.44
7	07/06/2021	63	23	11.5	12.9	0.53
8	08/06/2021	67	25	12.4	13.8	0.49
9	09/06/2021	56	19	11.9	13.3	0.58
10	10/06/2021	50	18	10.8	12.4	0.67
11	11/06/2021	52	18	11.2	12.8	0.71
12	12/06/2021	57	20	12	13.4	0.52
13	13/06/2021	50	17	11.7	13.2	0.75
14	14/06/2021	46	16	11.1	12.6	0.68
15	15/06/2021	41	14	10.8	12.4	0.61
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:	
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.	
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021		
Sample Description: Ambient Air Quality					
Location : Gate No-01					
Month : June-2021					
Sample Collected by: B.S. Envi-Tech (P) Ltd.,					
Instruments used	Respirable Dust Sampler & Fine dust Sampler				
Model	Enviro RDS/EI 142 & Enviro EI 133				
Serial no	66-K-18 & 98-G-19				
Calibration validity	05/10/2021 & 03/10/2021				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/06/2021	48	16	11.5	12.9	0.55
17	17/06/2021	45	15	10.2	11.6	0.64
18	18/06/2021	50	19	11.6	13	0.56
19	19/06/2021	53	20	12.6	14.1	0.63
20	20/06/2021	55	21	11.9	13.5	0.73
21	21/06/2021	43	14	10.8	12.4	0.5
22	22/06/2021	57	21	10.1	11.6	0.78
23	23/06/2021	49	18	11.4	12.8	0.59
24	24/06/2021	43	15	10.5	11.9	0.64
25	25/06/2021	52	19	11	12.4	0.71
26	26/06/2021	47	16	11.6	13.3	0.77
27	27/06/2021	51	19	10.8	12.5	0.61
28	28/06/2021	61	22	11.2	12.8	0.56
29	29/06/2021	51	18	11.9	13.5	0.52
30	30/06/2021	51	17	12.2	13.7	0.47
<b>Average</b>		<b>54</b>	<b>19</b>	<b>11.3</b>	<b>12.8</b>	<b>0.60</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Lab/Office

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 CIN No. : U74211TG1999PTC012358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Kasira Basti				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro El 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	03/06/2021	57	20	9.9	11.2	0.49
2	04/06/2021	51	18	10.3	11.8	0.58
3	10/06/2021	60	21	9.6	10.9	0.61
4	11/06/2021	50	17	10.8	12.4	0.53
5	17/06/2021	46	16	11.2	12.7	0.66
6	18/06/2021	53	19	11.5	12.9	0.6
7	24/06/2021	44	16	10.1	11.6	0.54
8	25/06/2021	49	18	10.4	12	0.69
<b>Average</b>		<b>51</b>	<b>18</b>	<b>10.4</b>	<b>11.9</b>	<b>0.58</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**

  
**Authorized Signatory**



\*Complaints Register is available at Laboratory

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Koira Basti				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro El 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	03/06/2021	66	24	10.8	12.4	0.53
2	04/06/2021	59	21	11.3	12.8	0.69
3	10/06/2021	64	23	10.1	11.6	0.61
4	11/06/2021	57	20	9.9	11.3	0.49
5	17/06/2021	49	18	10.6	12.1	0.58
6	18/06/2021	55	20	11.5	12.9	0.55
7	24/06/2021	48	17	10	11.6	0.64
8	25/06/2021	53	19	11.2	12.8	0.48
<b>Average</b>		<b>56</b>	<b>20</b>	<b>10.6</b>	<b>12.1</b>	<b>0.57</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100</b> [µg/m <sup>3</sup> ]	<b>60</b> [µg/m <sup>3</sup> ]	<b>80</b> [µg/m <sup>3</sup> ]	<b>80</b> [µg/m <sup>3</sup> ]	<b>02</b> [mg/m <sup>3</sup> ] (8 hourly)

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:	
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.	
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021		
Sample Description: Ambient Air Quality					
Location : Segasahi Village					
Month : June-2021					
Sample Collected by: B.S. Envi-Tech (P) Ltd.,					
Instruments used	Respirable Dust Sampler & Fine dust Sampler				
Model	RDS 9000 & Enviro EI 133				
Serial no	030408 & 36-L-17				
Calibration validity	15/03/2022 & 19/10/2021				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/06/2021	53	18	9.7	11.2	0.53
2	08/06/2021	49	17	9.1	10.7	0.4
3	14/06/2021	58	20	10.4	11.9	0.46
4	15/06/2021	47	16	9.9	11.3	0.39
5	21/06/2021	50	17	10.8	12.2	0.48
6	22/06/2021	51	19	9.3	10.8	0.37
7	28/06/2021	46	16	9.6	11.1	0.44
8	29/06/2021	51	17	8.9	10.2	0.55
<b>Average</b>		<b>51</b>	<b>17</b>	<b>9.7</b>	<b>11.1</b>	<b>0.46</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-06				Issued to:
Reporting Date	02.07.2021	Analysis Starting on	01.07.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.07.2021	Analysis Completed on	02.07.2021	
Sample Description: Ambient Air Quality				
Location : Bhanjapali Village				
Month : June-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used		Respirable Dust Sampler & Fine dust Sampler		
Model		RDS 9000 & Enviro El 133		
Serial no		041235 & 37-L-17		
Calibration validity		15/03/2022 & 19/10/2021		

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	07/06/2021	61	22	10.5	11.9	0.56
2	08/06/2021	55	19	11.2	12.6	0.62
3	14/06/2021	64	23	10.9	12.4	0.59
4	15/06/2021	53	19	11.5	12.9	0.67
5	21/06/2021	49	17	10.4	11.7	0.71
6	22/06/2021	57	20	11.9	13.3	0.53
7	28/06/2021	48	17	10.1	11.6	0.47
8	29/06/2021	52	18	10.8	12.2	0.5
Average		56	19	10.9	12.3	0.58
NAAQ Standards (24 hourly standard)		100 [µg/m <sup>3</sup> ]	60 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	02 [mg/m <sup>3</sup> ] (8 hourly)

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1899PTC032358



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

FUGITIVE DUST  
MONITORING  
REPORT

**JUNE-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location</b> : Mines Face/Bench			<b>Model</b>	Enviro RDS / EI 142	
<b>Month</b> : June-2021			<b>Serial no</b>	135-G-20	
<b>Sample Collected by:</b> H.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/06/2021	615	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/06/2021	697	
3	03/06/2021	588	
4	04/06/2021	827	
5	05/06/2021	796	
6	06/06/2021	664	
7	07/06/2021	758	
8	08/06/2021	750	
9	09/06/2021	593	
10	10/06/2021	515	
11	11/06/2021	437	
12	12/06/2021	402	
13	13/06/2021	439	
14	14/06/2021	506	
15	15/06/2021	502	
16	16/06/2021	477	
17	17/06/2021	428	
18	18/06/2021	791	
19	19/06/2021	750	
20	20/06/2021	667	
21	21/06/2021	590	
22	22/06/2021	749	
23	23/06/2021	526	
24	24/06/2021	514	
25	25/06/2021	827	
26	26/06/2021	613	
27	27/06/2021	584	
28	28/06/2021	843	
29	29/06/2021	614	
30	30/06/2021	750	
<b>Average</b>		<b>635</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location</b> : Mines Haulage Road			<b>Model</b>	Envirotech APM 460	
<b>Month</b> : June-2021			<b>Serial no</b>	2838-DTA-2015	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/06/2021	815	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/06/2021	842	
3	03/06/2021	793	
4	04/06/2021	830	
5	05/06/2021	845	
6	06/06/2021	785	
7	07/06/2021	593	
8	08/06/2021	680	
9	09/06/2021	871	
10	10/06/2021	826	
11	11/06/2021	476	
12	12/06/2021	418	
13	13/06/2021	439	
14	14/06/2021	450	
15	15/06/2021	481	
16	16/06/2021	506	
17	17/06/2021	510	
18	18/06/2021	682	
19	19/06/2021	585	
20	20/06/2021	817	
21	21/06/2021	749	
22	22/06/2021	660	
23	23/06/2021	503	
24	24/06/2021	825	
25	25/06/2021	750	
26	26/06/2021	810	
27	27/06/2021	683	
28	28/06/2021	747	
29	29/06/2021	817	
30	30/06/2021	823	
<b>Average</b>		<b>687</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Lab. only

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CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location</b> : Crusher Plant			<b>Model</b>	Envirotech APM 460	
<b>Month</b> : June-2021			<b>Serial no</b>	138-G-20	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021	

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/06/2021	873	1200 ( $\mu\text{g}/\text{m}^3$ )
2	02/06/2021	957	
3	03/06/2021	913	
4	04/06/2021	968	
5	05/06/2021	785	
6	06/06/2021	840	
7	07/06/2021	819	
8	08/06/2021	913	
9	09/06/2021	750	
10	10/06/2021	878	
11	11/06/2021	497	
12	12/06/2021	403	
13	13/06/2021	449	
14	14/06/2021	469	
15	15/06/2021	481	
16	16/06/2021	403	
17	17/06/2021	441	
18	18/06/2021	587	
19	19/06/2021	593	
20	20/06/2021	834	
21	21/06/2021	747	
22	22/06/2021	852	
23	23/06/2021	504	
24	24/06/2021	499	
25	25/06/2021	840	
26	26/06/2021	728	
27	27/06/2021	729	
28	28/06/2021	952	
29	29/06/2021	735	
30	30/06/2021	639	
<b>Average</b>		<b>703</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Lab/Office

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CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location</b> : Screen Plant			<b>Model</b>	Envirotech APM 460	
<b>Month</b> : June-2021			<b>Serial no</b>	62-K-18	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/06/2021	830	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/06/2021	746	
3	03/06/2021	833	
4	04/06/2021	957	
5	05/06/2021	750	
6	06/06/2021	699	
7	07/06/2021	582	
8	08/06/2021	769	
9	09/06/2021	823	
10	10/06/2021	592	
11	11/06/2021	453	
12	12/06/2021	471	
13	13/06/2021	404	
14	14/06/2021	400	
15	15/06/2021	507	
16	16/06/2021	513	
17	17/06/2021	488	
18	18/06/2021	796	
19	19/06/2021	858	
20	20/06/2021	671	
21	21/06/2021	938	
22	22/06/2021	855	
23	23/06/2021	501	
24	24/06/2021	860	
25	25/06/2021	823	
26	26/06/2021	750	
27	27/06/2021	819	
28	28/06/2021	923	
29	29/06/2021	585	
30	30/06/2021	816	
<b>Average</b>		<b>700</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location :</b> Ore Storage & Loading Point			<b>Model</b>	Envirotech APM 460
<b>Month :</b> June-2021			<b>Serial no</b>	101-G-19
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/06/2021	584	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/06/2021	750	
3	03/06/2021	652	
4	04/06/2021	664	
5	05/06/2021	750	
6	06/06/2021	800	
7	07/06/2021	840	
8	08/06/2021	569	
9	09/06/2021	629	
10	10/06/2021	545	
11	11/06/2021	461	
12	12/06/2021	418	
13	13/06/2021	423	
14	14/06/2021	437	
15	15/06/2021	516	
16	16/06/2021	511	
17	17/06/2021	447	
18	18/06/2021	790	
19	19/06/2021	738	
20	20/06/2021	538	
21	21/06/2021	550	
22	22/06/2021	673	
23	23/06/2021	524	
24	24/06/2021	750	
25	25/06/2021	819	
26	26/06/2021	747	
27	27/06/2021	773	
28	28/06/2021	600	
29	29/06/2021	583	
30	30/06/2021	595	
<b>Average</b>		<b>623</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-06</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.07.2021	<b>Analysis Starting on</b>	01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.07.2021	<b>Analysis Completed on</b>	02.07.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location</b> : Waste Dump			<b>Model</b>	RDS 9000	
<b>Month</b> : June-2021			<b>Serial no</b>	0602101	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/06/2021	684	1200 [ $\mu\text{g}/\text{m}^3$ ]
2	02/06/2021	720	
3	03/06/2021	529	
4	04/06/2021	560	
5	05/06/2021	750	
6	06/06/2021	681	
7	07/06/2021	779	
8	08/06/2021	843	
9	09/06/2021	467	
10	10/06/2021	499	
11	11/06/2021	418	
12	12/06/2021	404	
13	13/06/2021	403	
14	14/06/2021	454	
15	15/06/2021	515	
16	16/06/2021	516	
17	17/06/2021	439	
18	18/06/2021	794	
19	19/06/2021	693	
20	20/06/2021	826	
21	21/06/2021	576	
22	22/06/2021	639	
23	23/06/2021	483	
24	24/06/2021	720	
25	25/06/2021	667	
26	26/06/2021	582	
27	27/06/2021	710	
28	28/06/2021	490	
29	29/06/2021	473	
30	30/06/2021	581	
<b>Average</b>		<b>597</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**AAQ REPORT**

**JULY-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Mines Office Area/AAQCZ-1				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [ $\mu\text{g}/\text{m}^3$ ]	PM <sub>2.5</sub> [ $\mu\text{g}/\text{m}^3$ ]	SO <sub>2</sub> [ $\mu\text{g}/\text{m}^3$ ]	NO <sub>2</sub> [ $\mu\text{g}/\text{m}^3$ ]	CO [ $\text{mg}/\text{m}^3$ ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/07/2021	47	16	8.7	10.2	0.41
2	02/07/2021	53	18	8.2	9.7	0.52
3	03/07/2021	49	17	10.6	11.9	0.57
4	04/07/2021	51	18	8.8	10.4	0.48
5	05/07/2021	46	15	10.1	11.6	0.51
6	06/07/2021	55	20	9.4	10.7	0.4
7	07/07/2021	48	16	8.6	9.9	0.37
8	08/07/2021	52	17	8.9	10.3	0.44
9	09/07/2021	60	21	9.5	10.8	0.5
10	10/07/2021	54	18	9.3	10.6	0.47
11	11/07/2021	49	17	10	11.4	0.42
12	12/07/2021	42	15	9.7	11.2	0.58
13	13/07/2021	51	17	8.1	9.6	0.61
14	14/07/2021	45	15	9.9	11.3	0.45
15	15/07/2021	57	20	10.5	11.9	0.49
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [<math>\mu\text{g}/\text{m}^3</math>]</b>	<b>60 [<math>\mu\text{g}/\text{m}^3</math>]</b>	<b>80 [<math>\mu\text{g}/\text{m}^3</math>]</b>	<b>80 [<math>\mu\text{g}/\text{m}^3</math>]</b>	<b>02 [<math>\text{mg}/\text{m}^3</math>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10 $\mu\text{m}$ )  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5 $\mu\text{m}$ )  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Mines Office Area/AAQCZ-1				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/07/2021	50	17	9.2	10.6	0.39
17	17/07/2021	42	14	10.1	11.5	0.42
18	18/07/2021	56	19	8.9	10.8	0.56
19	19/07/2021	46	15	9.5	11	0.63
20	20/07/2021	50	21	9.2	10.6	0.46
21	21/07/2021	51	18	10.7	12.4	0.55
22	22/07/2021	46	16	9.6	10.9	0.41
23	23/07/2021	49	17	9	10.5	0.36
24	24/07/2021	42	15	8.7	10.2	0.48
25	25/07/2021	44	16	9.4	10.9	0.53
26	26/07/2021	53	19	10.2	11.6	0.35
27	27/07/2021	40	14	9	11.5	0.49
28	28/07/2021	46	16	8.5	9.8	0.31
29	29/07/2021	42	15	9.9	11.3	0.45
30	30/07/2021	39	13	8.3	9.7	0.6
31	31/07/2021	37	12	9.8	11.1	0.35
<b>Average</b>		<b>49</b>	<b>17</b>	<b>9.3</b>	<b>10.8</b>	<b>0.46</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Lab.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Rest Shelter/AAQCZ-4				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64-K-17 & 31 L 17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/07/2021	51	18	11.4	12.7	11.54
2	02/07/2021	58	21	10.9	12.2	0.43
3	03/07/2021	54	18	10.5	11.8	0.61
4	04/07/2021	47	16	11.6	12.9	0.59
5	05/07/2021	52	18	10.8	12.4	0.48
6	06/07/2021	59	21	11.2	12.6	0.52
7	07/07/2021	53	19	11.7	13.1	0.57
8	08/07/2021	57	20	9.9	11.2	0.69
9	09/07/2021	64	23	10.3	11.8	0.72
10	10/07/2021	59	21	10.7	12.1	0.44
11	11/07/2021	52	18	11	12.5	0.51
12	12/07/2021	45	16	11.5	12.9	0.42
13	13/07/2021	56	19	10.3	11.6	0.53
14	14/07/2021	49	18	11.1	12.7	0.46
15	15/07/2021	62	22	12	13.2	0.41
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**

  
**Authorized Signatory**

\*Complaints Register is available at Lab 610

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 CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:	
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.	
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021		
Sample Description: Ambient Air Quality					
Location/Code : Rest Shelter/AAQCZ-4					
Month : July-2021					
Sample Collected by: B.S. Envi-Tech (P) Ltd.,					
Instruments used	Respirable Dust Sampler & Fine dust Sampler				
Model	Enviro RDS/EI 142 & Enviro EI 133				
Serial no	64-K-17 & 31-L-17				
Calibration validity	05/10/2021 & 19/10/2021				

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/07/2021	55	19	10.6	11.9	0.55
17	17/07/2021	44	15	11.5	12.7	0.67
18	18/07/2021	66	24	10.9	12.2	0.53
19	19/07/2021	50	17	11.2	12.6	0.61
20	20/07/2021	63	22	11.5	12.9	0.7
21	21/07/2021	55	19	11.8	13.3	0.58
22	22/07/2021	65	23	10.4	11.7	0.65
23	23/07/2021	51	18	11	12.3	0.59
24	24/07/2021	44	16	11.3	12.6	0.52
25	25/07/2021	48	17	10.6	11.9	0.6
26	26/07/2021	51	18	11.4	12.8	0.45
27	27/07/2021	42	14	10.7	12	0.54
28	28/07/2021	47	15	9.9	11.2	0.49
29	29/07/2021	41	14	10.5	11.8	0.51
30	30/07/2021	38	13	9.4	10.7	0.62
31	31/07/2021	36	12	10.1	11.6	0.56
<b>Average</b>		<b>52</b>	<b>18</b>	<b>10.8</b>	<b>12.2</b>	<b>0.55</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**  
**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**  
**SO<sub>2</sub>-Sulphur Dioxide**  
**NO<sub>2</sub>- Nitrogen Dioxide**  
**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-02/AAQCZ-3				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro EI 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/07/2021	54	18	10.3	11.7	0.67
2	02/07/2021	51	17	9.9	11.3	0.53
3	03/07/2021	57	20	10.6	12.2	0.48
4	04/07/2021	52	18	10.1	11.5	0.56
5	05/07/2021	59	20	11.4	12.9	0.61
6	06/07/2021	62	22	10.8	12.3	0.54
7	07/07/2021	51	17	10.2	11.7	0.42
8	08/07/2021	60	21	11	12.4	0.59
9	09/07/2021	56	19	11.7	13	0.61
10	10/07/2021	52	18	9.8	11.2	0.55
11	11/07/2021	49	17	11.3	12.7	0.7
12	12/07/2021	46	15	9.5	10.9	0.46
13	13/07/2021	50	17	10.4	11.7	0.63
14	14/07/2021	53	19	9.6	10.8	0.58
15	15/07/2021	64	22	10.1	11.5	0.52
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE' - 2-13 1270/71/73,  
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CIN No. : U74210TG1909PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-02/AAQCZ-3				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro EI 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/07/2021	52	19	10.7	12.2	0.47
17	17/07/2021	47	18	11.3	12.8	0.6
18	18/07/2021	65	24	11.8	12.2	0.41
19	19/07/2021	53	19	11.1	12.4	0.66
20	20/07/2021	58	20	10.5	11.9	0.49
21	21/07/2021	50	18	10.9	12.3	0.51
22	22/07/2021	61	22	10.2	11.7	0.65
23	23/07/2021	46	16	9.8	11.1	0.73
24	24/07/2021	48	16	10.6	11.9	0.57
25	25/07/2021	45	16	11.1	12.5	0.68
26	26/07/2021	52	18	11.5	12.9	0.44
27	27/07/2021	44	16	9.7	11.2	0.59
28	28/07/2021	40	18	10.3	11.7	0.66
29	29/07/2021	37	12	10.8	12.3	0.4
30	30/07/2021	35	11	11.2	12.7	0.6
31	31/07/2021	39	13	9.4	10.7	0.54
<b>Average</b>		<b>51</b>	<b>18</b>	<b>10.5</b>	<b>11.9</b>	<b>0.58</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 (mg/m<sup>3</sup>) (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-01/AAQCZ-2				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-C-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m³]	PM <sub>2.5</sub> [µg/m³]	SO <sub>2</sub> [µg/m³]	NO <sub>2</sub> [µg/m³]	CO [mg/m³]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/07/2021	60	22	11.5	12.8	0.53
2	02/07/2021	53	18	10.9	12.3	0.59
3	03/07/2021	63	23	11.2	12.7	0.65
4	04/07/2021	55	19	12.1	13.3	0.54
5	05/07/2021	61	21	11.6	13.1	0.71
6	06/07/2021	66	24	11.4	12.7	0.48
7	07/07/2021	54	18	11.7	13	0.57
8	08/07/2021	58	20	12.2	13.8	0.62
9	09/07/2021	60	21	11.1	12.4	0.56
10	10/07/2021	55	18	11.5	12.9	0.67
11	11/07/2021	51	17	10.8	12.4	0.51
12	12/07/2021	48	16	11.2	12.6	0.64
13	13/07/2021	54	18	12.3	13.6	0.52
14	14/07/2021	57	20	11.6	12.9	0.71
15	15/07/2021	61	21	12	13.3	0.66
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m³]</b>	<b>60 [µg/m³]</b>	<b>80 [µg/m³]</b>	<b>80 [µg/m³]</b>	<b>02 [mg/m³] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No 01/AAQCZ-2				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/07/2021	49	17	11.7	13.1	0.56
17	17/07/2021	52	18	10.4	11.9	0.49
18	18/07/2021	61	21	10.9	12.4	0.62
19	19/07/2021	57	19	11.2	12.8	0.59
20	20/07/2021	54	17	12.6	14	0.67
21	21/07/2021	47	15	12.9	14.2	0.72
22	22/07/2021	63	22	11.5	12.9	0.54
23	23/07/2021	50	17	10.3	11.7	0.43
24	24/07/2021	45	15	11	12.4	0.56
25	25/07/2021	49	17	10.8	12.2	0.65
26	26/07/2021	54	19	11.7	13.1	0.52
27	27/07/2021	41	14	12.1	13.6	0.69
28	28/07/2021	46	16	11.9	13.3	0.74
29	29/07/2021	43	14	12.5	14	0.67
30	30/07/2021	39	13	11.3	12.5	0.62
31	31/07/2021	35	12	11.8	13.4	0.47
<b>Average</b>		<b>53</b>	<b>18</b>	<b>11.5</b>	<b>12.9</b>	<b>0.59</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Kasira Basti/AAQBZ-1				
Month : July 2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	05/07/2021	50	18	10.1	11.7	0.44
2	06/07/2021	46	15	9.7	11.2	0.52
3	12/07/2021	54	19	9.2	10.8	0.36
4	13/07/2021	58	20	8.9	10.3	0.47
5	19/07/2021	42	14	9.5	10.9	0.41
6	20/07/2021	47	16	9.9	11.4	0.39
7	26/07/2021	49	17	10.5	11.9	0.42
8	27/07/2021	41	14	9.6	10.9	0.5
<b>Average</b>		<b>48</b>	<b>17</b>	<b>9.6</b>	<b>11.1</b>	<b>0.43</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Koira Basti/AAQBZ-2				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro El 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	05/07/2021	55	19	11.4	12.9	0.67
2	06/07/2021	49	16	10.9	12.3	0.58
3	12/07/2021	60	21	11.7	13	0.52
4	13/07/2021	52	18	11.2	12.6	0.64
5	19/07/2021	47	15	10.7	12.1	0.49
6	20/07/2021	51	17	11.1	12.4	0.55
7	26/07/2021	55	19	10.9	12.2	0.69
8	27/07/2021	44	14	11.6	13.1	0.63
<b>Average</b>		<b>52</b>	<b>17</b>	<b>11.1</b>	<b>12.5</b>	<b>0.59</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Segasahi Village/AAQBZ-3				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	08/07/2021	45	15	9	10.8	0.37
2	09/07/2021	49	17	8.8	10.3	0.44
3	15/07/2021	47	16	9.4	10.7	0.32
4	16/07/2021	51	18	9.2	10.5	0.41
5	22/07/2021	46	15	9.9	11.3	0.29
6	23/07/2021	43	14	8.3	9.8	0.33
7	29/07/2021	34	12	8.1	9.5	0.46
8	30/07/2021	39	13	9.5	11.1	0.35
<b>Average</b>		<b>44</b>	<b>15</b>	<b>9.0</b>	<b>10.5</b>	<b>0.37</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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Ctn No : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-07				Issued to:
Reporting Date	03.08.2021	Analysis Starting on	02.08.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	02.08.2021	Analysis Completed on	03.08.2021	
Sample Description: Ambient Air Quality				
Location/Code : Bhanjapali Village/AAQBZ-4				
Month : July-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd..				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	08/07/2021	53	18	10.1	11.7	0.45
2	09/07/2021	57	20	10.7	12.2	0.52
3	15/07/2021	49	17	9.9	11.3	0.61
4	16/07/2021	55	19	10.4	11.8	0.55
5	22/07/2021	48	17	9.5	10.7	0.43
6	23/07/2021	45	15	10.2	11.6	0.58
7	29/07/2021	41	14	9.8	11.2	0.54
8	30/07/2021	38	12	9.6	11	0.49
<b>Average</b>		<b>48</b>	<b>17</b>	<b>10.0</b>	<b>11.4</b>	<b>0.52</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**FUGITIVE DUST  
MONITORING  
REPORT**

**JULY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Mines Face/Bench/FDM-1			<b>Model</b>	Enviro RDS / EI 142
<b>Month :</b> July 2021			<b>Serial no</b>	135-G-20
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/07/2021	707	1200 ( $\mu\text{g}/\text{m}^3$ )
2	02/07/2021	742	
3	03/07/2021	528	
4	04/07/2021	560	
5	05/07/2021	522	
6	06/07/2021	684	
7	07/07/2021	713	
8	08/07/2021	463	
9	09/07/2021	412	
10	10/07/2021	569	
11	11/07/2021	470	
12	12/07/2021	632	
13	13/07/2021	528	
14	14/07/2021	473	
15	15/07/2021	632	
16	16/07/2021	484	
17	17/07/2021	682	
18	18/07/2021	593	
19	19/07/2021	633	
20	20/07/2021	513	
21	21/07/2021	472	
22	22/07/2021	495	
23	23/07/2021	407	
24	24/07/2021	521	
25	25/07/2021	463	
26	26/07/2021	558	
27	27/07/2021	463	
28	28/07/2021	417	
29	29/07/2021	386	
30	30/07/2021	349	
31	31/07/2021	322	
<b>Average</b>		<b>529</b>	

**Legend: SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Mines Haulage Road/FDM-2			<b>Model</b>	Envirotech APM 460
<b>Month :</b> July-2021			<b>Serial no</b>	2838-DTA-2015
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd..			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/07/2021	643	<b>1200 <math>\mu\text{g}/\text{m}^3</math></b>
2	02/07/2021	572	
3	03/07/2021	683	
4	04/07/2021	447	
5	05/07/2021	672	
6	06/07/2021	690	
7	07/07/2021	661	
8	08/07/2021	748	
9	09/07/2021	527	
10	10/07/2021	549	
11	11/07/2021	447	
12	12/07/2021	652	
13	13/07/2021	582	
14	14/07/2021	624	
15	15/07/2021	715	
16	16/07/2021	683	
17	17/07/2021	592	
18	18/07/2021	483	
19	19/07/2021	484	
20	20/07/2021	567	
21	21/07/2021	513	
22	22/07/2021	552	
23	23/07/2021	471	
24	24/07/2021	410	
25	25/07/2021	434	
26	26/07/2021	513	
27	27/07/2021	567	
28	28/07/2021	509	
29	29/07/2021	482	
30	30/07/2021	471	
31	31/07/2021	415	
<b>Average</b>		<b>560</b>	

**Legend: SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Crusher Plant/FDM-3			<b>Model</b>	Envirotech APM 460
<b>Month :</b> July -2021			<b>Serial no</b>	138 G-20
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/07/2021	747	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/07/2021	693	
3	03/07/2021	710	
4	04/07/2021	663	
5	05/07/2021	649	
6	06/07/2021	715	
7	07/07/2021	544	
8	08/07/2021	528	
9	09/07/2021	410	
10	10/07/2021	613	
11	11/07/2021	517	
12	12/07/2021	514	
13	13/07/2021	593	
14	14/07/2021	573	
15	15/07/2021	488	
16	16/07/2021	594	
17	17/07/2021	584	
18	18/07/2021	621	
19	19/07/2021	580	
20	20/07/2021	494	
21	21/07/2021	570	
22	22/07/2021	510	
23	23/07/2021	580	
24	24/07/2021	564	
25	25/07/2021	428	
26	26/07/2021	494	
27	27/07/2021	671	
28	28/07/2021	613	
29	29/07/2021	563	
30	30/07/2021	512	
31	31/07/2021	496	
<b>Average</b>		<b>575</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Screen Plant/FDM-4			<b>Model</b>	Envirotech APM 460
<b>Month :</b> July-2021			<b>Serial no</b>	62-K-18
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/07/2021	648	1200 [ $\mu\text{g}/\text{m}^3$ ]
2	02/07/2021	716	
3	03/07/2021	663	
4	04/07/2021	711	
5	05/07/2021	590	
6	06/07/2021	582	
7	07/07/2021	696	
8	08/07/2021	643	
9	09/07/2021	532	
10	10/07/2021	546	
11	11/07/2021	452	
12	12/07/2021	483	
13	13/07/2021	472	
14	14/07/2021	513	
15	15/07/2021	623	
16	16/07/2021	432	
17	17/07/2021	483	
18	18/07/2021	493	
19	19/07/2021	552	
20	20/07/2021	673	
21	21/07/2021	693	
22	22/07/2021	483	
23	23/07/2021	513	
24	24/07/2021	473	
25	25/07/2021	493	
26	26/07/2021	514	
27	27/07/2021	448	
28	28/07/2021	415	
29	29/07/2021	391	
30	30/07/2021	374	
31	31/07/2021	342	
<b>Average</b>		<b>537</b>	

**Legend:SPM-Suspended Particulate Matter**



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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Ore Storage & Loading Point/FDM-5			<b>Model</b>	Envirotech APM 460
<b>Month :</b> July-2021			<b>Serial no</b>	101-G-19
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/07/2021	747	<b>1200 <math>\mu\text{g}/\text{m}^3</math></b>
2	02/07/2021	771	
3	03/07/2021	721	
4	04/07/2021	530	
5	05/07/2021	643	
6	06/07/2021	512	
7	07/07/2021	671	
8	08/07/2021	594	
9	09/07/2021	424	
10	10/07/2021	594	
11	11/07/2021	615	
12	12/07/2021	466	
13	13/07/2021	483	
14	14/07/2021	481	
15	15/07/2021	405	
16	16/07/2021	623	
17	17/07/2021	602	
18	18/07/2021	425	
19	19/07/2021	483	
20	20/07/2021	517	
21	21/07/2021	592	
22	22/07/2021	462	
23	23/07/2021	478	
24	24/07/2021	543	
25	25/07/2021	599	
26	26/07/2021	497	
27	27/07/2021	589	
28	28/07/2021	555	
29	29/07/2021	497	
30	30/07/2021	425	
31	31/07/2021	402	
<b>Average</b>		<b>547</b>	

**Legend:SPM-Suspended Particulate Matter**



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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-07</b>				<b>Issued to:</b>
<b>Reporting Date</b>	03.08.2021	<b>Analysis Starting on</b>	02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	02.08.2021	<b>Analysis Completed on</b>	03.08.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Waste Dump/FDM-6			<b>Model</b>	RDS 9000
<b>Month :</b> July-2021			<b>Serial no</b>	0602101
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/07/2021	715	1200 $\mu\text{g}/\text{m}^3$
2	02/07/2021	524	
3	03/07/2021	599	
4	04/07/2021	502	
5	05/07/2021	548	
6	06/07/2021	628	
7	07/07/2021	550	
8	08/07/2021	592	
9	09/07/2021	580	
10	10/07/2021	483	
11	11/07/2021	498	
12	12/07/2021	593	
13	13/07/2021	559	
14	14/07/2021	550	
15	15/07/2021	683	
16	16/07/2021	713	
17	17/07/2021	432	
18	18/07/2021	483	
19	19/07/2021	482	
20	20/07/2021	473	
21	21/07/2021	488	
22	22/07/2021	473	
23	23/07/2021	523	
24	24/07/2021	550	
25	25/07/2021	417	
26	26/07/2021	483	
27	27/07/2021	540	
28	28/07/2021	511	
29	29/07/2021	496	
30	30/07/2021	424	
31	31/07/2021	399	
<b>Average</b>		<b>532</b>	

**Legend:SPM-Suspended Particulate Matter**



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# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

**AAQ-7 PARAMETERS**

**AUGUST-2021**





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanposhi Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2620 <b>Issue Date :</b> 18.08.2021 <b>Your Ref. No. :</b> Letter dated 13.08.2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received :</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10 ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Sampling Details</b> <b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> Ok <b>Location of Sampling:</b> Mines Office Area <b>Page No:</b> 1 of 1			

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	9.9	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.20	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	14.2	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo(a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12) :2006 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS - VGA	0.45	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.32	20 (Annual)

Interpretation of results: Nil  
 Deviation from test method: Nil

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanposhi Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2621 <b>Issue Date :</b> 18.08.2021 <b>Your Ref :</b> Letter dated 13/08/2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> Ok		<b>Sampling Details</b> <b>Location of Sampling:</b> Work Shop Area <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone ( $O_3$ ), $\mu g/m^3$	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	10.1	180 (1 Hour)
2	Lead (Pb), $\mu g/m^3$	USEPA - IO 3.2 - 1999, BY AAS	0.15	1 (24 Hours)
3	Ammonia ( $NH_3$ ), $\mu g/m^3$	BSET/SOP/AA-06, (Indophenol Blue Method)	11.1	400 (24 Hours)
4	Benzene, $\mu g/m^3$	IS: 5182 (P-11):2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo(a) Pyrene, ( $BaP$ ) Particulate phase only, $ng/m^3$	IS: 5182 (P-12):2006 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), $ng/m^3$	USEPA - IO 3.2 - 1999, BY AAS - VGA	0.32	6 (Annual)
7	Nickel (Ni), $ng/m^3$	USEPA - IO 3.2 - 1999, BY AAS	0.45	20 (Annual)

Interpretation of results: Nil  
 Deviation from test method: Nil

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanpuri Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/IR-2622 <b>Issue Date :</b> 13.08.2021 <b>Your Ref :</b> Letter dated 13.08.2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benz(a) pyrene, Arsenic, Nickel 1ml absorbing solution for Ammonia 10 ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> Ok		<b>Sampling Details*</b> <b>Location of Sampling:</b> Gate No.01 <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	8.1	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA IO 3.2 1999, BY AAS	0.10	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	13.3	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benz(a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), ng/m <sup>3</sup>	USEPA IO 3.2 1999, BY AAS - VGA	0.24	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA IO 3.2 1999, BY AAS	0.30	20 (Annual)

Interpretation of results: Nil  
 Deviation from test method: Nil

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanpalli Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSEIT/2021/TR-2623 <b>Issue Date :</b> 18.08.2021 <b>Your Ref :</b> Letter dated 13.08.2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received :</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Gate No 02 <b>Page No:</b> 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part IX) 1974 (Reaffirmed 2014)	12.0	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.11	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSEI, SOP/AA-06, (Indophenol Blue Method)	11.9	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11) - 2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo (a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12) - 2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS - VGA	0.24	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.33	20 (Annual)

Interpretation of results: Nil  
 Deviation from test method: Nil

  
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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanpalli Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2624  <b>Issue Date :</b> 19.08.2021  <b>Your Ref :</b> Letter dated 13.08.2021  <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration</b> : 13.08.2021 <b>Date of commencement of testing</b> : 13.08.2021 <b>Date of completion of testing</b> : 17.08.2021 <b>Sample condition at receipt</b> : Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing</b> : 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10 ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Sampling Details</b> <b>Date of Sampling:</b> 10.08.2021 <b>Location of Sampling:</b> Kasra Basti <b>General Environment conditions:</b> Ok			

Page No: 1 of 1

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	11.0	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA IO 3.2 1999, BY AAS	0.19	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	10.9	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11) 2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo(a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12) 2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS - VOA	0.26	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA IO 3.2 1999, BY AAS	0.42	20 (Annual)

Interpretation of results: Nil  
Deviation from test method: Nil

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanpuri Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2625 <b>Issue Date :</b> 13.08.2021 <b>Your Ref :</b> Letter dated 13.08.2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Foul smell <b>Sample tested as received :</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for: Lead, Benzo(a) pyrene, Arsenic, Nickel 10ml absorbing solution for Ammonia 10 ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> OK		<b>Location of Sampling:</b> Koiru Basti Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	0.6	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA IO 32-1999, BY AAS	0.12	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSET/SOP/AA-06, (Indophenol Blue Method)	10.9	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11):2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo(a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12):2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), µg/m <sup>3</sup>	USEPA IO 32-1999, BY AAS - VCI	0.28	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA IO 32-1999, BY AAS	0.36	20 (Annual)

Interpretation of results: Nil  
 Deviation from test method: Nil



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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanpuri Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2626 <b>Issue Date :</b> 13.08.2021 <b>Your Ref :</b> Letter dated 13.08.2021 <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below			
<b>Sampling Details</b>			
<b>Date of Sampling:</b> 10.08.2021 <b>General Environment conditions:</b> Ok		<b>Location of Sampling:</b> Segasahi Village Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	9.8	180 (1 Hour)
2	Lead (Pb), $\mu\text{g}/\text{m}^3$	USEPA - IO - 3.2 - 1999, BY AAS	0.10	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	BSET/SOP/AA-06, (Indopheno. Blue Method)	11.6	400 (24 Hours)
4	Benzene, $\mu\text{g}/\text{m}^3$	IS- 5182 (P-11) :2006 (Reaffirmed 2012)	<0.1	5 (Annual)
5	Benzo (a) Pyrene, (BaP) Particulate phase only, $\mu\text{g}/\text{m}^3$	IS- 5182 (P-12) :2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), $\text{ng}/\text{m}^3$	USEPA - IO - 3.2 - 1999, BY AAS - VGA	0.16	6 (Annual)
7	Nickel (Ni), $\text{ng}/\text{m}^3$	USEPA - IO - 3.2 - 1999, BY AAS	0.29	20 (Annual)

Interpretation of results. Nil  
Deviation from test method. Nil



Authorized Signatory

\*Complaints Register is available at Laboratory



**TEST REPORT**

<b>Name &amp; Address of the Customer :</b> M/s JSW Steel Limited Narayanposhi Iron & Manganese Ore Mines		<b>Test Report No. :</b> BSET/2021/TR-2627  <b>Issue Date :</b> 18.08.2021  <b>Your Ref :</b> Letter dated 13.08.2021  <b>Date of Receipt :</b> 13.08.2021	
<b>Sample Description:</b> Ambient Air Quality sample		<b>Date of Registration :</b> 13.08.2021 <b>Date of commencement of testing :</b> 13.08.2021 <b>Date of completion of testing :</b> 17.08.2021 <b>Sample condition at receipt :</b> Found ok <b>Sample tested as received :</b>	
<b>Qty &amp; Packing :</b> 1 filter paper for Lead, Benzo(a) pyrene, Arsenic, Nickel 30ml absorbing solution for Ammonia 10 ml absorbing solution for Ozone 1 No Charcoal tube for Benzene <b>Test Required :</b> As per given below		<b>Sampling Details</b> <b>Date of Sampling:</b> 11/08/2021 <b>General Environment conditions:</b> Ok <b>Location of Sampling:</b> Bhanjapali Village <b>Page No:</b> 1 of 1	

**TEST RESULTS**

S. No.	Test Parameter	Test Method	Result	NAAQ Standards for Industrial, Residential, Rural and Other areas
1	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	IS:5182 (Part-IX) 1974 (Reaffirmed 2014)	12.6	180 (1 Hour)
2	Lead (Pb), µg/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.12	1 (24 Hours)
3	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	BSET/SCOP/AA-06, (Indophenol Blue Method)	10.5	400 (24 Hours)
4	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11) :2006 (Reaffirmed 2012)	< 0.1	5 (Annual)
5	Benzo(a) Pyrene, (BaP) Particulate phase only, ng/m <sup>3</sup>	IS: 5182 (P-12) :2004 (Reaffirmed 2014)	< 1	1 (Annual)
6	Arsenic (As), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS - VGA	0.24	6 (Annual)
7	Nickel (Ni), ng/m <sup>3</sup>	USEPA - IO - 3.2 - 1999, BY AAS	0.20	20 (Annual)

Interpretation of results: Nil  
Deviation from test method: Nil

  
Authorized Signatory  


\*Complaints Register is available at Laboratory.

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**AAQ REPORT**

**AUGUST-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Mines Office Area/AAQCZ-1				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136 G 20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/08/2021	44	14	9	10.7	0.54
2	02/08/2021	41	13	9.4	10.9	0.45
3	03/08/2021	51	17	8.9	10.3	0.37
4	04/08/2021	54	19	9.1	10.6	0.49
5	05/08/2021	49	17	9.6	10.9	0.44
6	06/08/2021	56	20	10.2	11.5	0.51
7	07/08/2021	45	16	10.9	12.1	0.36
8	08/08/2021	52	19	9.9	11.4	0.43
9	09/08/2021	40	13	10.5	11.8	0.58
10	10/08/2021	46	15	8.3	9.6	0.39
11	11/08/2021	48	17	9.1	10.4	0.61
12	12/08/2021	53	18	10.7	11.9	0.53
13	13/08/2021	59	21	9.2	10.5	0.44
14	14/08/2021	63	22	10.9	12.1	0.4
15	15/08/2021	42	15	9.5	10.8	0.37
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- NitrogenDioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Mines Office Area/AAQCZ-1				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/08/2021	39	13	10.3	11.7	0.42
17	17/08/2021	45	15	11.1	12.2	0.48
18	18/08/2021	53	18	9.9	11.5	0.52
19	19/08/2021	41	14	10.6	11.9	0.46
20	20/08/2021	50	17	10	11.2	0.55
21	21/08/2021	44	16	11.4	12.7	0.49
22	22/08/2021	49	18	10.3	11.8	0.43
23	23/08/2021	55	19	11	12.2	0.38
24	24/08/2021	60	20	9.7	11	0.41
25	25/08/2021	51	17	8.4	9.8	0.47
26	26/08/2021	43	15	9.2	10.6	0.54
27	27/08/2021	38	12	10	11.3	0.57
28	28/08/2021	45	16	9.8	11.5	0.49
29	29/08/2021	40	13	10.9	12.2	0.31
30	30/08/2021	37	11	9.3	10.6	0.48
31	31/08/2021	39	13	10.4	11.9	0.33
<b>Average</b>		<b>48</b>	<b>16</b>	<b>9.9</b>	<b>11.2</b>	<b>0.45</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- NitrogenDioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Rest Shelter/AAQCZ-4				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64-K-17 & 31-L-17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/08/2021	46	16	10.7	12.1	0.44
2	02/08/2021	53	19	9.9	11.3	0.63
3	03/08/2021	59	20	11.5	12.8	0.51
4	04/08/2021	61	21	10.6	11.9	0.47
5	05/08/2021	57	19	9.8	11.2	0.38
6	06/08/2021	63	22	10.2	11.7	0.62
7	07/08/2021	55	19	9.7	11	0.67
8	08/08/2021	51	17	10.9	12.3	0.49
9	09/08/2021	47	16	11.3	12.9	0.52
10	10/08/2021	56	19	11.7	13	0.74
11	11/08/2021	50	17	10	11.5	0.61
12	12/08/2021	58	20	9.5	10.9	0.52
13	13/08/2021	61	22	8.3	9.8	0.66
14	14/08/2021	53	18	9.4	10.7	0.43
15	15/08/2021	50	17	11	12.3	0.54
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Rest Shelter/AAQCZ-4				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64-K-17 & 31-L-17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/08/2021	47	16	9.6	11	0.48
17	17/08/2021	41	14	10.5	11.9	0.62
18	18/08/2021	56	19	9.9	11.2	0.57
19	19/08/2021	44	15	9.2	10.8	0.41
20	20/08/2021	46	17	10.5	11.9	0.6
21	21/08/2021	51	18	10.8	12.3	0.68
22	22/08/2021	40	14	9.4	10.7	0.45
23	23/08/2021	47	16	10.1	11.5	0.49
24	24/08/2021	50	21	9.3	10.8	0.37
25	25/08/2021	62	23	11.6	13	0.69
26	26/08/2021	55	20	10.5	11.8	0.53
27	27/08/2021	43	14	11.8	13.2	0.71
28	28/08/2021	41	13	10.9	12.4	0.64
29	29/08/2021	39	12	11.5	12.9	0.56
30	30/08/2021	44	15	10.4	11.6	0.61
31	31/08/2021	49	17	9.6	10.6	0.46
<b>Average</b>		<b>51</b>	<b>18</b>	<b>10.3</b>	<b>11.7</b>	<b>0.55</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>50 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-02/AAQCZ-3				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro EI 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/08/2021	49	17	11.1	12.6	0.55
2	02/08/2021	57	20	10.7	12.3	0.48
3	03/08/2021	61	22	11.6	12.9	0.44
4	04/08/2021	55	20	9.4	10.8	0.66
5	05/08/2021	63	22	11.8	13.3	0.52
6	06/08/2021	66	24	12.3	13.7	0.69
7	07/08/2021	58	20	11.4	12.8	0.51
8	08/08/2021	55	19	10.6	11.9	0.79
9	09/08/2021	49	17	11.2	12.6	0.73
10	10/08/2021	60	21	10.8	12.2	0.65
11	11/08/2021	57	19	9.3	10.7	0.49
12	12/08/2021	54	18	10.5	11.8	0.61
13	13/08/2021	64	23	9.4	10.9	0.47
14	14/08/2021	56	19	10.6	11.8	0.68
15	15/08/2021	52	18	11.1	12.4	0.54
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-02/AAQCZ-3				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro El 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/08/2021	49	17	9.7	11.2	0.63
17	17/08/2021	44	15	12.3	13.8	0.55
18	18/08/2021	51	18	12.8	14	0.61
19	19/08/2021	47	16	10.1	11.6	0.48
20	20/08/2021	52	18	11.5	12.8	0.59
21	21/08/2021	56	19	9.9	11.4	0.44
22	22/08/2021	43	15	11.4	12.6	0.53
23	23/08/2021	48	17	11.8	13.1	0.6
24	24/08/2021	51	18	9.6	11	0.67
25	25/08/2021	55	20	12.1	13.5	0.48
26	26/08/2021	61	22	10.5	11.7	0.54
27	27/08/2021	49	17	10.7	12	0.69
28	28/08/2021	42	14	9.3	10.6	0.53
29	29/08/2021	44	15	11.8	13.5	0.45
30	30/08/2021	49	17	10.4	11.9	0.66
31	31/08/2021	54	19	11	12.4	0.58
<b>Average</b>		<b>53</b>	<b>19</b>	<b>10.8</b>	<b>12.2</b>	<b>0.57</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**

**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-01/AAQCZ-2				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/08/2021	54	19	10.7	12.2	0.45
2	02/08/2021	60	21	11.9	13.3	0.51
3	03/08/2021	64	22	10.2	11.6	0.63
4	04/08/2021	58	20	11.1	12.4	0.49
5	05/08/2021	65	23	9.8	11.3	0.37
6	06/08/2021	61	21	10.4	11.9	0.43
7	07/08/2021	56	20	9.7	11.2	0.52
8	08/08/2021	51	18	10.6	12	0.58
9	09/08/2021	53	19	12.1	13.5	0.44
10	10/08/2021	62	22	11.8	13.3	0.59
11	11/08/2021	59	20	9.6	10.9	0.5
12	12/08/2021	56	18	10.3	11.5	0.65
13	13/08/2021	54	17	11.3	12.8	0.57
14	14/08/2021	50	16	10.9	12.2	0.48
15	15/08/2021	58	20	11.5	12.9	0.53
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanpeshi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-01/AAQCZ-2				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/08/2021	52	18	11	12.4	0.46
17	17/08/2021	46	16	10.1	11.5	0.54
18	18/08/2021	56	20	11.4	12.7	0.61
19	19/08/2021	51	17	10.6	11.9	0.48
20	20/08/2021	45	15	11.2	12.6	0.56
21	21/08/2021	41	14	9.9	11.3	0.63
22	22/08/2021	48	17	10.5	11.8	0.59
23	23/08/2021	43	14	9.3	10.6	0.42
24	24/08/2021	52	18	10.4	11.7	0.58
25	25/08/2021	56	19	10.1	11.5	0.64
26	26/08/2021	50	21	9.7	11.2	0.43
27	27/08/2021	53	18	11.2	12.6	0.59
28	28/08/2021	45	15	9.9	11.3	0.47
29	29/08/2021	49	17	11.5	12.9	0.52
30	30/08/2021	52	18	10.7	12.3	0.64
31	31/08/2021	55	19	9.4	10.8	0.41
<b>Average</b>		<b>54</b>	<b>18</b>	<b>10.6</b>	<b>12.0</b>	<b>0.52</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Kasira Basti/AAQBZ-1				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	02/08/2021	50	18	9.5	10.9	0.46
2	03/08/2021	56	19	10.3	11.8	0.39
3	09/08/2021	48	17	9.9	11.3	0.31
4	10/08/2021	51	19	10.7	12	0.48
5	16/08/2021	45	15	9.2	10.7	0.51
6	17/08/2021	49	17	9.8	11.2	0.44
7	23/08/2021	40	14	10.1	11.5	0.34
8	24/08/2021	44	16	9	10.4	0.45
<b>Average</b>		<b>48</b>	<b>17</b>	<b>9.8</b>	<b>11.2</b>	<b>0.42</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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 CIN No : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Kotra Basti/AAQBZ-2				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	02/08/2021	55	19	10.7	12.3	0.61
2	03/08/2021	61	22	10.2	11.6	0.53
3	09/08/2021	52	18	11	12.3	0.48
4	10/08/2021	54	19	10.5	11.9	0.55
5	16/08/2021	48	17	9.9	11.4	0.41
6	17/08/2021	51	18	10.3	11.8	0.52
7	23/08/2021	43	15	9.6	11	0.6
8	24/08/2021	46	16	10.9	12.2	0.45
<b>Average</b>		<b>51</b>	<b>18</b>	<b>10.3</b>	<b>11.8</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Segasahi Village/AAQBZ-3				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	05/08/2021	47	16	9.6	10.9	0.42
2	06/08/2021	53	18	8.7	10.2	0.36
3	12/08/2021	42	14	9	10.5	0.45
4	13/08/2021	45	15	9.3	10.9	0.31
5	18/08/2021	39	13	9.1	10.6	0.25
6	20/08/2021	37	12	8.5	9.8	0.28
7	26/08/2021	40	13	9.8	10.4	0.34
8	27/08/2021	36	12	9.2	10.7	0.4
<b>Average</b>		<b>42</b>	<b>14</b>	<b>9.1</b>	<b>10.5</b>	<b>0.35</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100</b> [µg/m <sup>3</sup> ]	<b>60</b> [µg/m <sup>3</sup> ]	<b>80</b> [µg/m <sup>3</sup> ]	<b>80</b> [µg/m <sup>3</sup> ]	<b>02</b> [mg/m <sup>3</sup> ] (8 hourly)

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory.

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 CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-08				Issued to:
Reporting Date	02.09.2021	Analysis Starting on	01.09.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.09.2021	Analysis Completed on	02.09.2021	
Sample Description: Ambient Air Quality				
Location/Code : Bhanjapali Village/AAQBZ-4				
Month : August-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	05/08/2021	54	19	9.5	10.8	0.45
2	06/08/2021	49	17	10.2	11.7	0.54
3	12/08/2021	46	16	9.1	10.4	0.41
4	13/08/2021	50	18	10.7	12.1	0.36
5	19/08/2021	43	15	9.8	11.3	0.47
6	20/08/2021	40	13	8.9	10.4	0.33
7	26/08/2021	45	14	9.4	10.8	0.5
8	27/08/2021	47	16	9	10.6	0.42
<b>Average</b>		<b>47</b>	<b>16</b>	<b>9.5</b>	<b>11.0</b>	<b>0.43</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide

  
**Authorized Signatory**



\*Complaints Register is available at laboratory

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 CIN No. : U74210TG1999PTC032358



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**FUGITIVE DUST  
MONITORING  
REPORT**

**AUGUST-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Mines Face/Bench/FDM-1			<b>Model</b>	Enviro RDS / EJ 142
<b>Month :</b> August-2021			<b>Serial no</b>	135-G-20
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021

S.NO	DATE	SPM $\mu\text{g}/\text{m}^3$	Standards as per CTO
1	01/08/2021	648	<b>1200 <math>\mu\text{g}/\text{m}^3</math></b>
2	02/08/2021	702	
3	03/08/2021	598	
4	04/08/2021	663	
5	05/08/2021	547	
6	06/08/2021	581	
7	07/08/2021	609	
8	08/08/2021	659	
9	09/08/2021	723	
10	10/08/2021	826	
11	11/08/2021	713	
12	12/08/2021	824	
13	13/08/2021	596	
14	14/08/2021	572	
15	15/08/2021	664	
16	16/08/2021	683	
17	17/08/2021	583	
18	18/08/2021	570	
19	19/08/2021	691	
20	20/08/2021	826	
21	21/08/2021	549	
22	22/08/2021	538	
23	23/08/2021	688	
24	24/08/2021	649	
25	25/08/2021	729	
26	26/08/2021	548	
27	27/08/2021	682	
28	28/08/2021	755	
29	29/08/2021	703	
30	30/08/2021	743	
31	31/08/2021	569	
<b>Average</b>		<b>659</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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Website : [www.bsanvitech.com](http://www.bsanvitech.com)  
CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Mines Haulage Road/FDM-2			<b>Model</b>	Envimatech APM 460
<b>Month :</b> August-2021			<b>Serial no</b>	2838-DTA-2015
<b>Sample Collected by:</b> B.S. Envi-Tech [P] Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/08/2021	598	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/08/2021	642	
3	03/08/2021	826	
4	04/08/2021	874	
5	05/08/2021	551	
6	06/08/2021	672	
7	07/08/2021	698	
8	08/08/2021	622	
9	09/08/2021	728	
10	10/08/2021	713	
11	11/08/2021	564	
12	12/08/2021	569	
13	13/08/2021	768	
14	14/08/2021	693	
15	15/08/2021	564	
16	16/08/2021	725	
17	17/08/2021	813	
18	18/08/2021	546	
19	19/08/2021	572	
20	20/08/2021	596	
21	21/08/2021	628	
22	22/08/2021	805	
23	23/08/2021	643	
24	24/08/2021	725	
25	25/08/2021	716	
26	26/08/2021	649	
27	27/08/2021	748	
28	28/08/2021	582	
29	29/08/2021	553	
30	30/08/2021	699	
31	31/08/2021	712	
<b>Average</b>		<b>671</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74210TG1989PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Crusher Plant/FDM-3			<b>Model</b>	Envirotech APM 460
<b>Month :</b> August-2021			<b>Serial no</b>	138-G-20
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/08/2021	645	<b>1200</b> <b>(<math>\mu\text{g}/\text{m}^3</math>)</b>
2	02/08/2021	823	
3	03/08/2021	726	
4	04/08/2021	713	
5	05/08/2021	596	
6	06/08/2021	482	
7	07/08/2021	473	
8	08/08/2021	682	
9	09/08/2021	597	
10	10/08/2021	520	
11	11/08/2021	690	
12	12/08/2021	743	
13	13/08/2021	821	
14	14/08/2021	683	
15	15/08/2021	713	
16	16/08/2021	493	
17	17/08/2021	482	
18	18/08/2021	573	
19	19/08/2021	682	
20	20/08/2021	669	
21	21/08/2021	792	
22	22/08/2021	582	
23	23/08/2021	687	
24	24/08/2021	483	
25	25/08/2021	692	
26	26/08/2021	823	
27	27/08/2021	810	
28	28/08/2021	572	
29	29/08/2021	588	
30	30/08/2021	694	
31	31/08/2021	723	
<b>Average</b>		<b>653</b>	

**Legend: SPM-Suspended Particulate Matter**

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory.

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74210TG1999P1C032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Screen Plant/FDM-4			<b>Model</b>	Envirotech APM 460
<b>Month :</b> August-2021			<b>Serial no</b>	62-K-18
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/08/2021	648	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/08/2021	735	
3	03/08/2021	702	
4	04/08/2021	583	
5	05/08/2021	604	
6	06/08/2021	831	
7	07/08/2021	473	
8	08/08/2021	884	
9	09/08/2021	713	
10	10/08/2021	549	
11	11/08/2021	772	
12	12/08/2021	692	
13	13/08/2021	583	
14	14/08/2021	666	
15	15/08/2021	713	
16	16/08/2021	483	
17	17/08/2021	816	
18	18/08/2021	649	
19	19/08/2021	722	
20	20/08/2021	583	
21	21/08/2021	669	
22	22/08/2021	620	
23	23/08/2021	513	
24	24/08/2021	572	
25	25/08/2021	746	
26	26/08/2021	422	
27	27/08/2021	473	
28	28/08/2021	589	
29	29/08/2021	695	
30	30/08/2021	802	
31	31/08/2021	587	
<b>Average</b>		<b>645</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Ore Storage & Loading Point./FDM-5			<b>Model</b>	Envirotech APM 460
<b>Month :</b> August-2021			<b>Serial no</b>	101-G-19
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/08/2021	586	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/08/2021	726	
3	03/08/2021	649	
4	04/08/2021	572	
5	05/08/2021	476	
6	06/08/2021	836	
7	07/08/2021	806	
8	08/08/2021	493	
9	09/08/2021	692	
10	10/08/2021	711	
11	11/08/2021	425	
12	12/08/2021	856	
13	13/08/2021	831	
14	14/08/2021	764	
15	15/08/2021	815	
16	16/08/2021	577	
17	17/08/2021	680	
18	18/08/2021	643	
19	19/08/2021	597	
20	20/08/2021	726	
21	21/08/2021	718	
22	22/08/2021	446	
23	23/08/2021	826	
24	24/08/2021	573	
25	25/08/2021	691	
26	26/08/2021	475	
27	27/08/2021	813	
28	28/08/2021	640	
29	29/08/2021	573	
30	30/08/2021	527	
31	31/08/2021	692	
<b>Average</b>		<b>659</b>	

**Legend: SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-08</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.09.2021	<b>Analysis Starting on</b>	01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.09.2021	<b>Analysis Completed on</b>	02.09.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Waste Dump/FDM-6			<b>Model</b>	RDS 9000
<b>Month :</b> August-2021			<b>Serial no</b>	0602101
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/08/2021	586	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/08/2021	643	
3	03/08/2021	713	
4	04/08/2021	582	
5	05/08/2021	694	
6	06/08/2021	771	
7	07/08/2021	468	
8	08/08/2021	473	
9	09/08/2021	499	
10	10/08/2021	526	
11	11/08/2021	746	
12	12/08/2021	625	
13	13/08/2021	452	
14	14/08/2021	584	
15	15/08/2021	762	
16	16/08/2021	513	
17	17/08/2021	552	
18	18/08/2021	648	
19	19/08/2021	663	
20	20/08/2021	574	
21	21/08/2021	489	
22	22/08/2021	428	
23	23/08/2021	758	
24	24/08/2021	695	
25	25/08/2021	661	
26	26/08/2021	452	
27	27/08/2021	483	
28	28/08/2021	657	
29	29/08/2021	728	
30	30/08/2021	581	
31	31/08/2021	632	
<b>Average</b>		<b>608</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

AAQ REPORT

**SEPTEMBER-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Near Mines Office/AAQCZ-1				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/09/2021	46	16	8.3	9.9	0.41
2	02/09/2021	44	14	7.9	9.4	0.36
3	03/09/2021	40	13	8.1	9.6	0.44
4	04/09/2021	41	13	8.8	10.3	0.52
5	05/09/2021	47	16	9.2	10.8	0.57
6	06/09/2021	54	18	9.9	11.4	0.49
7	07/09/2021	55	20	10.1	11.7	0.45
8	08/09/2021	49	17	7.7	9.3	0.39
9	09/09/2021	44	15	8.4	9.9	0.42
10	10/09/2021	34	11	8.2	9.5	0.48
11	11/09/2021	30	11	8.6	10	0.51
12	12/09/2021	38	13	9	10.1	0.47
13	13/09/2021	36	12	9.7	11.2	0.43
14	14/09/2021	40	14	10.3	11.8	0.5
15	15/09/2021	49	15	9.9	11.4	0.53
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74200TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Near Mines Office/AAQCZ-1				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	136-G-20 & 91-G-19			
Calibration validity	27/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/09/2021	51	18	10.5	11.9	0.45
17	17/09/2021	54	19	10.9	12.2	0.58
18	18/09/2021	58	21	9.5	10.8	0.31
19	19/09/2021	49	17	8.9	10.4	0.36
20	20/09/2021	52	18	9.9	11.2	0.44
21	21/09/2021	47	16	9.1	10.6	0.29
22	22/09/2021	33	11	8.8	10.3	0.42
23	23/09/2021	37	13	8.6	10.1	0.35
24	24/09/2021	44	16	9.4	10.7	0.41
25	25/09/2021	41	14	8.2	9.5	0.3
26	26/09/2021	39	13	7.8	9.3	0.25
27	27/09/2021	42	15	9.3	10.9	0.38
28	28/09/2021	46	17	9.9	11.2	0.44
29	29/09/2021	50	18	10.2	11.7	0.49
30	30/09/2021	54	19	10.6	12	0.51
<b>Average</b>		<b>45</b>	<b>16</b>	<b>9.1</b>	<b>10.6</b>	<b>0.43</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)  
 PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)  
 SO<sub>2</sub>-Sulphur Dioxide  
 NO<sub>2</sub>- Nitrogen Dioxide  
 CO-Carbon Monoxide

  
**Authorized Signatory**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Rest Shelter/AAQCZ-4				
Month : September 2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64-K-17 & 31-L-17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/09/2021	32	18	10.8	12.2	0.54
2	02/09/2021	46	15	11.2	12.9	0.49
3	03/09/2021	55	19	10.4	11.7	0.58
4	04/09/2021	50	17	11.9	13.3	0.62
5	05/09/2021	48	16	10.1	11.5	0.53
6	06/09/2021	51	18	11.3	12.8	0.55
7	07/09/2021	49	17	10.2	11.7	0.5
8	08/09/2021	47	16	11.5	12.9	0.46
9	09/09/2021	43	15	10.8	12.4	0.53
10	10/09/2021	39	13	9.9	11.2	0.49
11	11/09/2021	33	12	11.4	12.7	0.57
12	12/09/2021	31	11	10.6	11.9	0.45
13	13/09/2021	38	13	11.1	12.5	0.52
14	14/09/2021	43	15	10.9	12.3	0.61
15	15/09/2021	51	17	10.5	11.8	0.48
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Rest Shelter/AAQCZ-4				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	64-K-17 & 31-L-17			
Calibration validity	05/10/2021 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/09/2021	59	21	11.3	12.7	0.56
17	17/09/2021	53	18	11.6	12.9	0.6
18	18/09/2021	49	17	10.8	12.4	0.46
19	19/09/2021	43	15	11	12.8	0.54
20	20/09/2021	40	14	10.2	11.6	0.51
21	21/09/2021	38	12	9.7	11.2	0.47
22	22/09/2021	33	11	10.5	11.8	0.44
23	23/09/2021	44	15	9.9	11.3	0.53
24	24/09/2021	41	14	9.4	10.7	0.39
25	25/09/2021	47	16	10.6	11.9	0.46
26	26/09/2021	50	18	10.1	11.5	0.5
27	27/09/2021	54	20	11.4	12.8	0.55
28	28/09/2021	49	17	10.9	12.3	0.47
29	29/09/2021	39	14	10.2	11.7	0.52
30	30/09/2021	41	14	9.6	11.1	0.56
<b>Average</b>		<b>45</b>	<b>16</b>	<b>10.6</b>	<b>12.0</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032352





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Near Baba Math Area/AAQCZ-3				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro El 133			
Serial no	2052 DTG 2011 & 86 G 19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/09/2021	48	16	9.9	11.4	0.51
2	02/09/2021	43	14	9.5	10.8	0.43
3	03/09/2021	50	17	9.1	10.5	0.48
4	04/09/2021	55	19	8.6	9.9	0.56
5	05/09/2021	51	17	9.7	11.2	0.44
6	06/09/2021	59	21	10.1	11.8	0.52
7	07/09/2021	53	18	9.3	10.6	0.41
8	08/09/2021	49	17	9.8	11.2	0.57
9	09/09/2021	46	15	10.4	11.7	0.61
10	10/09/2021	42	16	9.6	10.9	0.55
11	11/09/2021	38	12	10	11.5	0.46
12	12/09/2021	34	11	9.2	10.8	0.53
13	13/09/2021	41	15	10.5	11.9	0.59
14	14/09/2021	47	16	10.8	12.2	0.51
15	15/09/2021	54	18	10.3	11.7	0.47
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.

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CIN No. : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Near Baba Math Area/AAQCZ-3				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Envirtech APM 460 & Enviro EI 133			
Serial no	2052-DTG-2011 & 86-G-19			
Calibration validity	19/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/09/2021	57	20	11.1	12.4	0.54
17	17/09/2021	48	17	9.7	11.3	0.44
18	18/09/2021	45	16	8.9	10.5	0.49
19	19/09/2021	40	14	9.6	11.1	0.41
20	20/09/2021	44	16	9.4	10.9	0.38
21	21/09/2021	41	13	10.1	11.6	0.53
22	22/09/2021	36	12	9.8	11.3	0.41
23	23/09/2021	47	16	10.5	11.9	0.45
24	24/09/2021	43	14	9.3	10.7	0.52
25	25/09/2021	49	17	10.7	12.3	0.57
26	26/09/2021	45	15	8.8	10.4	0.61
27	27/09/2021	51	18	9.2	10.8	0.53
28	28/09/2021	54	19	9.5	11.1	0.48
29	29/09/2021	41	14	10.9	12.4	0.59
30	30/09/2021	45	15	11.2	12.8	0.62
<b>Average</b>		<b>47</b>	<b>16</b>	<b>9.8</b>	<b>11.3</b>	<b>0.50</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-1/AAQCZ-2				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	01/09/2021	51	18	9.5	10.9	0.46
2	02/09/2021	43	15	10.8	12.4	0.55
3	03/09/2021	48	16	11.2	12.7	0.43
4	04/09/2021	57	20	10.6	11.9	0.51
5	05/09/2021	54	18	10.1	11.5	0.58
6	06/09/2021	61	21	9.9	11.3	0.44
7	07/09/2021	55	19	8.8	10.4	0.5
8	08/09/2021	51	17	9.1	10.9	0.47
9	09/09/2021	49	16	10.3	11.7	0.52
10	10/09/2021	46	15	10.8	12.3	0.6
11	11/09/2021	40	13	11.4	12.9	0.56
12	12/09/2021	36	12	11.7	13	0.43
13	13/09/2021	44	15	12.1	13.4	0.48
14	14/09/2021	48	17	10.3	11.6	0.52
15	15/09/2021	56	19	11.4	12.7	0.63
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Gate No-1/AAQCZ-2				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	Enviro RDS/EI 142 & Enviro EI 133			
Serial no	66-K-18 & 98-G-19			
Calibration validity	05/10/2021 & 03/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
16	16/09/2021	60	21	10.9	12.3	0.56
17	17/09/2021	51	17	9.7	11.2	0.45
18	18/09/2021	48	16	10.5	11.8	0.4
19	19/09/2021	43	15	11.1	12.7	0.59
20	20/09/2021	47	16	10.7	12	0.62
21	21/09/2021	44	15	9.8	11.2	0.54
22	22/09/2021	38	13	9.3	10.6	0.41
23	23/09/2021	50	17	9.1	10.7	0.45
24	24/09/2021	45	16	9.6	11.1	0.53
25	25/09/2021	43	15	10.2	11.8	0.49
26	26/09/2021	40	13	10.9	12.2	0.54
27	27/09/2021	48	16	11.4	12.9	0.57
28	28/09/2021	56	19	10.5	11.8	0.61
29	29/09/2021	44	15	10	11.4	0.55
30	30/09/2021	49	17	10.8	12	0.59
<b>Average</b>		<b>48</b>	<b>17</b>	<b>10.4</b>	<b>11.8</b>	<b>0.51</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Kasira Basti/AAQBZ-1				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/09/2021	45	16	8.2	9.8	0.51
2	07/09/2021	51	18	8.8	10.3	0.45
3	13/09/2021	40	14	9.1	10.7	0.38
4	14/09/2021	37	12	9.6	11	0.42
5	20/09/2021	34	11	9.4	10.8	0.49
6	21/09/2021	39	13	9.9	11.3	0.44
7	27/09/2021	44	15	8.5	9.8	0.41
8	28/09/2021	50	17	9.2	10.6	0.5
Average		43	15	9.0	10.5	0.45
NAAQ Standards (24 hourly standard)		100 [µg/m <sup>3</sup> ]	60 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	02 [mg/m <sup>3</sup> ] (8 hourly)

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



Authorized Signatory

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Koira Basti/AAQBZ-2				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro El 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	06/09/2021	49	18	9.5	10.9	0.47
2	07/09/2021	55	19	9.9	11.3	0.56
3	13/09/2021	44	16	10.3	11.9	0.49
4	14/09/2021	40	15	9.2	10.6	0.52
5	20/09/2021	38	13	9.7	11.1	0.44
6	21/09/2021	43	15	10	11.4	0.58
7	27/09/2021	48	17	8.9	10.3	0.51
8	28/09/2021	53	18	9.4	10.8	0.43
Average		46	16	9.6	11.0	0.50
NAAQ Standards (24 hourly standard)		100 [µg/m <sup>3</sup> ]	60 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	02 [mg/m <sup>3</sup> ] (8 hourly)

**Legend:** PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)

PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)

SO<sub>2</sub>-Sulphur Dioxide

NO<sub>2</sub>- Nitrogen Dioxide

CO-Carbon Monoxide



**Authorized Signatory**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Segasahi Village/AAQBZ-3				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro El 133			
Serial no	030408 & 36-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	02/09/2021	49	17	8.8	10.4	0.38
2	03/09/2021	42	15	9.2	10.6	0.31
3	09/09/2021	35	12	8.5	9.9	0.44
4	10/09/2021	30	11	9.4	10.7	0.25
5	16/09/2021	41	14	7.9	9.3	0.36
6	17/09/2021	46	16	8.3	9.8	0.29
7	23/09/2021	39	13	9.1	10.4	0.41
8	24/09/2021	43	15	7.7	9.2	0.33
<b>Average</b>		<b>41</b>	<b>14</b>	<b>8.6</b>	<b>10.0</b>	<b>0.34</b>
<b>NAAQ Standards (24 hourly standard)</b>		<b>100 [µg/m<sup>3</sup>]</b>	<b>60 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>80 [µg/m<sup>3</sup>]</b>	<b>02 [mg/m<sup>3</sup>] (8 hourly)</b>

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

REPORT NO: JSW/NPIMO/ENV/2021/AAQ/2021-09				Issued to:
Reporting Date	02.10.2021	Analysis Starting on	01.10.2021	Narayanposhi Iron & Manganese Ore Mines of M/s JSW Steel Ltd.
Sample Received on	01.10.2021	Analysis Completed on	02.10.2021	
Sample Description: Ambient Air Quality				
Location/Code : Bhanjapali Village/AAQBZ-4				
Month : September-2021				
Sample Collected by: B.S. Envi-Tech (P) Ltd.,				
Instruments used	Respirable Dust Sampler & Fine dust Sampler			
Model	RDS 9000 & Enviro EI 133			
Serial no	041235 & 37-L-17			
Calibration validity	15/03/2022 & 19/10/2021			

S.NO	DATE	PM <sub>10</sub> [µg/m <sup>3</sup> ]	PM <sub>2.5</sub> [µg/m <sup>3</sup> ]	SO <sub>2</sub> [µg/m <sup>3</sup> ]	NO <sub>2</sub> [µg/m <sup>3</sup> ]	CO [mg/m <sup>3</sup> ]
	Protocol	IS:5182 Part 23	IS:5182 Part 24	IS:5182 Part 2	IS:5182 Part 6	BSET SOP AA-09
1	02/09/2021	53	19	9	10.7	0.51
2	03/09/2021	46	16	9.6	10.9	0.46
3	09/09/2021	41	15	8.1	9.6	0.37
4	10/09/2021	35	13	9.7	11.2	0.52
5	16/09/2021	48	16	8.8	10.4	0.44
6	17/09/2021	50	17	7.9	9.3	0.35
7	23/09/2021	44	16	9.1	10.5	0.49
8	24/09/2021	49	18	9.5	10.8	0.54
Average		46	16	8.9	10.4	0.46
NAAQ Standards (24 hourly standard)		100 [µg/m <sup>3</sup> ]	60 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	80 [µg/m <sup>3</sup> ]	02 [mg/m <sup>3</sup> ] (8 hourly)

**Legend: PM<sub>10</sub>-Particulate Matter(Size Less than 10µm)**

**PM<sub>2.5</sub>-Particulate Matter(Size Less than 2.5µm)**

**SO<sub>2</sub>-Sulphur Dioxide**

**NO<sub>2</sub>- Nitrogen Dioxide**

**CO-Carbon Monoxide**



**Authorized Signatory**

\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

FUGITIVE DUST  
MONITORING  
REPORT

**SEPTEMBER-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location/Code :</b> Mines Face/Bench/FDM-1			<b>Model</b>	Enviro RDS / EI 142	
<b>Month :</b> September-2021			<b>Serial no</b>	135-G-20	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021	

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/09/2021	441	1200 ( $\mu\text{g}/\text{m}^3$ )
2	02/09/2021	406	
3	03/09/2021	492	
4	04/09/2021	517	
5	05/09/2021	543	
6	06/09/2021	557	
7	07/09/2021	501	
8	08/09/2021	598	
9	09/09/2021	616	
10	10/09/2021	568	
11	11/09/2021	585	
12	12/09/2021	517	
13	13/09/2021	483	
14	14/09/2021	499	
15	15/09/2021	551	
16	16/09/2021	570	
17	17/09/2021	592	
18	18/09/2021	649	
19	19/09/2021	676	
20	20/09/2021	618	
21	21/09/2021	577	
22	22/09/2021	519	
23	23/09/2021	428	
24	24/09/2021	444	
25	25/09/2021	469	
26	26/09/2021	437	
27	27/09/2021	497	
28	28/09/2021	528	
29	29/09/2021	545	
30	30/09/2021	511	
<b>Average</b>		<b>531</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location/Code :</b> Mines Haulage Road/FDM-2			<b>Model</b>	Envirotech APM 460	
<b>Month :</b> September-2021			<b>Serial no</b>	2838-DTA 2015	
<b>Sample Collected by:</b> H.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/09/2021	489	<b>1200</b> <b>[<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/09/2021	467	
3	03/09/2021	523	
4	04/09/2021	559	
5	05/09/2021	578	
6	06/09/2021	521	
7	07/09/2021	490	
8	08/09/2021	547	
9	09/09/2021	576	
10	10/09/2021	523	
11	11/09/2021	592	
12	12/09/2021	550	
13	13/09/2021	524	
14	14/09/2021	567	
15	15/09/2021	578	
16	16/09/2021	603	
17	17/09/2021	638	
18	18/09/2021	698	
19	19/09/2021	715	
20	20/09/2021	642	
21	21/09/2021	617	
22	22/09/2021	553	
23	23/09/2021	470	
24	24/09/2021	495	
25	25/09/2021	511	
26	26/09/2021	456	
27	27/09/2021	525	
28	28/09/2021	558	
29	29/09/2021	593	
30	30/09/2021	537	
<b>Average</b>		<b>557</b>	

**Legend:SPM-Suspended Particulate Matter**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location/Code :</b> Crusher Plant/FDM-3			<b>Model</b>	Envirotech APM 460	
<b>Month :</b> September-2021			<b>Serial no</b>	138-G-20	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	27/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/09/2021	475	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/09/2021	413	
3	03/09/2021	401	
4	04/09/2021	522	
5	05/09/2021	546	
6	06/09/2021	559	
7	07/09/2021	515	
8	08/09/2021	573	
9	09/09/2021	553	
10	10/09/2021	496	
11	11/09/2021	627	
12	12/09/2021	589	
13	13/09/2021	541	
14	14/09/2021	580	
15	15/09/2021	593	
16	16/09/2021	645	
17	17/09/2021	671	
18	18/09/2021	660	
19	19/09/2021	629	
20	20/09/2021	616	
21	21/09/2021	587	
22	22/09/2021	502	
23	23/09/2021	441	
24	24/09/2021	518	
25	25/09/2021	539	
26	26/09/2021	490	
27	27/09/2021	576	
28	28/09/2021	618	
29	29/09/2021	567	
30	30/09/2021	521	
<b>Average</b>		<b>553</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location/Code :</b> Screen Plant/FDM-4			<b>Model</b>	Envirotech APM 460	
<b>Month :</b> September-2021			<b>Serial no</b>	62-K-18	
<b>Sample Collected by:</b> B.S. Envi Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/09/2021	426	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/09/2021	397	
3	03/09/2021	411	
4	04/09/2021	480	
5	05/09/2021	443	
6	06/09/2021	497	
7	07/09/2021	450	
8	08/09/2021	525	
9	09/09/2021	509	
10	10/09/2021	482	
11	11/09/2021	591	
12	12/09/2021	543	
13	13/09/2021	506	
14	14/09/2021	524	
15	15/09/2021	499	
16	16/09/2021	577	
17	17/09/2021	628	
18	18/09/2021	639	
19	19/09/2021	595	
20	20/09/2021	602	
21	21/09/2021	563	
22	22/09/2021	490	
23	23/09/2021	407	
24	24/09/2021	361	
25	25/09/2021	389	
26	26/09/2021	441	
27	27/09/2021	424	
28	28/09/2021	395	
29	29/09/2021	479	
30	30/09/2021	508	
<b>Average</b>		<b>493</b>	

**Legend:SPM-Suspended Particulate Matter**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021	
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler
<b>Location/Code :</b> Ore Storage & Loading Point/FDM-5			<b>Model</b>	Envirotech APM 460
<b>Month :</b> September-2021			<b>Serial no</b>	101-G-19
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021

S.NO	DATE	SPM [ $\mu\text{g}/\text{m}^3$ ]	Standards as per CTO
1	01/09/2021	517	<b>1200 [<math>\mu\text{g}/\text{m}^3</math>]</b>
2	02/09/2021	493	
3	03/09/2021	544	
4	04/09/2021	582	
5	05/09/2021	597	
6	06/09/2021	571	
7	07/09/2021	546	
8	08/09/2021	621	
9	09/09/2021	635	
10	10/09/2021	605	
11	11/09/2021	646	
12	12/09/2021	531	
13	13/09/2021	477	
14	14/09/2021	518	
15	15/09/2021	625	
16	16/09/2021	666	
17	17/09/2021	696	
18	18/09/2021	721	
19	19/09/2021	743	
20	20/09/2021	652	
21	21/09/2021	639	
22	22/09/2021	575	
23	23/09/2021	459	
24	24/09/2021	537	
25	25/09/2021	564	
26	26/09/2021	523	
27	27/09/2021	588	
28	28/09/2021	640	
29	29/09/2021	617	
30	30/09/2021	493	
<b>Average</b>		<b>587</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/FDM/2021-09</b>				<b>Issued to:</b>	
<b>Reporting Date</b>	02.10.2021	<b>Analysis Starting on</b>	01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>	
<b>Sample Received on</b>	01.10.2021	<b>Analysis Completed on</b>	02.10.2021		
<b>Sample Description:</b> Fugitive Dust Monitoring			<b>Instrument Used</b>	Respirable Dust Sampler	
<b>Location/Code :</b> Waste Dump/FDM-6			<b>Model</b>	RDS 9000	
<b>Month :</b> September-2021			<b>Serial no</b>	0602101	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,			<b>Calibration Validity</b>	19/10/2021	

S.NO	DATE	SPM ( $\mu\text{g}/\text{m}^3$ )	Standards as per CTO
1	01/09/2021	408	<b>1200</b> <b><math>\mu\text{g}/\text{m}^3</math></b>
2	02/09/2021	371	
3	03/09/2021	362	
4	04/09/2021	399	
5	05/09/2021	414	
6	06/09/2021	468	
7	07/09/2021	479	
8	08/09/2021	501	
9	09/09/2021	495	
10	10/09/2021	483	
11	11/09/2021	558	
12	12/09/2021	505	
13	13/09/2021	429	
14	14/09/2021	465	
15	15/09/2021	517	
16	16/09/2021	543	
17	17/09/2021	580	
18	18/09/2021	603	
19	19/09/2021	579	
20	20/09/2021	596	
21	21/09/2021	545	
22	22/09/2021	474	
23	23/09/2021	386	
24	24/09/2021	353	
25	25/09/2021	377	
26	26/09/2021	414	
27	27/09/2021	400	
28	28/09/2021	379	
29	29/09/2021	448	
30	30/09/2021	461	
<b>Average</b>		<b>466</b>	

**Legend:SPM-Suspended Particulate Matter**



**Authorized Signatory**

\*Complaints Register is available at Laboratory



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

GROUND WATER  
LEVEL REPORT

**APRIL-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : April  
**Date** : 13.04.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koira Basti	10.18
2.	Dug Well Kasira Basti	9.36
3.	Site Services Area (Pizometer-01)	19.51
4.	Near 650 crusher (Pizometer-02)	14.32
5.	Crusher plant area (Pizometer 03)	35.44

For B.S Envi-Tech (P) Ltd.,

  
**Authorized Signatory**  


\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

SURFACE WATER  
QUALITY REPORT

**APRIL-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : Mrs. BSW Steel Limited		Test Report No. : BSET/2021/W-5-00754	
		Lab Code No. : 210019604	
		Issue Date : 20/04/2021	
		Year Rel : Letter Dated 09/04/2021	
Project Name: Narayanpet Iron & Magnetite ore Mines		Date of Receipt : 09/04/2021	
Sample Description: Surface Water Sample		Date of Registration	24/04/2021
Quantity : 1 Set of 2 Ltr Sample		Date of commencement of testing	20/04/2021
No. x 500 ml Sample (Metals)		Date of completion of testing	19/04/2021
500 ml Wide mouth Glass bottle for Cd/Cr		Sample condition at receipt	Found ok
No. x 250 ml Sample Pre Size used Bottle For Micro		Sample tested as received	
Packing : Plastic Bottles			
Test Required : As given below			
<p><b>Sampling Details:</b></p> <p>Date of Sampling: 06/04/2021</p> <p>Location of Sampling: Orphanwala upstream</p> <p>Sampling Method/Procedure: IS 3025 Part-1</p> <p>General Environment conditions: ok, Page No: 1 of 1</p>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limit for Stream Water Standards
1	Colour	Hazen Unit, Max.	IS 3025 (Part-4)	10	50
2	pH	-	IS 3025 (Part-11)	6.92	6.5 to 8.5
3	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	115	500
4	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-17)	12	600
5	Iron (as Fe)	mg/l, Max.	3111 B of APHA 23rd Edition 2017	0.20	50
6	Sulphates (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-21)	8.1	400
7	Fluoride (as F)	mg/l, Max.	4500-B of APHA 23rd Edition 2017	0.10	1.5
8	Nitrates (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> -B of APHA 23rd Edition 2017	3.2	45
9	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23rd Edition 2017	<0.02	1.5
10	Selenium (as Se)	mg/l, Max.	3114 B of APHA 23rd Edition 2017	<0.01	0.25
11	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23rd Edition 2017	0.04	12
12	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 23rd Edition 2017	<0.003	<0.1
13	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23rd Edition 2017	<0.01	0.1
14	Arsenic (as As)	mg/l, Max.	3114 C of APHA 23rd Edition 2017	<0.01	0.2
15	Cyanide (as CN)	mg/l, Max.	4500-CN-L, Colorimetric Method, APHA 23rd Edition 2017	<0.02	0.05
16	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B of APHA 23rd Edition 2017	<0.02	0.05
17	Anionic Detergents (as MBAS)	mg/l, Max.	Annex K of IS 15598	<0.1	-
18	Phenolic Compounds (as C <sub>12</sub> H <sub>10</sub> O)	mg/l, Max.	IS 3025 (Part-47)	<0.001	0.005
19	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	2	3
20	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-18)	4.5	4
21	Oil & Grease	mg/l, Max.	IS 3025 (Part-39)		0.1
22	Total Coliform	(mpn/100ml), Max.	IS 1632	135	5000

Interpretation of results: Nil, Deviation from test method: Nil



\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Client: M/s. JSW Steel Limited		Test Report No.: BS/ET/2021/W/S-40105	
Project Name: Narasimharaj Iron & Manganese Mines		Lab Code No.: 210479561	Issue Date: 26.04.2021
Sample Description: Surface Water Sample		Your Ref.: Letter dated 29.04.2021	Date of Receipt: 09.04.2021
Quantity: 1 No. x 500 ml Sample		Date of Registration: 09.04.2021	
1 No. x 500 ml Sample (Preservative)		Date of commencement of testing: 10.04.2021	
100 ml Wide mouth Glass bottle for O&G		Date of completion of testing: 19.04.2021	
1 No. x 250 ml Sample for Residual BOD for Micro		Sample condition at receipt: Found as	
Packing: Plastic Bottles		Sample tested as received	
Test Required: As given below			
Date of Sampling: 06.04.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Orathavala Riverstream		General Environment conditions: ok. Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Unit, Max.	IS 3025 (Part-4)	10	50
2.	pH	-	IS 3025 (Part-11)	6.94	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	145	500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-15)	50	600
5.	Iron (as Fe)	mg/l, Max.	111 B of APHA 21 <sup>st</sup> Edition 2017	0.36	5
6.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 3025 (Part-24)	10	400
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500 F of APHA 21 <sup>st</sup> Edition 2017	0.20	1.5
8.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	4500 NO <sub>3</sub> of APHA 21 <sup>st</sup> Edition 2017	4.7	50
9.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	3114 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	0.03	15
12.	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.003	0.1
13.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	4500 C of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
17.	Aromatic Disinfectants (as MBAS)	mg/l, Max.	5000 K of S 1124B	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-41)	<0.05	0.025
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	5	5
20.	Residual Oxygen (as %)	mg/l, Min.	IS 3025 (Part-43)	4.8	4
21.	Oil & Grease	mg/l, Max.	IS 3025 (Part-55)		0.1
22.	Total Coliform	mpn, 100ml, Max.	IS 1622	150	5000

Interpretation of results: Nil, Deviation from method: Nil

\*\*\* End of the Report \*\*\*



\*Complaints Register is available at Laboratory.



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## TEST REPORT

Name & Address of the Customer : M/s. ISW Steel Limited		Test Report No. : BSEF-2021-065-00076	
		Lab Code No. : 210979404	
		Issue Date : 30/04/2021	
		Your Ref. : Letter Dated 09/04/2021	
Project Name: Narayanga, Iron & Manganese ore Mines		Date of Receipt : 09/04/2021	
<b>Sample Description:</b> Surface Water Sample <b>Quantity:</b> 1 No. x 5 Ltrs Sample 1 No. x 100 ml Sample (Metals) 200 ml Wide mouth Glass bottle for O&G 1 No. x 250 ml Sample (Pre Sterilized Bottle For Micro) <b>Packing:</b> Plastic Bouteles <b>Test Required:</b> As given below		Date of Registration	09/04/2021
		Date of commencement of testing	10/04/2021
		Date of completion of testing	19/04/2021
		Sample condition at receipt	Found ok
		Sample tested as received	
Date of Sampling: 06/04/2021		Sampling Method/Procedure: IS 3025 Part I	
Location of Sampling: Koro River Up Stream		General Environment conditions: ok Page No. : of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits Per Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-4)	10	150
2.	pH		IS 3025 (Part-11)	8.75	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part- 6)	125	1400
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-12)	25	650
5.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.1	5
6.	Sulphates (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	12	450
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-FD, APHA 23 <sup>rd</sup> Edition 2017	0.20	1.5
8.	Nitrates (as NO <sub>3</sub> )	mg/l, Max.	4500-NO--B UV Spectrophotometric Screening Method	3.6	50
9.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	3114 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.10	5
12.	Calcium (as Ca)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.003	<5.1
13.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	3111 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN)	mg/l, Max.	4520 CN F, Colorimetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Anionic Detergents (as MBAS)	mg/l, Max.	Annex. K of IS 11248	<0.1	1
18.	Phenolic Compounds (as C <sub>12</sub> H <sub>11</sub> O <sub>11</sub> )	mg/l, Max.	IS 3025 (Part-43)	<0.001	0.005
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	4	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-48)	5.0	1
21.	Oil & Grease	mg/l, Max.	IS 3025 (Part-19)	< 1	0.1
22.	Total Chlorine	(mg/l/100ml) Max.	IS 1672	240	5000

Interpretation of results: Nil Deviation from test method. Nil

\*\*\* End of the Report \*\*\*

\*Certificate Register is available at Laboratory







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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSE/2021/WS-06701	
		Lab Code No : J12919/04	
		Issue Date : 20/04/2021	
		Your Ref : Letter Dated 09/04/2021	
Project Name: Narayanpatti Iron & Manganes ore Mines		Date of Receipt : 09/04/2021	
Sample Description: Surface Water Sample		Date of Registration	20/04/2021
Quantity : 1 Set of 0.5 L Sample		Date of commencement of testing	20/04/2021
: No. a 500 ml Sample (Minerals)		Date of completion of testing	20/04/2021
: Natural Water sample (used for O&G)		Sample condition at receipt	Fresh ok
: No. a 250 ml Sample for Acid And Bottle for Micro		Sample tested as received	
Packaging : Plastic Bottles			
Test Required : As given below			
<p align="center"><b>Sampling Details</b></p> <p>Date of Sampling: 06/04/2021 Sampling Method/Procedure: IS 3025 Part I</p> <p>Location of Sampling: Kuru River Downstream (Gate Near Gate No-1) General Environment condition ok. Page No: 1 of 1</p>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Unit, Max.	IS 3025 (Part-1)	10	500
2.	pH		IS 3025 (Part-1)	6.74	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-1)	145	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-1)	20	600
5.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	0.28	30
6.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 1025 (Part-2)	10	100
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-F of APHA 21 <sup>st</sup> Edition 2017	0.12	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> of APHA 21 <sup>st</sup> Edition 2017	5	50
9.	Copper (as Cu)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.25
11.	Zinc (as Zn)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	0.1	15
12.	Cadmium (as Cd)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.001	0.1
13.	Lead (as Pb)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN)	mg/l, Max.	4500-CN E, Titrimetric Method APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	1111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.25
17.	Anionic Detergents (as MBAS)	mg/l, Max.	James, K of IS 11248	<0.1	-
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-1)	<0.001	0.005
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-1)	4	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-1)	8.2	8
21.	Chlorophyll	mg/l, Max.	IS 3025 (Part-1)	< 1	0.1
22.	Total Coliform	(mpn/100ml), Max.	IS 1622	305	5000

Interpretation of results: Nil, Deviation from test method: Nil



\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSFT/2020/W/S-20705	
		Lab Code No : 215979204	
		Issue Date : 25/04/2021	
		Valid Until : Label Valid till 30/03/2021	
Project Name : Narayanpuri Iron & Manganese Ore Mine		Date of Receipt : 04/04/2021	
Sample Description : Surface Water Sample	Quantity : 1 No. x 20 Ltrs Sample	Date of Registration	09/04/2021
	1 No. x 500 ml Sample (Metals)	Date of commencement of testing	10/04/2021
	500 ml Wide mouth Glass bottle for Cd/Pb	Date of completion of testing	19/04/2021
	1 No. x 250 ml Sample for Sterilized Bottle For Micro	Sample condition at receipt	Found OK
Packing : Plastic Bottles	Test Required : As given below	Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling : 04/04/2021		Sampling Method/Procedure : IS 3025 Part 1	
Location of Sampling : Kabra Nala ( Nala Between Quarry No.3 & 4 )		General Environment conditions : ok , Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-4)	10	400
2.	pH	-	IS 3025 (Part-11)	6.75	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	140	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-32)	25	500
5.	Iron (as Fe)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.08	50
6.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	00	400
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-B D, APHA 23 <sup>rd</sup> Edition 2017	0.26	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> -H UV Spectrophotometric Screening Method	4.5	50
9.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	3114 H of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	15
12.	Calcium (as Ca)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.000	<0
13.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	3114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN)	mg/l, Max.	4500-CN-E, Colorimetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>VI</sup> )	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Alkalies (Detergents (as MBAS))	mg/l, Max.	Annex K-1 IS 11718	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-15)	<0.001	<0.05
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-14)	5	3
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-18)	4.4	4
21.	Turbidity	mg/l, Max.	IS 3025 (Part-39)	< 1	0.1
22.	Total Coliform	(mpn/100ml), Max.	IS 11722	155	500

Interpretation of results: Nil, Deviation from test method: Nil

  
 Authorized Signatory  
 G. Chandra Mouli  
 Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **WATER FLOW RATE REPORT**

**APRIL-2021**





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : April  
**Date** : 19.04.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) in Meter/Second
1.	Orahari Nala Up Stream	0.258
2.	Confluence of Orahari & Karo Nala	0.513
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.221
4.	Karo River Down Stream (Nala near Gate no-I)	0.595

For B.S Envi-Tech (P) Ltd.,

  
**Authorized Signatory**  


\*Complaints Register is available at Laboratory.

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

GROUND WATER  
LEVEL REPORT

**MAY-2021**



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : May  
**Date** : 18.05.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koira Basti	10.27
2.	Dug Well Kasira Basti	9.46
3.	Site Services Area (Pizometer-01)	19.73
4.	Near 650 crusher (Pizometer-02)	14.41
5.	Crusher plant area (Pizometer-03)	35.55

For B.S Envi-Tech (P) Ltd.,

Authorised Signatory



\*Complaints Register is available at Laboratory.



# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **GROUND WATER QUALITY REPORT**

**MAY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Ltd., Limited		Test Report No. : BSET/2021/WS-01268	
		Lab Code No. : 210923465	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated 15.05.2021	
Project Name: Nanyangoshi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Keeru Basti		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	--	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025 -Part-4	< 5	5	15
3.	pH	--	IS:3025 -Part-11	6.81	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	80	200	600
6.	Iron as Fe	mg/l	311: B of APHA 23 <sup>rd</sup> Edition 2017	0.09	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS:3025 -Part-32	44	250	1000
8.	Total Dissolved Solids @ 105°C	mg/l	IS:3025 -Part-16	180	500	2000
9.	Calcium as Ca	mg/l	IS:3025 -Part-40	28	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	2.4	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	31	300	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	12	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F D. APHA 23 <sup>rd</sup> Edition 2017	0.34	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	36	240	600

Interpretation of results: Nil, Deviation from test method: Nil

  
 T. C. Chandra Mouli  
 Environmental Scientist

\*Complaints Register is available at Laboratory.



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/AWS-0-266	
		Lab Code No. : 2H927405	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated 15.05.2021	
Project Name: Narayanposhi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
<b>Sample Description:</b> Ground Water Sample <b>Qty :</b> 1 No. x 24 ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) <b>Packing :</b> Plastic Bottle & Pre-Sterilized Bottle <b>Test Required :</b> As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Kaura Basti		General Environment conditions: OK	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-B B. Curcumin Method. APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	3500 Al B. Eriochrome Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.03	1.5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CTU/100ml	IS: 1622-1981	Absent		

Interpretation of results: Nil, Deviation from test method: Nil



Authorized Signatory  
(G.Chandra Mouli)  
Environmental Scientist

\*Complaints Register is available at Laboratory.





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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/WS-01267	
		Lab Code No	210923305
		Issue Date	: 25.05.2021
		Your Ref	: Letter Dated 15.05.2021
Project Name: Narayanpuri Iron & Manganese ore Mines		Date of Receipt	: 15.05.2021
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology)		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
Packing : Plastic Bottle & Pre-Sterilized Bottle		Sample tested as received	
Test Required : As given below			
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Kasira Bosti		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	--	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025 -Part-4	< 5	5	15
3.	pH	--	IS:3025 -Part-11	6.86	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	108	200	600
6.	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.07	1.0	No Relaxation
7.	Chlorides as Cl <sup>-</sup>	mg/l	IS:3025 -Part-32	64	250	1000
8.	Total Dissolved Solids @ 105°C	mg/l	IS:3025 -Part-16	282	500	2000
9.	Calcium as Ca	mg/l	IS:3025 -Part-40	40	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	1.9	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	36	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	23	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F12, APHA 23 <sup>rd</sup> Edition 2017	0.45	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	70	200	600

Interpretation of results: Nil. Deviation from test method: Nil



Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEI/2021/WS-01267	
		Lab Code No : 210923305	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated: 15.05.2021	
Project Name: Narayanposhi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology)		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
Packing : Plastic Bottle & Pre-Sterilized Bottle		Sample tested as received	
Test Required : As given below			
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS: 3025 Part 1	
Location of Sampling: Dug Well Kasi's Batri		General Environment conditions: Ok	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS: 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-B B, Curcumin Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	1500 Al B, Erichrome Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	1114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	1111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.005	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFC/100ml	IS: 1622 - 1985	Absent		

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Muli)  
 Environmental Scientist

--- End of the Report ---

\*Complaints Register is available at Laboratory



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/WS-0126R	
Project Name: Narayanposhi Iron & Manganese ore Mines		Lab Code No. : 210923205	
Sample Description: Ground Water Sample Qty : 1 No. x 20 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology)		Issue Date : 25.05.2021	
Packing : Plastic Bottle & Pre-Sterilized Bottle		Your Ref : Letter Dated 15.05.2021	
Test Required : As given below		Date of Receipt : 15.05.2021	
		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Faund nk
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Site Services Area (Pudumeter - 01)		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Colour	--	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025 -Part-4	< 5	5	15
3.	pH	--	IS:3025 -Part-11	6.87	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	64	200	600
6.	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.07	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS:3025 -Part-22	60	250	1000
8.	Total Dissolved Solids at 105°C	mg/l	IS:3025 -Part-16	238	500	2000
9.	Calcium as Ca	mg/l	IS:3025 -Part-40	20	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	3.4	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	28	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	21	45	No Relaxation
13.	Fluoride as F	mg/l	4500-F D, APHA 23 <sup>rd</sup> Edition 2017	0.39	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	52	200	600

Interpretation of results: Nil, Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSNT/2021/W5-01268	
		Lab Code No. : 210923205	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated : 15.05.2021	
Project Name: Naryanposhi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-sterilized Bottle Test Required : As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Site Services Area (Pilotometer - 01)		General Environment conditions: Ok	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-B.B. Curcumin Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	3500-ALB - Erchrome Cyanine R method	< 0.02	0.05	0.2
17.	Copper as Cu	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS: 1622 - 1981	Absent		

Interpretation of results: Nil, Deviation from test method: Nil



Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist

--- End of the Report ---

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEI/2021/WS-01269	
		Lab Code No. : 210923105	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated 15.05.2021	
Project Name: Narayandipshi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 20 Ltr Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<div style="text-align: center;"><u>Sampling Details</u></div> <div style="display: flex; justify-content: space-between;"> <div>           Date of Sampling: 12.05.2021            Location of Sampling: Near 650 Crusher ( Promoter - 02 )         </div> <div>           Sampling Method/Procedure: IS 3025 Part 1            General Environment conditions: OK            Page No: 1 of 2         </div> </div>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	—	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025 -Part-4	< 5	5	15
3.	pH	—	IS:3025 -Part-11	6.82	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 -Part-21	72	200	600
6.	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.08	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS:3025 -Part-32	58	250	1000
8.	Total Dissolved Solids @ 105°C	mg/l	IS:3025 -Part-16	252	500	2000
9.	Calcium as Ca	mg/l	IS:3025 -Part-40	24	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	2.9	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	33	200	400
12.	Nitrite as NO <sub>2</sub>	mg/l	4500-NO <sub>2</sub> -B UV Spectrophotometric Screening Method	21	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F D. APHA 23 <sup>rd</sup> Edition 2017	0.43	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-25	62	200	600

Interpretation of results: Nil, Deviation from test method: Nil



Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/WS-01269	
		Lab Code No. : 210923H/S	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated 15.05.2021	
Project Name: Narayanposhi Iron & Manganese Ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No x 20 ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration : 15.05.2021	
		Date of commencement of testing : 15.05.2021	
		Date of completion of testing : 24.05.2021	
		Sample condition at receipt : Found ok	
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part I	
Location of Sampling: Near 650 Crusher ( Parameter : 02 )		General Environment conditions: Ok	
Page No: 2 of 2			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable Limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4510 B of Curcumin Method. APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	3506 Al B - Electrode Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS: 1622 - 1981	Absent		

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/W/S-01370	
Project Name: Narayanposhi Iron & Manganese ore Mines		Lab Code No	210424005
Sample Description: Ground Water Sample		Issue Date	: 25.05.2021
Qty : 1 No. x 2.0 Ltrs Sample		Your Ref	: Letter Dated 15.05.2021
1 No. x 500 ml Sample (Metals)		Date of Receipt	: 15.05.2021
1 No. x 250 ml Sample (Microbiology)		Date of Registration	15.05.2021
Packing : Plastic Bottle & Pre-Sterilized Bottle		Date of commencement of testing	15.05.2021
Test Required : As given below		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Crusher Plant Area ( Perimeter )		General Environment conditions: OK	
Page No: 1 of 2			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	—	IS:1025 -Part-3	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:1025 -Part-4	<5	5	15
3.	pH	—	IS:3025- Part-11	6.94	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	<1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	86	200	600
6.	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.11	1.4	No Relaxation
7.	Chlorides as Cl <sup>-</sup>	mg/l	IS:3025 -Part-32	70	250	1000
8.	Total Dissolved Solids at 180°C	mg/l	IS:3025 - Part-16	292	500	2100
9.	Calcium as Ca	mg/l	IS:3025- Part-40	28	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	3.9	70	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	37	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B LV Spectrophotometric Screening Method	24	45	No Relaxation
13.	Fluoride as F	mg/l	4500-F B, APHA 23 <sup>rd</sup> Edition 2017	0.47	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 -Part-23	64	200	600

Interpretation of results: Nil, Deviation from test method: Nil

  
 Authorized Signatory  
 G. Chandra Mouli  
 Environmental Scientist

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEI/2021/W/S-01230	
		Lab Code No : 210923015	
		Issue Date : 25.05.2021	
		Your Ref : Letter Dated 15.05.2021	
Project Name: Natayanposhi Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Crusher Plant Area ( Perimeter - 03 )		General Environment conditions: Ok	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Barium as Ba	mg/l	4500-B B Concentration Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	3500 Al B - Eriochrome Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation.
20.	Zinc as Zn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation.
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation.
26.	Total Coliforms	CFU/100ml	IS 1622 - 1981	Absent		

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Muuli)  
 Environmental Scientist

... End of the Report ...

\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **SURFACE WATER QUALITY REPORT**

**MAY-2021**





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer: M/s JSW Steel Limited		Test Report No.: BSEI/2021/W/S-01251	
		Lab Code No.: 21023905	
		Issue Date: 15.05.2021	
		Your Ref.: Letter Dated 15.05.2021	
Project Name: Narsimhaiah Iron & Mangane Ore Mines		Date of Receipt: 15.05.2021	
Sample Description: Surface Water Sample		Date of Registration:	15.05.2021
Quantity: 1 No. x 500 ml Sample (Struck)		Date of commencement of testing:	15.05.2021
1 No. x 500 ml Sample (Struck)		Date of completion of testing:	24.05.2021
1 No. x 500 ml Sample (Struck) for pH & DO		Sample condition at receipt:	Fined ok
1 No. x 250 ml Sample for Acidified Rock For Metals		Sample tested as received:	
Packaging: 1 Plastic Bottle			
Test Required: As given below			
<b>Sampling Details</b>			
Date of Sampling: 30.05.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Orsat India upda.com		General Environmental condition: ok, Page No. 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Colour	Hazen Units, Max	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-11)	6.73	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max	IS 3025 (Part-16)	90	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max	IS 3025 (Part-43)	15	1000
5.	Iron (as Fe)	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.21	50
6.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max	IS 3025 (Part-24)	8.9	450
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max	4500-r (1), APHA 23 <sup>rd</sup> Edition 2017	0.16	1.5
8.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max	4500 NO <sub>3</sub> B 11V Spectrophotometric Screening Method	3.2	50
9.	Copper (as Cu)	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max	3113 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.04	1.5
12.	Cadmium (as Cd)	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.001	<0.1
13.	Lead (as Pb)	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max	3114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as C <sub>N</sub> )	mg/l, Max	4500 C <sub>N</sub> F, Colorimetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Amine Nitrogen (as NH <sub>4</sub> <sup>+</sup> )	mg/l, Max	Annex. K of IS 15248	<0.1	1
18.	Phenolic Compounds (as C <sub>12</sub> H <sub>10</sub> O <sub>4</sub> )	mg/l, Max	IS 3025 (Part-43)	<0.001	1000
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	#	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 (Part-74)	4.2	4
21.	Oil & Grease	mg/l, Max	IS 3025 (Part-59)	<1	0.1
22.	Total Coliform	Colony Forming Units	IS 3025	130	5000

Interpretation of results: Nil. Deviation from test method: Nil

Authorized Signature  
(G. Chandra Mohi)  
Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. BSW Steel Limited		Test Report No. : BSET 2021/MS 01362	
Project Name: Narayanpatti Iron & Mines/Andhra Pradesh		Lab Code No. : 210033805	
Sample Description: Surface Water Sample		Issue Date : 15.05.2021	
Quantity : 1 No. 250 ml Sample		Your Ref : 100210215.05.2021	
: 1 No. x 500 ml Sample (Musubi)		Date of Receipt : 15.05.2021	
: 1 No. x 500 ml Wide mouth bottles for DO/PH		Date of Registration	15.05.2021
: 1 No. x 250 ml Sample Pre Sterilized Bottle for Micro		Date of commencement of testing	15.05.2021
Packing : Plastic Bottle		Date of completion of testing	26.05.2021
Test Required : As per below		Sample condition at receipt	Found ok
		Sample tested as received	
<p align="center"><b>Sampling Details</b></p> <p>Date of Sampling: 10.05.2021 Sampling Method/Procedure: IS 3025 Part 1</p> <p>Location of Sampling: Osharivada, Downstream General Environmental conditions: ok Page No: 1 of 1</p>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part 4)	10	200
2.	pH	-	IS 3025 (Part 11)	6.87	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part 5)	114	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part 32)	20	400
5.	Iron (as Fe)	mg/l, Max.	5.1 B of APHA 23 <sup>rd</sup> Edition 2017	0.92	50
6.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 3025 (Part 24)	9.5	400
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500 F of APHA 23 <sup>rd</sup> Edition 2017	0.19	1.5
8.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	4500 N of APHA 23 <sup>rd</sup> Edition 2017	6.4	50
9.	Copper (as Cu)	mg/l, Max.	311 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	3114 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.55
11.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.05	15
12.	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.003	0.1
13.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	3114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	4500 CY of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Anionic Detergents (as MBAS)	mg/l, Max.	Annex E of IS 13245	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> O)	mg/l, Max.	IS 3025 (Part 42)	<0.001	0.005
19.	BOD (as B <sub>5</sub> )	mg/l	IS 3025 (Part 44)	6	1
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 (Part 39)	4.3	4
21.	Oil & Grease	mg/l, Max.	IS 3025 (Part 39)	<1	0.1
22.	Total Cr (BOD)	mg/l (BOD), Max.	IS 1622	170	5000

Interpretation of Results: Nil, Deviation from test method: Nil

\*\*\* End of the Report \*\*\*

Complaints Register is available at Laboratory.

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Authorized Signatory  
J.C. Chandra Murali  
Environmental Scientist



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## TEST REPORT

Name & Address of the Customer: M/s JSW Steel Limited		Test Report No.: BS/ET/2021/W/S-0106	
Project Name: Narayanpet Dam & Multipurpose and Allied		Lab Code No.: J049/1716	
Sample Description: Surface Water Sample		Issue Date: 25.05.2021	
Quantity: 1 No. x 5 Litre Sample		Year Ref: 1 Litter Dated 15.05.2021	
1 No. x 500 ml Sample (Nitrate)		Date of Receipt: 15.05.2021	
1 No. x 500 ml Sample (Nitrite)		Date of Registration: 15.05.2021	
1 No. x 500 ml Sample (Nitrate+Nitrite)		Date of commencement of testing: 15.05.2021	
1 No. x 500 ml Sample (pH)		Date of completion of testing: 24.05.2021	
1 No. x 500 ml Sample (Dissolved Oxygen)		Sample condition at receipt: Found ok	
1 No. x 500 ml Sample (Total Dissolved Solids)		Sample tested as received	
Packing: Plastic Bottles			
Test Required: As given below			
<b>Sampling Details</b> Date of Sampling: 10.05.2021 Location of Sampling: Kanne River By Stream Sampling Method/Procedure: IS 5025 Part 1 General Environmental condition: ok. Page No. 1 of 1			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen/Unit Max	IS 3025 (Part-4)	10	50
2.	pH	-	IS 3025 (Part-11)	6.64	6.5 to 8.5
3.	Total Dissolved Solids	mg/L Max	IS 3025 (Part-16)	106	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/L Max	IS 3025 (Part-32)	20	600
5.	Iron (as Fe)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.23	30
6.	Sulphate (as SO <sub>4</sub> )	mg/L Max	IS 3025 (Part-24)	12	450
7.	Fluoride (as F <sup>-</sup> )	mg/L Max	4500 F of APHA 23 <sup>rd</sup> Edition 2017	0.15	1.5
8.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/L Max	4500 NO <sub>3</sub> of APHA 23 <sup>rd</sup> Edition 2017	1.8	50
9.	Copper (as Cu)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.06	15
12.	Cadmium (as Cd)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.003	0.1
13.	Lead (as Pb)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN <sup>-</sup> )	mg/L Max	4500 CN of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.25
16.	Chromium (as Cr <sup>6+</sup> )	mg/L Max	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.25
17.	Anionic Detergents (as MPAS)	mg/L Max	Annex B of IS 13248	<0.1	1
18.	Phenolic Compounds (as C <sub>12</sub> H <sub>10</sub> O <sub>2</sub> )	mg/L Max	IS 3025 (Part-43)	<0.001	0.002
19.	Oil (as Oil)	mg/L	IS 3025 (Part-44)	2	1
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/L Min	IS 3025 (Part-54)	5.4	4
21.	Oil & Grease	mg/L Max	IS 3025 (Part-55)	<5	0.1
22.	Total Coliform	Uprn/100ml Max	IS 1622	130	5000

Interpretation of results: Nil. Deviation from test method: Nil

Authorized Signatory  
(G. Chandra Mohan)  
Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. BSW Steel Limited		Test Report No. : BSET/NO/196/2021	
		Lab Code No. : 11001675	
		Issue Date : 25.05.2021	
		Your Ref. : Letter Dated 15.05.2021	
Project Name : Mangapapam Iron & Manganese ore Mines		Date of Receipt : 15.05.2021	
<b>Sample Description:</b> Surface Water Sample <b>Quantity</b> : 1 No. x 500 ml Sample : No. x 500 ml Sample (Metal) : No. x 500 ml Wide mouth Glass bottle for O&G : No. x 250 ml Sample for Standard Burette Method <b>Packing</b> : Plastic Bottle <b>Cost Required</b> : As given below		Date of Registration	15.05.2021
		Date of commencement of testing	15.05.2021
		Date of completion of testing	24.05.2021
		Sample condition at receipt	Fund no.
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 10.04.2021		Sampling Method/Procedure: IS 1025 Part I	
Location of Sampling: Kurni River Downstream (Kala Neel Gate No-1)		General Environment condition: ok	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1	Colour	Hazen Units Max.	IS 1025 (Part-1)	10	500
2	pH	-	IS 1025 (Part-1)	6.78	6.5 to 8.5
3	Total Dissolved Solids	mg/L Max.	IS 1025 (Part-1)	148	1500
4	Chloride (as Cl <sup>-</sup> )	mg/L Max.	IS 1025 (Part-1)	25	600
5	Iron (as Fe)	mg/L Max.	21.1.1 R of APHA 23 <sup>rd</sup> Edition 2017	0.28	50
6	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/L Max.	IS 1025 (Part-1)	14	400
7	Fluoride (as F <sup>-</sup> )	mg/L Max.	4500-FF, APHA 23 <sup>rd</sup> Edition 2017	0.19	1.5
8	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/L Max.	4500-NO, B UV Spectrophotometric Screening Method	4.2	50
9	Copper (as Cu)	mg/L Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10	Selenium (as Se)	mg/L Max.	3114 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	100
11	Zinc (as Zn)	mg/L Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.39	15
12	Cadmium (as Cd)	mg/L Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.001	<0.1
13	Lead (as Pb)	mg/L Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14	Arsenic (as As)	mg/L Max.	3114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15	Cyanide (as CN <sup>-</sup> )	mg/L Max.	4500-CN, C in APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
16	Chromium (as Cr <sup>6+</sup> )	mg/L Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17	Ammonia Nitrogen (as NH <sub>3</sub> -N)	mg/L Max.	Antec, K of IS 1524E	<0.1	1
18	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L Max.	IS 1025 (Part-1)	<0.001	0.005
19	BOD (as O <sub>2</sub> )	mg/L	IS 1025 (Part-1)	4	5
20	Dissolved Oxygen (as O <sub>2</sub> )	mg/L Min.	IS 1025 (Part-1)	5.1	4
21	Turbidity	mg/L Max.	IS 1025 (Part-1)	<1	0.1
22	Total Chlorine	(mg/100ml) Max.	IS 1522	148	5000

Interpretation of result: Satisfactory for most part, Nil

Authorized Signatory  
(A. Chandra Mohi)  
Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET 2021/WS 01265		
		Lab Code No : 210923505		
		Issue Date : 15.05.2021		
		Visor Ref : Letter Dated 15.05.2021		
		Date of Receipt : 15.05.2021		
Project Name: Naravathupalli Iron & Manganese ore Mines		Date of Registration		15.05.2021
Sample Description: Surface Water Sample		Date of commencement of testing		15.05.2021
Quantity : 1 No. x 500 ml Sample		Date of completion of testing		24.05.2021
1 No. x 500 ml Sample (Mocha)		Sample condition at receipt		Found ok
1 No. x 250 ml Wide mouth Glass bottle for O&G		Sample tested as received		
1 No. x 250 ml Sample Pre Sterilized Bottle For Micro				
Packing : Plastic Bottles				
Test Required : As given below				
<b>Sampling Details</b>				
Date of Sampling: 10.05.2021		Sampling Method/Procedure : IS 3025 Part 1		
Location of Sampling: Kamsa Nala, Nalla Bommen Quarry No.5 & 4		General Environmental conditions: ok		
		Page No. 1 of 1		

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units Max.	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-1)	6.79	6.5 to 8.5
3.	Total Dissolved Solids	mg/l Max.	IS 3025 (Part-1A)	100	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l Max.	IS 3025 (Part-32)	25	600
5.	Iron (as Fe)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	0.07	50
6.	Sulfate (as SO <sub>4</sub> )	mg/l Max.	IS 3025 (Part-24)	10	400
7.	Fluoride (as F <sup>-</sup> )	mg/l Max.	4500 F of APHA 23 <sup>rd</sup> Edition 2017	0.26	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/l Max.	4500 N of APHA 23 <sup>rd</sup> Edition 2017	4.7	50
9.	Copper (as Cu)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l Max.	2114 B of APHA 23 <sup>rd</sup> Edition 2017	<0.00	0.05
11.	Zinc (as Zn)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	15
12.	Cadmium (as Cd)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.00	0.01
13.	Lead (as Pb)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.00	0.1
14.	Arsenic (as As)	mg/l Max.	2111 C of APHA 23 <sup>rd</sup> Edition 2017	<0.00	0.2
15.	Cyanide (as CN)	mg/l Max.	4500 CN F, Colorimetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr)	mg/l Max.	2111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Arsenic Dichloride (as MBAS)	mg/l Max.	Ampex Kit IS 1324K	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l Max.	IS 3025 (Part-41)	<0.001	0.005
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	4	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l Min.	IS 3025 (Part-36)	4.9	4
21.	Oil & Grease	mg/l Max.	IS 3025 (Part-39)	<1	0.1
22.	Total Coliform	(mpn/100ml) Max	IS 1622		5000

Interpretation of results: Nil Deviation from recommended N I

Authorized Signatory  
(G. Chandra Mohan)  
Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **WATER FLOW RATE REPORT**

**MAY-2021**





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## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : May  
**Date** : 24.05.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) in Meter/Second
1.	Orahari Nala Up Stream	0.223
2.	Confluence of Orahari & Karo Nala	0.476
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.187
4.	Karo River Down Stream (Nala near Gate no-1)	0.539

For B.S Envi-Tech (P) Ltd.,



Authorized Signatory

\*Complaints Register is available at Laboratory.

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

GROUND WATER  
LEVEL REPORT

**JUNE-2021**



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : June  
**Date** : 16.06.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koira Basti	9.98
2.	Dug Well Kasira Basti	9.22
3.	Site Services Area (Pizometer 01)	19.44
4.	Near 650 crusher (Pizometer-02)	14.17
5.	Crusher plant area (Pizometer 03)	35.19

For B.S. Envi-Tech (P) Ltd.,

  
**Authorised Signatory**  


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# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **SURFACE WATER QUALITY REPORT**

**JUNE-2021**



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No : HSL/2021/W/41126	
Project Name: Narayanpet Iron & Manganese Mines		Lab Code No : 210677406	
Sample Description: Surface Water Sample		Issue Date : 17.06.2021	
Quantity : 1 No. x 500 ml Sample (Metal)		Year Ref : Letter Dated 09.06.2021	
1 No. x 500 ml Wide mouth Glass bottle for HAO		Date of Receipt : 09.06.2021	
1 No. x 250 ml Sample Pts. Sterilized Bottle for Heavy		Date of Mergenson : 09.06.2021	
Packing : Plastic bottles		Date of commencement of testing : 09.06.2021	
Test Required : As given below		Date of completion of testing : 16.06.2021	
		Sample condition at receipt : Found ok	
		Sample tested as received	
Date of Sampling: 04.06.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Chalkurima upstream		General & environmental condition: ok	
		Page No. 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-1)	10	100
2.	pH	-	IS 3025 (Part-11)	6.71	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	184	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-12)	17	100
5.	Iron (as Fe)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.25	50
6.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	9.2	100
7.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-F-10, APHA 23 <sup>rd</sup> Edition 2017	0.38	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> -B, U.V Spectrophotometric Screening Method	3.8	50
9.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.04	15
12.	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.001	<0.1
13.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	4500-CN-1, Colorimetric Method APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr) <sup>6+</sup>	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Anionic Detergents (as WRAS)	mg/l, Max.	Ames-Kolfin (1974)	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-45)	<0.001	0.035
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	5	3
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-18)	6.9	4
21.	DO & Satn.	mg/l, Max.	IS 3025 (Part-29)	< 1	11
22.	Total Coliform	1000/100ml, Max.	IS 1622	110	5000

Interpretation of results: Nil, However request method N1

Authorized Signature  
Dr. Chandra Mouli  
Environmental Scientist

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSE-12022 /MS-01727	
		Lab Code No : 210677406	
		Issue Date : 14.06.2021	
		Year Ref : Letter Dated 09.05.2021	
		Date of Receipt : 09.06.2021	
Project Name : <b>Narayanpet &amp; Mangalore Mines</b>		Date of Registration	04.06.2021
Sample Description: Surface Water Sample		Date of commencement of testing	09.06.2021
Quantity : No. <50 Ltrs Sample		Date of completion of testing	14.06.2021
1 No. x 500 ml Sample (Metal)		Sample condition at receipt	Found ok
1 No. x 500 ml Wide mouth Glass bottle for TDS		Sample tested as received	
1 No. x 250 ml Sample Pre Sterilized Bottle for Micro			
Packing : Plastic bottles			
Test Required : As given below			
<b>Sampling Details</b>			
Date of Sampling: 04.06.2021		Sampling Method/Procedure: As per IS 3025 Part I	
Location of Sampling: Orakurukla Dowlatabad		General Environmental conditions: ok	
		Page No: 01	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Streams Water Standards
1.	Colour	Patch Units, Max.	IS 3025 (Part-I)	10	100
2.	pH	-	IS 3025 (Part-I)	6.92	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-I)	832	1500
4.	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-I)	24	100
5.	Iron (as Fe)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	0.29	50
6.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-I)	9.6	400
7.	Fluoride (as F)	mg/l, Max.	4500-02, API A 31 <sup>st</sup> Edition 2017	0.21	1.0
8.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> , II UV Spectrophotometric Screening Method	1.7	50
9.	Copper (as Cu)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	1.5
10.	Selenium (as Se)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	0.06	15
12.	Cadmium (as Cd)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.001	<0.1
13.	Cr (as Cr)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN)	mg/l, Max.	4500-CN, Colorimetric Method APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	SI 11 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
17.	Anionic Detergents (as MBAS)	mg/l, Max.	Ames, Int IS 11245	<0.1	1
18.	Thermal Compounds (as CaCO <sub>3</sub> )	mg/l, Max.	IS 3025 (Part-43)	<0.001	0.005
19.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	6	5
20.	Residual Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 (Part-46)	6.6	4
21.	DH & Hardness	mg/l, Max.	IS 3025 (Part-50)	6.8	0.1
22.	Total Coliform	(per 100ml), Max.	IS 1622	140	5000

Interpretation of results: Nil, Deviation from test method: Nil

\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory\*







# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. BSW S&E Limited		Test Report No. : BS/ET-2021/WS-01728	
		Lab. Code No. : 2-0917708	
		Issue Date : 12.06.2021	
		Yours Ref : Letter Dated 09.10.2021	
		Date of Receipt : 09.05.2021	
Project Name: Nanganahalli Irrig & Multipurpose use Master		Date of Registration	09.05.2021
Sample Description: Surface Water Sample		Start of commencement of testing	09.05.2021
Quantity : 1 No. x 500 ml Sample (Metals)		Date of completion of testing	10.05.2021
1 No. x 500 ml Wide mouth Glass bottle for U&C		Sample condition at receipt	Fair and ok
1 No. x 250 ml Sample Pre-sterilized Bottle for Micro		Sample tested as required	
Packing : Plastic Bottles			
Test Required : As given below			
<b>Sampling Details</b>			
Date of Sampling: 04.06.2021		Sampling Method/Procedure: IS 3025 Part I	
Location of Sampling: Koro River Up Stream		General Environmental conditions: ok.	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Unit	Test Method	Result	Limits for Surface Water Standards
1.	Colour	Color Units Max.	IS 3025 (Part 4)	10	500
2.	pH	-	IS 3025 (Part 11)	6.05	6.5 to 8.5
3.	Total Dissolved Solids	mg/L Max.	IS 3025 (Part-15)	112	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/L Max.	IS 3025 (Part-22)	16	1000
5.	Iron (as Fe)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	0.24	~1
6.	Sulphate (as SO <sub>4</sub> )	mg/L Max.	IS 3025 (Part 24)	15	400
7.	Fluoride (as F <sup>-</sup> )	mg/L Max.	4500 C of A.P.H.A. 21 <sup>st</sup> Edition 2017	0.17	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/L Max.	4500 C of A.P.H.A. 21 <sup>st</sup> Edition 2017	4.3	50
9.	Copper (as Cu)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.02	1.0
10.	Selenium (as Se)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	0.04	15
12.	Cadmium (as Cd)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.01	<0.1
13.	Lead (as Pb)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.01	0.1
15.	Cyanide (as CN)	mg/L Max.	4500 C of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/L Max.	3111 B of A.P.H.A. 21 <sup>st</sup> Edition 2017	<0.02	0.05
17.	Aromatic Hydrocarbons (as BHA St)	mg/L Max.	ANCK, K of IS 11244	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L Max.	IS 3025 (Part 47)	<0.001	0.025
19.	BOD (as O <sub>2</sub> )	mg/L	IS 3025 (Part 40)	3	1
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/L Min.	IS 3025 (Part 44)	5.2	8
21.	Total Hardness	mg/L Max.	IS 3025 (Part 30)	< 1	0.7
22.	Total Chlorine	mg/L (Oml.) Max.	IS 1622	90	5000

Interpretation of results: Nil. Deviation from test method: Nil



\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET.2021/MS-01720	
		Lab Code No. : 310837106	
		Issue Date : 13.06.2021	
		Voucher Ref : Letter Dated 05.06.2021	
		Date of Receipt : 01.06.2021	
Project Name: Narayanpuri Iron & Manganese ore Mine		Date of Registration : 09.06.2021	
Sample Description: Surface Water Sample		Date of commencement of testing : 08.06.2021	
Quantity : 1 No. x 100 ml Sample		Date of completion of testing : 18.06.2021	
1 No. x 300 ml Sample (Metals)		Sample Condition at receipt : Found ok	
1 No. x 500 ml Wide mouth Glass bottle for O&G		Sample tested as received	
1 No. x 250 ml Sample Pre-Sitrized Bottle For Micro			
Packing : Plastic Bottles			
Test Required : As per client			
<b>Sampling Details</b>			
Date of Sampling: 04.06.2021		Sampling Method/Procedure: IS 1025 Part 1	
Location of Sampling: Kuru River Downstream (Yala Near Gate No-8)		General Environmental conditions: ok	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Unit	Test Method	Result	Limit for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 1001 (Part-1)	10	200
2.	pH	-	IS 1025 (Part-11)	6.73	6.5 to 8.5
3.	Total Dissolved Solids	mg/l, Max.	IS 1025 (Part-16)	134	1500
4.	Chloride (as Cl)	mg/l, Max.	IS 1025 (Part-12)	22	600
5.	Iron (as Fe)	mg/l, Max.	3 <sup>rd</sup> Ed of APHA 21 <sup>st</sup> Edition 2017	0.21	50
6.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 1025 (Part-24)	16	400
7.	Fluoride (as F)	mg/l, Max.	4 <sup>th</sup> Ed of APHA 21 <sup>st</sup> Edition 2017	0.12	1.5
8.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> -B UV Spectrophotometric, Submerged Method	4.6	50
9.	Copper (as Cu)	mg/l, Max.	11.1 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l, Max.	11.4 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l, Max.	11.1 B of APHA 21 <sup>st</sup> Edition 2017	0.05	15
12.	Cadmium (as Cd)	mg/l, Max.	11.1 B of APHA 21 <sup>st</sup> Edition 2017	<0.005	0.1
13.	Lead (as Pb)	mg/l, Max.	11.1 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l, Max.	11.4 C of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
15.	Cyanide (as CN)	mg/l, Max.	4500-CN-1, Cyanide Method, APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	11.1 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
17.	Aromatic Disinfectants (as MBAM)	mg/l, Max.	Annex K of IS 11748	<0.5	1
18.	Pesticide Compounds (as C <sub>12</sub> H-GEI)	mg/l, Max.	IS 1025 (Part-43)	<0.001	0.205
19.	BOD (as O <sub>2</sub> )	mg/l	IS 1025 (Part-44)	5	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 1025 (Part-10)	5.3	4
21.	Oil & Grease	mg/l, Max.	IS 1025 (Part-39)	<1	0.1
22.	Total Coliforms	(mpn/100ml), Max.	IS:1622		5000

Interpretation of results: Nil, Deviation from test method: Nil



\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory.

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer: M/s JSW Steel Limited		Test Report No.: BSCT 2021/WS-01140	
		Lab Code No.: 2104/006	
		Report Date: 17.06.2021	
		Year Ref.: Leave Date: 09.06.2021	
Project Name: Narasimhaiah Iron & Manganese ore Mines		Date of Receipt: 09.06.2021	
Sample Description: Surface Water Sample Quantity: 1 No. x 500 ml Sample 1 No. x 500 ml Sample (Metals) 1 No. x 500 ml Wide mouth Glass bottle for O&G 1 No. x 250 ml Sample Pn. Sterilized Bottle For Micro Packing: 1 Plastic Bottle Test Required: As given below		Date of Registration	09.06.2021
		Date of commencement of testing	09.06.2021
		Mode of completion of testing	16.06.2021
		Sample condition at receipt	Preserved
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 04.06.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Katra Nala (Nala Between Quarry No.1 & 4)		General Environment conditions: n/a	

Page No. 1 of 1

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Unit, Max.	IS 3025 (Part-1)	10	100
2.	pH	-	IS 3025 (Part-1)	6.77	6.5 to 8.5
3.	Total Dissolved Solids	mg/l. Max.	IS 3025 (Part-1)	176	1500
4.	Chloride (as Cl <sup>-</sup> )	mg/l. Max.	IS 3025 (Part-2)	35	100
5.	Iron (as Fe)	mg/l. Max.	2111 B of APHA 23rd Edition 2017	0.19	50
6.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l. Max.	IS 3025 (Part-2)	9.5	400
7.	Fluoride (as F <sup>-</sup> )	mg/l. Max.	4503-F D, APHA 23rd Edition 2017	0.23	1.5
8.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l. Max.	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	4.5	50
9.	Copper (as Cu)	mg/l. Max.	3111-B of APHA 23rd Edition 2017	<0.02	1.5
10.	Selenium (as Se)	mg/l. Max.	3114-B of APHA 23rd Edition 2017	<0.01	0.05
11.	Zinc (as Zn)	mg/l. Max.	3111-B of APHA 23rd Edition 2017	<0.02	12
12.	Cadmium (as Cd)	mg/l. Max.	3111-B of APHA 23rd Edition 2017	<0.003	<0.1
13.	Cobalt (as Co)	mg/l. Max.	3111-B of APHA 23rd Edition 2017	<0.01	0.1
14.	Arsenic (as As)	mg/l. Max.	3111-C of APHA 23rd Edition 2017	<0.01	0.2
15.	Cyanide (as CN <sup>-</sup> )	mg/l. Max.	4500-CN-B, Colormetric Method APHA 23rd Edition 2017	<0.02	0.05
16.	Chromium (as Cr <sup>6+</sup> )	mg/l. Max.	3111-B of APHA 23rd Edition 2017	<0.02	0.05
17.	Aromatic Disinfectants (as MBAS)	mg/l. Max.	Antra 5, of B-11745	<0.1	1
18.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l. Max.	IS 3025 (Part-4)	<0.001	0.005
19.	BOD (as O <sub>2</sub> )	mg/l.	IS 3025 (Part-1)	3	5
20.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l. Min.	IS 3025 (Part-1)	5.8	4
21.	Oil & Grease	mg/l. Max.	IS 3025 (Part-1)	<1	10.1
22.	Total Phosphorus	(mg/l.02mL), max.	IS 3025	70	5000

Interpretation of results: Nil. Deviation from test method: Nil



\*\*\* End of the Report \*\*\*

\*Complaints Register is available at Laboratory

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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

WATER FLOW RATE  
REPORT

**JUNE-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : June  
**Date** : 25.06.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) In Meter/Second
1.	Orahari Nala Up Stream	0.293
2.	Confluence of Orahari & Karo Nala	0.551
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.212
4.	Karo River Down Stream (Nala near Gate no-1)	0.616

For B.S Envi-Tech (P) Ltd.,

  
**Authorised Signatory**  


\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**GROUND WATER  
LEVEL REPORT**

**JULY-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines** : Narayanposhi Iron & Manganese Ore Mine  
**Month** : July  
**Date** : 30.07.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Kotra Basti	8.25
2.	Dug Well Kasira Basti	7.71
3.	Site Services Area (Pizometer-01)	17.67
4.	Near 650 crusher (Pizometer-02)	12.75
5.	Crusher plant area (Pizometer-03)	33.53

For B.S Envi-Tech (P) Ltd.,



Authorised Signatory

\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**SURFACE RUN OFF  
ANALYSIS REPORT**

**JULY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer: M/s JSW Steel Limited		Test Report No.: BSEI-2021-W-5-02421	
		Lab Code No.: 2-0766905	
		Issue Date: 07.08.2021	
		Year Ref.: Lower Bound 2019-2021	
		Date of Receipt: 29.07.2021	
Project Name: Nanyangnall Iron & Manginite Ore Mines		Date of Registration: 29.07.2021	
Sample Description: Surface Water Sample		Date of commencement of testing: 29.07.2021	
Quantity: 1 No. x 500 ml Sample		Date of completion of testing: 16.08.2021	
1 No. x 500 ml Sample (bottle)		Sample condition at receipt: Good	
1 No. x 500 ml Wide mouth Glass bottle for O&G		Sample used as received	
1 No. x 250 ml Sample Pre-Sterilized Bottle For Micro			
Packing: Plastic Bottles			
Test Required: As given below			
<b>Sampling Details</b>			
Date of Sampling: 26.07.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Mines Pit Surface Run off		General Environment conditions: ok	
		Page No.: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-4)	5	100
2.	pH	-	IS 3025 (Part-11)	6.68	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part-12)	12	—
4.	Total Dissolved Solids	mg/l Max.	IS 3025 (Part-16)	44	1500
5.	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-32)	6.0	400
6.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	4.1	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	6.8	400
8.	Fluoride (as F)	mg/l, Max.	4500-B.D. APHA 23 <sup>rd</sup> Edition 2017	0.11	1.5
9.	Nitrates (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	2.1	50
10.	Copper (as Cu)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1111 C of APHA 23 <sup>rd</sup> Edition 2017	0.002	—
12.	Selenium (as Se)	mg/l, Max.	1114 B of APHA 23 <sup>rd</sup> Edition 2017	<0.05	0.05
13.	Zinc (as Zn)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.02	15
14.	Cadmium (as Cd)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.005	<0.1
15.	Lead (as Pb)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	1114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.7
17.	Cyanide (as CN)	mg/l, Max.	4500-CN-1, Titrimetric Method APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
19.	Anionic Detergents (as MBAS)	mg/l, Max.	Annex E of IS 1546	0.1	1
20.	Phenolic Compounds (as Cat-GH)	mg/l, Max.	IS 3025 (Part-43)	<0.001	0.005
21.	Oil	mg/l	IS 3025 (Part-56)	24	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	3	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-39)	5.6	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-35)	—	0.1
25.	Fungal Coliforms	1000/100 ml, Max.	IS 1502	—	1000

Interpretation of results: OK, Deviation from test method: Nil

\*Complaints Register is available at Laboratory

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**B.S. ENVI-TECH PVT. LTD.**  
Authorized Signatory  
(Dr. Chandra Sheela)  
Environmental Scientist





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BS-172021/WS-02672	
		Lab Code No. : 21756497	
		Issue Date : 25.09.2021	
		Your Ref. : Letter Dated 24/07/2021	
		Date of Receipt : 25/07/2021	
Project Name: Narasimhaswamipuram & Manguncor ore Mines		Date of Registration: 29/07/2021	
Sample Description: Surface Water Sample		Date of commencement of testing: 29/07/2021	
Quantity: 1 No. x 500 ml Jar Sample		Date of completion of testing: 06/08/2021	
1 No. x 500 ml Jar Sample (Bottle)		Sample condition at receipt: Found ok	
1 No. x 500 ml Wide mouth Glass bottle for water		Sample tested as received	
1 No. x 250 ml Sample Pre-ventured bottle for Micro			
Packaging: Plastic drums			
Test Required: As given below			
<b>Sampling Details</b>			
Date of Sampling: 26/07/2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Settling Pond Near Gate No.1		General Environment condition: ok	
		Page No. : of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 Part-11	5	500
2.	pH	-	IS 3025 Part-11	6.01	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 Part-17	10	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 Part-16	10	1200
5.	Chloride (as Cl)	mg/l, Max.	IS 3025 Part-12	7.5	600
6.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.12	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 Part-24	7.2	400
8.	Fluoride (as F)	mg/l, Max.	4500 B of APHA 23 <sup>rd</sup> Edition 2017	0.13	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500 NO <sub>3</sub> P UV Spectrophotometry, Screening Method	7.2	50
10.	Copper (as Cu)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	2.05
13.	Zinc (as Zn)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	15
14.	Cadmium (as Cd)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.025	<0.1
15.	Cobalt (as Co)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.10	0.1
16.	Arsenic (as As)	mg/l, Max.	1111 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN)	mg/l, Max.	4500 CN - Colorimetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
19.	Amine Nitrogen (as MBAM)	mg/l, Max.	4000 K of IS 13243	<0.1	1
20.	Pharmaceuticals (as Chloramphenicol)	mg/l, Max.	IS 3025 Part-51	<0.001	0.005
21.	COD	mg/l	IS 3025 Part-50	32	—
22.	BOD (at 20°C)	mg/l	IS 3025 Part-50	4	4
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 Part-50	6.3	4
24.	Oil & Grease	mg/l, Max.	IS 3025 Part-50	2.5	0.1
25.	Total Coliform	Intens.100ml Max	IS 3025	0	5000

Incorporation of Symbols: No. Deviation from IS, marked, Nil

\*Complaints Register is available at Laboratory



Authorized Signatory  
G. Chandra Mouli  
Environmental Scientist

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**SURFACE WATER  
QUALITY REPORT**

**JULY-2021**



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BS ET. 2021/WS-03062	
		Lab Code No : 210645402	
		Issue Date : 19.07.2021	
		Year Ref : Under dated 09.07.2021	
		Date of Receipt : 09-07-2021	
Project Name: Narayanpatti Iron & Manganese ore Mines		Date of Registration	09.07.2021
Sample Description: Surface Water Sample		Date of commencement of testing	09.07.2021
Quantity : 1 No. x 50 Ltrs Sample		Date of completion of testing	19.07.2021
1 No. x 500 ml Sample (Metals)		Sample condition at receipt	Found ok
1 No. x 500 ml Wide mouth High density HDPE		Sample tested as received	
1 No. x 250 ml Sample for Sterilized Bottle for Micro			
Packing : Plastic Bottle			
Test Requirement : As per below			
Date of sampling: 05.07.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Digha/Deple upstream		General Environment condition: nk	
		Page No: 1 of 1	

### TEST RESULTS

S No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-1)	6.49	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025- Part-17	16	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	186	1500
5.	Total Hardness (Ca)	mg/l, Max.	IS 3025 (Part-32)	20	600
6.	Iron (as Fe)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.74	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	6.4	400
8.	Fluoride (as F)	mg/l, Max.	4500 C of APHA 23 <sup>rd</sup> Edition 2017	0.18	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500 NO <sub>3</sub> B of APHA 23 <sup>rd</sup> Edition 2017	1.6	50
10.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	5
11.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.25
13.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.04	15
14.	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.005	<0.1
15.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	3111 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN)	mg/l, Max.	4500 CN E. Volumetric Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.25
18.	Chloride (as Cl)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.25
19.	Aromatic Hydrocarbons (as MUAS)	mg/l, Max.	Annex C of IS 17244	<0.1	—
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-43)	<0.001	0.005
21.	COU	mg/l	IS 3025 Part-37	46	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-41)	4	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-34)	5.4	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-39)	<1	0.1
25.	Total Coliform	1000/100ml (N)	IS 1632	130	500

Interpretation of results: N/L, Deviates from test method: N/L

\*Complaints Register is available at Laboratory.

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End of the Report

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Authorized Signatory  
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Environmental Scientist





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## TEST REPORT

Name & Address of the User/Client: M/s. JSW Steel Limited		Test Report No.: RSET-2021-W5-40764	
Project Name: Nagayaprahari Iron & Manganese ore Mines		Lab Code No.: 2-0447007	
Sample Description: Surface Water Sample		Issue Date: 19/07/2021	
Quantity: 1 No. x 500 ml Sample (Water)		Type of Test: Lower Listed IN-1, IN-2	
1 No. x 500 ml Sample (Water)		Date of Receipt: 19/07/2021	
1 No. x 500 ml Sample (Water)		Date of Registration: 09/07/2021	
1 No. x 250 ml Sample Pre-Synthesized (Water for Micro)		Date of commencement of testing: 09/07/2021	
Packing: 1 Plastic Bottle		Date of completion of testing: 19/07/2021	
Test Required: As given below		Sample condition at receipt: Sealed ok	
		Sample tested as received	

Date of Sampling: 08/07/2021

Location of sampling: Orissa Nagayaprahari

### Sampling Details

Sampling Method/Procedure: IS 3025 Part 1

General Environment condition: ok

Page No: 1 of 1

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max	IS 3025 Part 41	10	100
2.	pH	-	IS 3025 Part 11	6.87	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 Part 42	48	—
4.	Total Dissolved Solids	mg/l Max	IS 3025 Part 43	149	500
5.	Chloride as Cl <sup>-</sup>	mg/l Max	IS 3025 Part 44	26	250
6.	Fluoride as F <sup>-</sup>	mg/l Max	APHA 2311 B of APHA 23 <sup>rd</sup> Edition 2017	0.76	50
7.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l Max	IS 3025 Part 45	10	400
8.	Hardness as CaCO <sub>3</sub>	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	0.22	1.5
9.	Ammonia as NH <sub>4</sub> <sup>+</sup>	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	4.1	50
10.	Copper as Cu	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
11.	Manganese as Mn	mg/l	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	—
12.	Selenium as Se	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.15
13.	Zinc as Zn	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	4.16	15
14.	Cadmium as Cd	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.005	0.1
15.	Cobalt as Co	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
16.	Arsenic as As	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
17.	Copper as Cu	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.15
18.	Lithium as Li	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.15
19.	Antimony as Sb	mg/l Max	APHA 2111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	1
20.	Phenols Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l Max	IS 3025 Part 46	<0.001	0.505
21.	COD	mg/l	IS 3025 Part 47	41	—
22.	BOD <sub>5</sub> (20°C)	mg/l	IS 3025 Part 48	5	3
23.	Dissolved Oxygen (DO)	mg/l Min	IS 3025 Part 49	4.9	4
24.	Oil & Grease	mg/l Max	IS 3025 Part 50	<1	0.1
25.	Total Chlorine	mg/l (Cl <sub>2</sub> ) Max	IS 1622	—	Var

Interpretation of results: As per Government method 2017

\*Complaints Register is available at Laboratory\*

End of the Report

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## TEST REPORT

Name & Address of the Customer : M/s. ISW Steel Limited		Test Report No. : BS E.T. 207/WS-021064	
		Lab Code No. : 210643017	
		Issue Date : 19/07/2021	
		Year Ref : Letter Dated 09/07/2021	
		Date of Receipt : 09/07/2021	
Project Name: Narayanpetra Iron & Manganes ore Mines		Date of Registration : 09/07/2021	
Sample Description: Surface Water Sample		Date of commencement of testing : 09/07/2021	
Quantity : 1 No. x 5 Litre Sample		Date of completion of testing : 19/07/2021	
1 No. x 500 ml Sterilized Metals		Sample condition at receipt : Fair	
1 No. x 500 ml Wide mouth Glass bottle for HAO		Sample tested as received	
1 No. x 250 ml Sample Pre Sterilized Bottle for Micro			
Packing : Plastic Bottles			
Test Required : As given below			
Date of Sampling: 05/07/2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Kuru river Lapuram		General Environment conditions: ok	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limit for Stream Water Standards
1.	Unfiltered	Normal Hairs, Max.	IS 3025 (Part-4)	10	300
2.	pH	-	IS 3025 (Part-11)	6.65	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS:3025- Part-11	94	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-10)	128	1500
5.	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-22)	14	600
6.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.08	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	31	400
8.	Fluoride (as F)	mg/l, Max.	4500-B of APHA 23 <sup>rd</sup> Edition 2017	0.04	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-NO <sub>3</sub> B of APHA 23 <sup>rd</sup> Edition 2017	1.9	50
10.	Copper (as Cu)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.02	5
14.	Cadmium (as Cd)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.005	0.01
15.	Lead (as Pb)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	1111 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN)	mg/l, Max.	4500-CN F of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.25
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
19.	Anionic Detergents (as MBAS)	mg/l, Max.	Annex K of IS 3025	<0.1	1
20.	Phenolic Compounds (as C <sub>12</sub> H <sub>10</sub> O <sub>2</sub> )	mg/l, Max.	IS 3025 (Part-4)	<0.01	0.005
21.	COD	mg/l	IS:3025- Part 5A	40	—
22.	BOD (at 20)	mg/l	IS:3025 (Part-4A)	4	1
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS:3025 (Part 1A)	5.4	1
24.	Total Chlorine	mg/l, Max.	IS 3025 (Part-39)	1	0.1
25.	Total Coliform	(mpn/100ml), Max.	IS:1662	50	5000

Interpretation of results: Nil, Deviation from test method: Nil

\*Complaints Register is available at Laboratory

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End of the Report \*\*\*

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## TEST REPORT

Name & Address of the Customer: M/s. JSW Steel Limited		Test Report No.: BSET/2021/W5-0206	
		Lab Code No.: 210045007	
		Sample Date: 19.07.2021	
		Your Ref.: Letter Dated 09.07.2021	
Project Name: Narayanpuri Iron & Mangane Ore Project		Date of Receipt: 09.07.2021	
Sample Description: Surface Water Sample		Date of Registration: 09.07.2021	
Quantity: 1 No. x 5.0 Litrs. Sample		Date of commencement of testing: 09.07.2021	
1 No. x 500 ml Sample (Metal)		Date of completion of testing: 16.07.2021	
1 No. x 500 ml Water mouth Glass bottle for TOC		Sample condition at receipt: Found ok	
1 No. x 250 ml Sample Pte Sterilized Bottle For Micro		Sample noted as received	
Packaging: Plastic Bumper			
Tests Required: As given below			
Date of Sampling: 05.07.2021		Sampling Method/Procedure: IS 1037 Part 1	
Location of Sampling: Koro river (downstream) (Nala Near gate No.1)		General Environment conditions: ok	
		Page No. 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units Max.	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-11)	6.78	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part-17)	41	—
4.	Total Dissolved Solids	mg/l. Max.	IS 3025 (Part-16)	146	500
5.	Chloride (as Cl <sup>-</sup> )	mg/l. Max.	IS 3025 (Part-32)	20	600
6.	Iron (as Fe)	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.22	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l. Max.	IS 3025 (Part-24)	24	400
8.	Fluoride (as F <sup>-</sup> )	mg/l. Max.	4300 B of APHA 23 <sup>rd</sup> Edition 2017	0.17	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l. Max.	4500 MB of UV Spectrophotometric Screening Method	5.1	50
10.	Copper (as Cu)	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.07	—
12.	Selenium (as Se)	mg/l. Max.	1118 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.25
13.	Zinc (as Zn)	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.04	15
14.	Cadmium (as Cd)	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.013	0.1
15.	Lead (as Pb)	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l. Max.	1118 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN <sup>-</sup> )	mg/l. Max.	4500 CN of C. Autoanalytic Method APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l. Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.07	0.05
19.	Ammonia Nitrogen (as MUAS)	mg/l. Max.	4100 K of IS 15248	<0.1	1
20.	Phenolic Compounds (as C <sub>12</sub> H <sub>10</sub> O <sub>2</sub> )	mg/l. Max.	IS 3025 (Part-43)	<0.001	0.005
21.	COD	mg/l	IS 3025 (Part-58)	40	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	5	5
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l. Min.	IS 3025 (Part-36)	5.2	4
24.	O & Grease	mg/l. Max.	IS 3025 (Part-39)	0.1	0.1
25.	Total Solids	(up to 1700) Max.	IS 3022	70	5000

Interpretation of results Nil, Beyond Indian method Nil

\*Complaints Register is available at Laboratory.

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## TEST REPORT

Name & Address of the Client: M/s. JSW Steel Limited		Test Report No.: BSE/2021/WS-02066	
Project Name: Jangampanthi Iron & Manganese ore Mines		Lab Code No.: JSCSL401	
Sample Description: Surface Water Sample		Issue Date: 19.07.2021	
Quantity: 1 No. x 50.0 Ltr. Sample		Your Ref.: Letter Dated 09.07.2021	
1 No. x 500 ml Sample (Nitrate)		Date of Receipt: 09.07.2021	
1 No. x 500 ml Wide mouth Glass bottle for CEC		Date of Registration: 09.07.2021	
1 No. x 250 ml Sample for Streptococci (per Metro)		Date of commencement of testing: 09.07.2021	
Packaging: Plastic Bottles		Date of completion of testing: 19.07.2021	
Test Required: As given below		Sample condition at receipt: Found ok	
		Sample tested as received	
Date of Sampling: 05.07.2021		Sampling Method/Procedure: IS 9013 Part 1	
Location of Sampling: Kallam Nalla (Near between Quarry No. 1 & 4)		General Environment condition: ok	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Color	Hazen Units, Max.	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-11)	6.58	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part-17)	50	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	164	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-22)	35	500
6.	Iron (as Fe)	mg/l, Max.	1111 B of APHA 23 <sup>rd</sup> Edition 2017	0.06	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	12	100
8.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500 F of APHA 23 <sup>rd</sup> Edition 2017	0.19	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500 N of APHA 23 <sup>rd</sup> Edition 2017	4.8	50
10.	Copper (as Cu)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	1114 H of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
14.	Cadmium (as Cd)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.005	<0.5
15.	Lead (as Pb)	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	3114 C of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Uranium (as U)	mg/l, Max.	4500 C of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.5
19.	Arsenic (as As)	mg/l, Max.	Annex K of IS 17244	<0.1	1
20.	Phosphate (as PO <sub>4</sub> -P)	mg/l, Max.	IS 3025 (Part-4)	<0.05	0.105
21.	COD	mg/l	IS 3025 (Part-5)	30	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-4)	4	1
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-3)	7.2	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-39)	<1	0.1
25.	Total Coliform	(mpn/100ml), Max.	IS 1622	90	500

Interpretation of results: Nil Deviation from test method 'A'

\*Complaints Register is available at Laboratory

End of the Report

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74210TG1985PTC032358

Authorized Signatory  
(T. Chandra Mohi)  
Environmental Scientist

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**WATER FLOW RATE  
REPORT**

**JULY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines** : Narayanposhi Iron & Manganese Ore Mine  
**Month** : July  
**Date** : 31.07.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) in Meter/Second
1.	Orahari Nala Up Stream	0.426
2.	Confluence of Orahari & Karo Nala	0.789
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.397
4.	Karo River Down Stream (Nala near Gate no-1)	0.841

For B.S Envi-Tech (P) Ltd.,



Authorised Signatory

\*Complaints Register is available at Laboratory.



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**GROUND WATER  
LEVEL REPORT**

**AUGUST-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : August  
**Date** : 27.08.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koira Basti	7.91
2.	Dug Well Kasira Basti	7.49
3.	Site Services Area (Piezometer-01)	17.32
4.	Near 650 crusher (Piezometer-02)	12.45
5.	Crusher plant area (Piezometer-03)	32.77

For B.S Envi-Tech (P) Ltd.,



Authorized Signatory

\*Complaints Register is available at Laboratory.

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**GROUND WATER  
QUALITY REPORT**

**AUGUST-2021**





## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSFT/2021/WS-03622	
		Lab Code No. : 210687808	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanposhi Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No x 2.0 Litre Sample 1 No x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Part of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	18.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
Date of Sampling: 13.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Koina Basin		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	—	IS 3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS 3025 -Part-4	< 5	5	15
3.	pH	—	IS:3025 - Part-11	6.69	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	64	200	600
6.	Iron as Fe	mg/l	3 <sup>rd</sup> ICB of APHA 21 <sup>st</sup> Edition 2017	0.08	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS:3025 -Part-32	42	250	1000
8.	Total Dissolved Solids (at 105°C)	mg/l	IS: 3025 - Part-16	166	500	2000
9.	Calcium as Ca	mg/l	IS 3025- Part-40	20	75	200
10.	Magnesium as Mg	mg/l	IS 3025 -Part-46	3.4	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	27	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -H UV Spectrophotometric Screening Method	15	45	No Relaxation
13.	Fluoride as F	mg/l	4500-F D, APHA 23 <sup>rd</sup> Edition 2017	0.36	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	30	200	600

Interpretation of results: Nil, Deviation from test method: Nil

  
Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist

\* Complaints Register is available at Laboratory.



## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSCIT/2021/WS 183622	
		Lab Code No. : 210687898	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Nurrayaposhli Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	25.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<p align="center"><u>Sampling Details</u></p> <p>Date of Sampling: 12.08.2021      Sampling Method/Procedure: IS 3025 Part 1 Location of Sampling: Oug Well Kona Bush      General Environment conditions: OK Page No: 2 of 2</p>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-B B, Curcumin Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.2	2.4
16.	Aluminium as Al	mg/l	7500-Al B, Erichrome Cyanide R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111-B of APHA 21 <sup>st</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111-B of APHA 21 <sup>st</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3314-C of APHA 21 <sup>st</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3112-B of APHA 24 <sup>th</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS: 1622 - 1981	Absent		

Interpretation of results: Nil. Deviation From test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

on File of the Reportee

\*Complaints Register is available at Laboratory.



## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : HSE/2021/WS-03623	
		Lab Code No. : 210687708	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanposhi Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
<b>Sample Description:</b> Ground Water Sample <b>Qty :</b> 1 No. x 24 Liters Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) <b>Packing :</b> Plastic Bottle & Pre-Sterilized Bottle <b>Test Required :</b> As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Found ok.
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Kusra Buseri		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	—	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Placm	IS:3025 -Part-4	< 5	5	15
3.	pH	—	IS:3025 -Part-11	6.8-8.4	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-21	90	200	600
6.	Iron as Fe	mg/l	1111 Bar APHA 23 <sup>rd</sup> Edition 2017	0.07	1.0	No Relaxation
7.	Chlorides as Cl <sup>-</sup>	mg/l	IS:3025 -Part-32	58	250	1000
8.	Total Dissolved Solids (at 185°C)	mg/l	IS:3025 -Part-16	264	500	2000
9.	Calcium as Ca	mg/l	IS:3025 -Part-40	32	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	2.4	50	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	39	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	20	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 23 <sup>rd</sup> Edition 2017	0.42	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	64	200	600

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

\*Complaints Register is available at Laboratory





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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSCT/2021/WS-07623	
		Lab Code No : 210687708	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Surayanpushi Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 20 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-sterilized Bottle Test Required : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Dug Well Kasira Basti		General Environment conditions: Ok	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-B B Curcumin Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	3500-AL B - Erchromic Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFL/100ml	IS 1622 - 1981	Absent		

Interpretation of value: N.I. Deviation from test method: Nil



Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist

--- End of the Report ---

\*Complaints Register is available at Laboratory.



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/W/S-01624	
		Lab Code No. : 210687618	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanposhi Iron & Manganese etc Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Liter Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration : 16.08.2021	
		Date of commencement of testing : 17.08.2021	
		Date of completion of testing : 28.08.2021	
		Sample condition at receipt : Found ok	
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Site Services Area (Perimeter - 01)		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	--	IS 3025 -Part-3	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS 3025 -Part-4	< 5	5	15
3.	pH	--	IS 3025 -Part-11	6.77	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS 3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 -Part-21	76	240	600
6.	Iron as Fe	mg/l	3111 B of APHA 21 <sup>st</sup> Edition 2017	0.08	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS 3025 -Part-32	64	250	1000
8.	Total Dissolved Solids as TDS	mg/l	IS 3025 -Part-16	152	500	2000
9.	Calcium as Ca	mg/l	IS 3025 -Part-40	24	75	200
10.	Magnesium as Mg	mg/l	IS 3025 -Part-46	3.9	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS 3025 -Part-24	27	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500-NO <sub>3</sub> -B UV Spectrophotometric Screening Method	24	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F D, APHA 21 <sup>st</sup> Edition 2017	0.41	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 -Part-23	50	200	600

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

\*Complaints Register is available at Laboratory.



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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEIT/2021/WS-02624	
		Lab Code No. : 21068760X	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated : 6.08.2021	
Project Name: Naraynapurhi Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No x 2.0 Ltrs Sample 1 No x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 1025 Part 1	
Location of Sampling: Site Services Area (Piezometer - 01)		General Environment conditions: Ok	
		Page No: 2 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500-BB Curcumin Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.5	2.4
16.	Aluminium as Al	mg/l	3500-AlB - Erlichrome Cyanine R method	< 0.02	0.05	0.2
17.	Copper as Cu	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.3
19.	Selenium as Se	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112 B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111 C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS 1622 - 1985	Absent	-	-

Interpretation of results: Not Deviation from test method. Not

--- End of the Report ---

\*Complaints Register is available at Laboratory.

  
Authorized Signatory  
(G. Chandra Mouli)  
Environmental Scientist





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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/WS-03625		
		Lab Code No. : 2108x756x		
		Issue Date : 28.08.2021		
		Your Ref : Letter Dated 16.08.2021		
Project Name: Narayanpuri Iron & Manganese ore Mines		Date of Receipt : 16.08.2021		
<b>Sample Description:</b> Ground Water Sample <b>Qty</b> : 1 No. x 20 ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) <b>Packing</b> : Plastic Bottle & Pre-Sterilized Bottle <b>Test Required</b> : As given below		Date of Registration		16.08.2021
		Date of commencement of testing		17.08.2021
		Date of completion of testing		28.08.2021
		Sample condition at receipt		Found ok
		Sample tested as received		
<b>Sampling Details</b>				
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS:3025 Part 1		
Location of Sampling: Near 650 Crusher ( Parameter - Q2 )		General Environment conditions: Ok		
		Page No: : 012		

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Odour	--	IS:3025-Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025-Part-4	< 5	5	15
3.	pH	--	IS:3025-Part-11	6.71	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS:3025-Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS:3025-Part-21	58	200	600
6.	Iron as Fe	mg/l	11.1.14 of APHA 23 <sup>rd</sup> Edition 2012	0.07	1.0	No Relaxation
7.	Chlorides as Cl	mg/l	IS:3025-Part-32	50	250	1000
8.	Total Dissolved Solids as TDS	mg/l	IS:3025-Part-16	254	500	2000
9.	Calcium as Ca	mg/l	IS:3025-Part-40	20	75	200
10.	Magnesium as Mg	mg/l	IS:3025-Part-46	1.9	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025-Part-24	38	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500 NO <sub>3</sub> B UV Spectrophotometric Screening Method	25	45	No Relaxation
13.	Fluoride as F	mg/l	4500-F.D. APHA 23 <sup>rd</sup> Edition 2012	0.46	1	1.5
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025-Part-23	64	200	600

Interpretation of results: Nil, Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

\* Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSLE/2021/WSS 03625	
		Lab Code No. : 21068/NEK	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanposhi Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
<b>Sample Description:</b> Ground Water Sample <b>Qty</b> : 1 No x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No x 250 ml Sample (Microbiology) <b>Packing</b> : Plastic Bottle & Pre-Sterilized Bottle <b>Test Required</b> : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b> Date of Sampling: 12.08.2021 Location of Sampling: Near 650 Crusher (Pitometer - 02) Sampling Method/Procedure: IS 3025 Part General Environment conditions: OK Page No: 2 of 2			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Boron as B	mg/l	4500.B.B Curcumin Method. APHA 29 <sup>th</sup> Edition 2017	< 0.10	0.5	2.4
16.	Aluminium as Al	mg/l	2500.Al.B - Enchlorine Cyanine R method	< 0.02	0.05	0.2
17.	Copper as Cu	mg/l	3111.B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111.B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.5
19.	Selenium as Se	mg/l	3114.C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111.B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111.C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111.C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112.B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114.C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111.C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS: 1622 - 1981	Absent		

Interpretation of results: Nil, Deviation from test method: Nil

Authorized Signatory  
(G.Chandra Mouli)  
Environmental Scientist

--- End of the Report ---

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEL/2021/W5-00626	
		Lab Code No. : 210687405	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanpuri Iron & Manganes ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packag : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Found ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Crusher Plant Area   Parameter : B3		General Environment conditions: Ok	
		Page No: 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
1.	Oxygen	mg/l	IS:3025 -Part-5	Agreeable	Agreeable	Agreeable
2.	Colour	Hazen	IS:3025 -Part-4	< 5	5	15
3.	pH	--	IS 3025- Part-11	6.85	6.5-8.5	No Relaxation
4.	Turbidity	NTU	IS 3025 -Part-10	< 1	1	5
5.	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 -Part-21	76	240	600
6.	Iron as Fe	mg/l	3111 B of APHA 23 <sup>rd</sup> Edition 2017	0.09	1.0	No Relaxation
7.	Chlorides as Cl <sup>-</sup>	mg/l	IS:3025 -Part-32	62	250	1000
8.	Total Dissolved Solids (x10 <sup>3</sup> l <sup>-1</sup> )	mg/l	IS:3025 - Part-16	296	500	2000
9.	Calcium as Ca	mg/l	IS:3025- Part-40	24	75	200
10.	Magnesium as Mg	mg/l	IS:3025 -Part-46	3.9	30	100
11.	Sulphate as SO <sub>4</sub>	mg/l	IS:3025 -Part-24	41	200	400
12.	Nitrate as NO <sub>3</sub>	mg/l	4500 NO <sub>3</sub> B UV Spectrophotometric Screening Method	28	45	No Relaxation
13.	Fluoride as F <sup>-</sup>	mg/l	4500-F DL APHA 23 <sup>rd</sup> Edition 2017	0.49	1	15
14.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS:3025 -Part-23	68	200	500

Interpretation of results: Nil. Deviation from test method: Nil



Authorized Signatory  
(G.Chandra Mouli)  
Environmental Scientist

\*Complaints Register is available at Laboratory





## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSET/2021/WS-03626	
		Lab Code No. : 210687418	
		Issue Date : 28.08.2021	
		Your Ref : Letter Dated 16.08.2021	
Project Name: Narayanpatti Iron & Manganese ore Mines		Date of Receipt : 16.08.2021	
Sample Description: Ground Water Sample Qty : 1 No. x 2.0 Ltrs Sample 1 No. x 500 ml Sample (Metals) 1 No. x 250 ml Sample (Microbiology) Packing : Plastic Bottle & Pre-Sterilized Bottle Test Required : As given below		Date of Registration	16.08.2021
		Date of commencement of testing	17.08.2021
		Date of completion of testing	28.08.2021
		Sample condition at receipt	Fair/ok
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling: 12.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Crusher Plant Area (P. corner - 01)		General Environment conditions: Ok	
		Page No. 1 of 2	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Requirement as per IS 10500:2012	
					Acceptable limits	Permissible limits in absence of alternative source
15.	Iron as Fe	mg/l	4500-B of Cationic Method, APHA 23 <sup>rd</sup> Edition 2017	< 0.10	0.5	2.4
16.	Ammonium as NH <sub>4</sub>	mg/l	3500-A of B. Catecholic Cyanine R method	< 0.02	0.03	0.2
17.	Copper as Cu	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	1.5
18.	Manganese as Mn	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.1	0.2
19.	Selenium as Se	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
20.	Zinc as Zn	mg/l	3111-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	5	15
21.	Cadmium as Cd	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.003	0.003	No Relaxation
22.	Lead as Pb	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	No Relaxation
23.	Mercury as Hg	mg/l	3112-B of APHA 23 <sup>rd</sup> Edition 2017	< 0.001	0.001	No Relaxation
24.	Total Arsenic as As	mg/l	3114-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.01	0.01	0.05
25.	Total Chromium as Cr	mg/l	3111-C of APHA 23 <sup>rd</sup> Edition 2017	< 0.02	0.05	No Relaxation
26.	Total Coliforms	CFU/100ml	IS 1622 - 1981	Absent		

Interpretation of results: Nil. Deviation from test method: Nil

  
 Authorized Signatory  
 (G. Chandra Mouli)  
 Environmental Scientist

--- End of the Report ---

\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**SURFACE RUN OFF  
ANALYSIS REPORT**

**AUGUST-2021**







# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

<b>Name &amp; Address of the Customer :</b> M/s. BSW Steel Limited		<b>Test Report No. :</b> BSE/1220/WS/04600	
<b>Project Name:</b> Narayanpalli Iron & Manganese ore Mines.		<b>Lab Code No :</b> 2104BHR6	
<b>Sample Description:</b> Surface Water Sample <b>Quantity :</b> 1 No. x 500 ml Sample 1 No. x 500 ml Sample (Metals) 1 No. x 500 ml Water sample to be tested for UGC 1 No. x 500 ml Sample for Microbial Tests (see Method)		<b>Issue Date :</b> 11.08.2021	
<b>Parking :</b> 03/01/2021		<b>Visit Ref :</b> 1 (see Date) 21.08.2021	
<b>Test Required :</b> As given below		<b>Date of Receipt :</b> 21/08/2021	
		<b>Name of Registration</b>	<b>25.08.2022</b>
		<b>Date of commencement of testing</b>	<b>25.08.2022</b>
		<b>Date of completion of testing</b>	<b>31.08.2022</b>
		<b>Sample condition at receipt</b>	<b>Found ok</b>
		<b>Sample tested as received</b>	
<b>Date of Sampling :</b> 19.08.2021		<b>Sampling Method/Procedure :</b> IS 3025 Part 1	
<b>Location of Sampling:</b> Settling Pond near Gate No.2		<b>General Observations/condition:</b> ok	
<b>Page No. 1 of 1</b>			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part-4)	5	<20
2.	pH	-	IS 3025 (Part-11)	6.94	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 - Part 17	18	<30
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-18)	92	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-32)	85	600
6.	Iron (as Fe)	mg/l, Max.	IS 3025 (Part-32) APHA 2007 Edition 2017	0.11	50
7.	Sulfate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	7.3	400
8.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-1 (F) APHA 2007 Edition 2017	0.16	15
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	4500-2 (N) DC Spectrophotometric Spectrophotometric Method	1.3	50
10.	Copper (as Cu)	mg/l, Max.	1111 B (Cu) APHA 2007 Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1111 A (Mn) APHA 2007 Edition 2017	<0.02	<0.05
12.	Selenium (as Se)	mg/l, Max.	3114 B (Se) APHA 2007 Edition 2017	<0.00	0.05
13.	Zinc (as Zn)	mg/l, Max.	3111 B (Zn) APHA 2007 Edition 2017	0.03	15
14.	Cadmium (as Cd)	mg/l, Max.	3111 B (Cd) APHA 2007 Edition 2017	<0.005	0.1
15.	Cobalt (as Co)	mg/l, Max.	3111 B (Co) APHA 2007 Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	3111 C (As) APHA 2007 Edition 2017	<0.01	0.2
17.	Uranium (as U)	mg/l, Max.	4500 CS (U) Colorimetric Method, APHA 2007 Edition 2017	<0.02	0.35
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3111 B (Cr) APHA 2007 Edition 2017	<0.07	0.25
19.	Ammonia Nitrogen (as NH <sub>4</sub> N)	mg/l, Max.	APHA 2007 Edition 2017	<0.1	1
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-41)	<0.001	0.005
21.	CYD	mg/l	IS 3025 - Part 5b	02	<0.05
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	5	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 (Part-44)	5.4	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-54)	<1	0.1
25.	Total Chlorine	mg/l, Max.	IS 3025	10.7	5.40

Interpretation of results: Nil, Dissolved in mg/l method Nil

\*Complaints Register is available at Laboratory

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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**SURFACE WATER  
QUALITY REPORT**

**AUGUST-2021**



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSE/T/2021/WS-01301	
		Lab Code No. : 210609005	
		Issue Date : 25.06.2021	
		Year Ref : Fiscal Year 2021-22	
Project Name: Narasimha Iron & Manganese Mine.		Date of Receipt : 12.06.2021	
Sample Description: Surface Water Sample		Date of Registration : 13.06.2021	
Quantity : 1 No. x 500 ml Sample		Date of commencement of testing : 16.06.2021	
1 No. x 500 ml Sample Vial		Date of completion of testing : 25.06.2021	
1 No. x 500 ml Sample Vial (for heavy metals)		Sample condition as receipt : Found ok	
1 No. x 250 ml Sample for Sterilized (for 1 x Heavy metals)		Sample tested as received	
Packing : Plastic bottles			
Test Required : As given below			
Date of Sampling: 09.06.2021		Sampling Method/Procedure : IS 5025 Part 1	
Location of Sampling: Orakurunda upstream		General Environmental conditions: ok	
		Page No. 1 of 1	

S. No.	Test Parameter	Units	Test Method	Result	Limit for Surface Water Standards
1.	Color	Patch Unit, Max.	IS 5025 Part-1	10	10*
2.	pH	-	IS 5025 Part-1	6.6	6.5 to 8.5
3.	Total Suspended Solids	mg/l, Max.	IS 5025 Part- 7	34	—
4.	Total Dissolved Solids	mg/l, Max.	IS 5025 Part-18	120	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 5025 Part-32	25	600
6.	Iron (as Fe)	mg/l, Max.	111.13 of APHA 23 <sup>rd</sup> Edition 2017	0.10	30
7.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 5025 Part-24	9.8	400
8.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-11 of APHA 23 <sup>rd</sup> Edition 2017	0.15	1.5
9.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	4500-N of APHA 23 <sup>rd</sup> Edition 2017	4.4	50
10.	Copper (as Cu)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	0.05	5
14.	Cadmium (as Cd)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.003	0.01
15.	Lead (as Pb)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	4520 CN E. columnar Method, APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	311.13 of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
19.	Ammonia Nitrogen (as NH <sub>4</sub> N)	mg/l, Max.	APHA 23 <sup>rd</sup> Edition 2017	<0.1	1
20.	Mercury Compounds (as Hg <sup>2+</sup> )	mg/l, Max.	IS 5025 Part-18	<0.001	0.005
21.	CH <sub>2</sub>	mg/l	IS 5025 Part-18	40	—
22.	SiO <sub>2</sub> (as SiO <sub>2</sub> )	mg/l	IS 5025 Part-18	4	5
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 5025 Part-18	5.2	4
24.	Oil & Grease	mg/l, Max.	IS 5025 Part-18	<1	0.1
25.	Total Coliform	mpn/100ml, Max.	IS 1172	—	500

Interpretation of results: Nil. Deviation from test method: Nil

\*Complaints Register is available at Laboratory

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Authorized Signatory  
 (G. Chandrababu Naidu)  
 Environmental Scientist





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. BSW Steel Limited		Test Report No. : BSEPT/2021/W-F-CV302	
		Lab Code No. : 210805826	
		Issue Date : 28.08.2021	
		Your Ref : Letter No. 1376/2021	
		Date of Receipt : 13.08.2021	
Project Name: Sargamgiri Iron & Manganese ore Mines			
Sample Description: Surface Water Sample		Date of Registration : 13.08.2021	
Quantity : 1 Nos. 500 ml sample		Date of commencement of testing : 16.08.2021	
: 1 Nos. 500 ml Sample /Minerals		Date of completion of testing : 25.08.2021	
: 1 Nos. 500 ml Waste water sample (pH, TDS, etc.)		Sample condition on receipt : Good ok	
: 1 Nos. 500 ml Sample for Mercury (Soil for Mn)		Sample tested as received	
Packaging : Plastic Batches			
Test Required : As per below			
Date of Sampling: 09.08.2021		Sampling Method & Procedure : IS 3025 Part 1	
Location of Sampling: Deaparnala, Dhanureddygutta		General Environment conditions: ok	
		Page No. : 1/1	

### TEST RESULTS

S No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Colour	Pt-Co Units, Max.	IS 3025 (Part 31)	15	500
2.	pH	—	IS 3025 (Part 11)	6.71	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part 17)	56	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part 17)	162	1000
5.	Chloride as Cl <sup>-</sup>	mg/l, Max.	IS 3025 (Part 32)	38	2500
6.	Calcium as Ca	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017 APHA 21 <sup>st</sup> Edition 2017	0.24	50
7.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l, Max.	IS 3025 (Part 24)	12	400
8.	Fluoride as F <sup>-</sup>	mg/l, Max.	4500-I D APHA 21 <sup>st</sup> Edition 2017	0.10	1.5
9.	Nitrate as NO <sub>3</sub> <sup>-</sup>	mg/l, Max.	4500-NO <sub>3</sub> -D US Spectrophotometric Spectrophotometric Method	6.4	50
10.	Copper as Cu	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.07	1.5
11.	Manganese as Mn	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.02	—
12.	Selenium as Se	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.05
13.	Zinc as Zn	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	0.34	5
14.	Cadmium as Cd	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.003	<0.1
15.	Lead as Pb	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
16.	Arsenic as As	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
17.	Chromium as Cr	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
18.	Chromium as Cr <sup>6+</sup>	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
19.	Antimony as Sb	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.1	1
20.	Phosphate Compounds as P <sub>2</sub> O <sub>5</sub> (ppm)	mg/l, Max.	IS 3025 (Part 41)	<0.001	<0.05
21.	COD	mg/l	IS 3025 (Part 58)	46	—
22.	BOD as O <sub>2</sub>	mg/l	IS 3025 (Part 44)	5	1
23.	Dissolved Oxygen as O <sub>2</sub>	mg/l, Min.	IS 3025 (Part 18)	5.1	4
24.	Fe & Gypsum	mg/l, Max.	IS 3025 (Part 10)	<1	<1
25.	Total Gypsum	mg/l, 100ml, Max.	IS 1127	730	5000

Interpretation of results: Nil Deviation from test method N1

\*Complaints Register is available at Laboratory



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CIN No. U74210TG1999PTC0132358



# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Client: M/s. JSW Steel Limited		Test Report No.: BS/1/2021/WS/01001	
		Job Code No.: 2/19/01001	
		Issue Date: 13.06.2021	
		Your Ref.: Letter Dated 11.04.2021	
		Date of Receipt: 13.06.2021	
Project Name: Narayanaipathi Iron & Manganeese Ore Mines		Date of Registration: 13.06.2021	
Sample Description: Surface Water Sample		Date of commencement of testing: n/a	
Quantity: 1 No. x 500 ml Sample		Date of completion of testing: 25.06.2021	
1 No. x 500 ml Wide mouth Glass Bottle for O&A		Sample Condition at receipt: Unopened	
1 No. x 250 ml Sample Pre-Separated Bottle for Metals		Sample tested as received	
Packing: 1 No. x 250 ml Sample Pre-Separated Bottle for Metals			
Test Required: As given below			
Date of Sampling: 13.06.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Kowloor 1 pitroad		General Environmental conditions: ok	
		Page No. 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Color	Hazen Units /Max	IS 3025 (Part-4)	10	500
2.	pH	-	IS 3025 (Part-1)	6.61	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 Part-17	46	—
4.	Total Dissolved Solids	mg/l /Max	IS 3025 (Part-18)	124	1500
5.	Total Hardness	mg/l /Max	IS 3025 (Part-5)	23	1000
6.	Iron (as Fe)	mg/l /Max	21.1.1 of APHA 23 <sup>rd</sup> Edition 2012	0.24	50
7.	Sulphates (as SO <sub>4</sub> )	mg/l /Max	IS 3025 (Part-24)	14	400
8.	Phosphate (as P)	mg/l /Max	4500-1 D, APHA 23 <sup>rd</sup> Edition 2012	0.36	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l /Max	4500-NO <sub>3</sub> -B, UV Spectrophotometric, Nesslerizing Method	5.2	50
10.	Copper (as Cu)	mg/l /Max	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.03	1.5
11.	Manganese (as Mn)	mg/l	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.02	—
12.	Selenium (as Se)	mg/l /Max	3114.9 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	0.05
13.	Zinc (as Zn)	mg/l /Max	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	0.02	15
14.	Cadmium (as Cd)	mg/l /Max	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.003	0.1
15.	Lead (as Pb)	mg/l /Max	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	0.1
16.	Arsenic (as As)	mg/l /Max	3114.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.001	0.1
17.	Cyanide (as CN)	mg/l /Max	4500-CN-5, Distillation; Merck, APHA 23 <sup>rd</sup> Edition 2012	<0.03	0.05
18.	Fluoride (as F)	mg/l /Max	31.1.1 of APHA 23 <sup>rd</sup> Edition 2012	<0.02	0.15
19.	Arsenic (as As) as MeAs <sub>3</sub>	mg/l /Max	Annex K of IS 1549	<0.1	1
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> O)	mg/l /Max	IS 3025 (Part-41)	<0.001	1.005
21.	COB	mg/l	IS 3025 (Part-56)	32	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-44)	4	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l /Max	IS 3025 (Part-54)	4.6	4
24.	Oil & Grease	mg/l /Max	IS 3025 (Part-51)	<1	0.1
25.	Total Solids	(mg/l) (Part-12)	IS 3025	50	500

Methodology of results: All Devices are tested regularly.

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No : BSE/11/2021/WQ-03504	
Project Name: Nannampetchi Iron & Manganeses ore Mines		Lab Code No : 210609605	
Sample Description: Surface Water Sample		Issue Date : 26.06.2021	
Quantity : 1 No. x 1 Liters Sample		Year Ref : 1 (over 1 No. x 1 Liters, 2021)	
1 No. x 100 ml Sample (Metals)		Date of Receipt : 12.06.2021	
1 No. x 500 ml Wide mouth Glass Bottle for HAO		Date of Registration : 10.06.2021	
1 No. x 150 ml Sample Pres. Sterilized Bottle for Micro		Date of commencement of testing : 16.06.2021	
Packing : Plastic Jar/Ls		Date of completion of testing : 27.06.2021	
Test Required : As Discussed		Sample condition at receipt : Found ok	
		Sample tested as received	
Date of Sampling: 09.06.2021		Sampling Method/Procedure: IS 3025 Part I	
Location of Sampling: Karna river Dorepatnam (Nala Near gate No.1)		General Environment/Condition: ok	
		Page No: 01/1	

### TEST RESULTS

S. No	Test Parameter	Unit	Test Method	Result	Limits for Stream Water Standards
1.	pH	None	IS 3025 (Part 4)	15	100
2.	EC	µmhos/cm	IS 3025 (Part 1)	676	650 µmhos/cm
3.	Total Suspended Solids	mg/l	IS 3025 (Part 2)	56	—
4.	Total Dissolved Solids	mg/l	IS 3025 (Part 16)	162	1500
5.	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 (Part 32)	30	600
6.	Iron as Fe	mg/l	SP-1 Part 4 APHA 21 <sup>st</sup> Edition 2017	0.27	50
7.	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 (Part 24)	26	400
8.	Fluoride as F <sup>-</sup>	mg/l	APHA 21 <sup>st</sup> Edition 2017	0.19	5
9.	Nitrate as NO <sub>3</sub> <sup>-</sup>	mg/l	APHA 21 <sup>st</sup> Edition 2017 Spectrophotometric Screening Method	5.9	50
10.	Copper as Cu	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.02	1.4
11.	Manganese as Mn	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.02	—
12.	Selenium as Se	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.05
13.	Zinc as Zn	mg/l	APHA 21 <sup>st</sup> Edition 2017	0.03	15
14.	Cadmium as Cd	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.003	<0.1
15.	Cobalt as Co	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
16.	Antimony as Sb	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
17.	Chromium as Cr <sup>6+</sup>	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
18.	Arsonic, Deligning, Ox. HAOs	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.1	1
19.	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 (Part 45)	<0.001	0.005
20.	COD	mg/l	IS 3025 (Part 38)	48	—
21.	BOD as O <sub>2</sub>	mg/l	IS 3025 (Part 44)	5	1
22.	Dissolved Oxygen as O <sub>2</sub>	mg/l	IS 3025 (Part 36)	6.1	4
23.	Oil & Grease	mg/l	IS 3025 (Part 19)	<1	0.1
24.	Total Coliform	1 spec/100ml	IS 1522	60	200

Obs. Dev. of 2015: Nil. Deviation from method: Nil

\*Complaints Register is available at Laboratory

Signature of  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. JSW Steel Limited		Test Report No. : BSEI-2021/WS-03505	
		Lab Code No. : 2-009500	
		Issue Date : 16/08/2021	
		Your Ref : Letter Dated 15/08/2021	
		Date of Receipt : 15/08/2021	
Project Name : Marayana Iron & Mangane Ore Mines		Date of Registration : 12/07/2021	
Sample Description: Surface Water Sample		Date of commencing of testing : 16/08/2021	
Quantity : 1 No. of 100 ml Sample		Date of completion of testing : 25/08/2021	
1 No. of 250 ml Sample (Major)		Sample condition at receipt : Fined in	
1 No. of 500 ml Wide mouth Collector Sample (for Cd)		Sample tested as received	
1 No. of 250 ml Sample for Sulfide Sample for Mn			
Packing : Plastic Bottle			
Test Required : As given below			
Date of Sampling : 03.08.2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Karna Nala Near between Quarry No. 3 & 4		General Environment conditions: ok	
		Page No: 1 of 1	

### TEST RESULTS

S No	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1	Colour	degree Pt/lt. Max.	IS 3025 Part 41	10	100
2	pH	-	IS 3025 Part 11	6.68	6.5 to 8.5
3	Total suspended Solids	mg/l	IS 3025 Part 13	42	100
4	Total Dissolved Solids	mg/l. Max.	IS 3025 Part 16	154	1500
5	Chlorides (Cl <sup>-</sup> )	mg/l. Max.	IS 3025 Part 12	20	250
6	Iron (as Fe)	mg/l. Max.	1011 B of APHA 23 <sup>rd</sup> Edition 2017	0.12	0.3
7	Sulphates (as SO <sub>4</sub> )	mg/l. Max.	IS 3025 Part 24	14	400
8	Nitride (as N)	mg/l. Max.	4500-011, APHA 23 <sup>rd</sup> Edition 2017	0.16	1.0
9	Ammoniacal Nitro	mg/l. Max.	4500-011, APHA 23 <sup>rd</sup> Edition 2017	5.1	0.5
10	Copper (as Cu)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.5
11	Manganese as Mn	mg/l	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.5
12	Selenium (as Se)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.05
13	Zinc (as Zn)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.03	0.5
14	Cadmium (as Cd)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.003	<0.1
15	Cobalt (as Co)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.1
16	Nickel (as Ni)	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.01	0.2
17	Fluoride (as F)	mg/l. Max.	4500-011, APHA 23 <sup>rd</sup> Edition 2017	<0.02	1.00
18	Chromium (as Cr <sup>6+</sup> )	mg/l. Max.	7111 B of APHA 23 <sup>rd</sup> Edition 2017	<0.02	0.05
19	Arsenic (Trivalent) as MBAS	mg/l. Max.	Annex B of IS 13248	<0.1	1
20	Chlorine Compounds (as Cl <sup>-</sup> ) (HCLD)	mg/l. Max.	IS 3025 Part 42	<0.001	1000
21	CYD	mg/l	IS 3025 Part 54	24	100
22	BOD (as O <sub>2</sub> )	mg/l	IS 3025 Part 18	3	5
23	Dissolved Oxygen (as O <sub>2</sub> )	mg/l. Min	IS 3025 Part 19	4.7	4
24	Oil & Grease	mg/l. Max.	IS 3025 Part 30	<1	<1
25	AL - Calcium	(mg/l. 100ml) Max.	IS 3024	30	5000

Interpretation of results: Nil. Heavy metal method: Nil

\*Complaints Register is available at Laboratory

Authorized Signature  
 (S. Chandra Mohan)  
 Environmental Scientist

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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**WATER FLOW RATE  
REPORT**

**AUGUST-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : August  
**Date** : 30.08.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) In Meter/Second
1.	Orahari Nala Up Stream	0.495
2.	Confluence of Orahari & Karo Nala	0.867
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.444
4.	Karo River Down Stream (Nala near Gate no-1)	0.912

For B.S. Envi-Tech (P) Ltd.,



Authorized Signatory

\*Complaints Register is available at Laboratory.



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

GROUND WATER  
LEVEL REPORT

**SEPTEMBER-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : September  
**Date** : 15.09.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koiria Basti	7.06
2.	Dug Well Kasira Basti	6.71
3.	Site Services Area (Pizometer-01)	16.85
4.	Near 650 crusher (Pizometer-02)	12.08
5.	Crusher plant area (Pizometer-03)	32.12

For B.S. Envi-Tech (P) Ltd.,

  
Authorized Signatory



\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

SURFACE RUN OFF  
ANALYSIS REPORT

**SEPTEMBER-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/s. BSW Street Lampad		Test Report No. : BS-ENVI/2021/005/03020	
		Bgh Code No. : 210656006	
		Issue Date : 20.09.2021	
		Your Ref : Letter Dated 22.08.2021	
		Date of Receipt : 12.09.2021	
Project Name: Nanganjoshi Iron & Manganese ore Mines		Date of Registration : 22.08.2021	
Sample Description: Surface Water Sample		Date of commencement of testing : 20.09.2021	
Quantity : 1 No. x 500 ml Sample /Bottle		Date of completion of testing : 20.09.2021	
1 No. x 500 ml Wide mouth Glass bottle for O&A		Sample condition at receipt : Liquid Lk	
1 No. x 250 ml Sample For Standard Bore water Tests		Sample speed at receipt :	
Packing : Plastic Bottles			
Test Required : As given below			
Sampling Details			
Date of Sampling: 21.08.2021		Sampling Method/Procedure : IS 3025 Part I	
Location of Sampling: Mine Pit Surface Run off		General Environment conditions ok	
Page No. 1 of 1			

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units, Max.	IS 3025 (Part IV)	5	300
2.	pH	-	IS 3025 (Part-III)	6.75	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part - 2)	20	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-1B)	85	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part-2A)	5.1	1000
6.	Iron (as Fe)	mg/l, Max.	5110 of APHA 23 <sup>rd</sup> Edition 2012	6.12	20
7.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 3025 (Part-2B)	6.8	400
8.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500 of APHA 23 <sup>rd</sup> Edition 2012	4.20	1.5
9.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	1500 NO <sub>3</sub> B UV Spectrophotometric Screening Method	2.9	50
10.	Copper (as Cu)	mg/l, Max.	1113 of APHA 23 <sup>rd</sup> Edition 2012	<0.02	1.5
11.	Manganese (as Mn)	mg/l	1110 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	—
12.	Selenium (as Se)	mg/l, Max.	3142 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	0.5
13.	Zinc (as Zn)	mg/l, Max.	3113 of APHA 23 <sup>rd</sup> Edition 2012	0.03	15
14.	Cadmium (as Cd)	mg/l, Max.	1113 of APHA 23 <sup>rd</sup> Edition 2012	<0.001	0.1
15.	Lead (as Pb)	mg/l, Max.	3113 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	3113 of APHA 23 <sup>rd</sup> Edition 2012	<0.01	0.2
17.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	4500 of APHA 23 <sup>rd</sup> Edition 2012	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	3113 of APHA 23 <sup>rd</sup> Edition 2012	<0.02	0.05
19.	Ammonia Derivatives (as NH <sub>4</sub> <sup>+</sup> )	mg/l, Max.	Antec. No. 15 1721R	<0.1	1
20.	Phosphate Compounds (as P <sub>2</sub> O <sub>5</sub> )	mg/l, Max.	IS 3025 (Part-IV)	<0.01	0.05
21.	COD	mg/l	IS 3025 (Part-5B)	25	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-5B)	3	5
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-5B)	5.1	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-5B)	<1	0.1
25.	Total Coliform	empr/100ml, Max.	IS 1579	00	5000

Interpretation of results: Not Detectable test method: Nil

\*Complaints Register is available at Laboratory.

End of the Report

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G. Chandra Mohan  
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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Consumer : M/s. ISW Steel Limited		Test Report No. : BS/ET/2021/WS/02931	
Project Name : Narayanpishi Iron & Manganese ore Mines		Lab Code No. : 2-1053-WB	
Sample Description : Surface Water Sample		Sampling Date : 21/09/2021	
Quantity : 1 No. x 500 ml Sample		Year Ref : 10000000000000000000	
1 No. x 250 ml Sample in-bottle		Date of Receipt : 21/09/2021	
1 No. x 500 ml Wide-mouth Glass bottle for C&C		Date of Registration : 21/09/2021	
1 No. x 250 ml Sample Pre-sterilized Bottle For Micro		Date of commencement of testing : 21/09/2021	
Packing : Plastic Bottle		Date of completion of testing : 22/09/2021	
Test Required : As per below		Sample condition at receipt : Good	
		Sample tested as received	
<b>Sampling Details</b>			
Date of Sampling : 21/09/2021		Sampling Method/Procedure : IS 3025 Part 1	
Location of Sampling : Seiding Dong, Warangal Dist. No. 2		General Environmental condition : ok	
		Page No. : 1/1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Stream Water Standards
1.	Colour	Hazen Units - Max.	IS 3025 (Part-1)	4	50
2.	pH		IS 3025 (Part-1)	6.90	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part-1)	25	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-1)	90	1500
5.	Dissolved O <sub>2</sub>	mg/l, Max.	IS 3025 (Part-1)	8.1	7.0
6.	Iron as Fe	mg/l, Max.	2111 B of APHA 21 <sup>st</sup> Edition 2017	0.10	50
7.	Sulphate as SO <sub>4</sub>	mg/l, Max.	IS 3025 (Part-1)	6.5	200
8.	Fluoride as F	mg/l, Max.	4901 D of APHA 21 <sup>st</sup> Edition 2017	0.20	1.5
9.	Nitrate as NO <sub>3</sub>	mg/l, Max.	4500-NO <sub>3</sub> of APHA 21 <sup>st</sup> Edition 2017	0.1	50
10.	Copper as Cu	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
11.	Manganese as Mn	mg/l	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.02	—
12.	Selenium as Se	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.10
13.	Zinc as Zn	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	0.03	15
14.	Cadmium as Cd	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.003	0.1
15.	Cobalt as Co	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
16.	Antimony as Sb	mg/l, Max.	3111 B of APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
17.	Chloride as Cl	mg/l, Max.	2510 C of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.25
18.	Cyanide as CN	mg/l, Max.	2510 C of APHA 21 <sup>st</sup> Edition 2017	<0.02	0.25
19.	Ammonia Nitrogen as NH <sub>4</sub> N	mg/l, Max.	As per IS 3025	<0.1	1
20.	Phosphate (as P) as PO <sub>4</sub> P	mg/l, Max.	IS 3025 (Part-1)	<0.001	0.05
21.	COD	mg/l	IS 3025 (Part-1)	30	—
22.	BOD (5 days)	mg/l	IS 3025 (Part-1)	3	—
23.	Dissolved Oxygen as O <sub>2</sub>	mg/l, Min.	IS 3025 (Part-1)	5.1	1
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-1)	< 1	0.1
25.	Total Chlorine	mg/l, Max.	IS 1623	75	5000

Interpretation of results: Nil. Deviation from test method: Nil.

\*Complaints Register is available at Laboratory.

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CIN No. : U74210TG1909PTC032058

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

SURFACE WATER  
QUALITY REPORT

**SEPTEMBER-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer: M/s. JSW Steel Limited		Test Report No.: BSE/12/2021/WS-07013	
		Lab Code No.: 2166806	
		Issue Date: 11/09/2021	
		Your Ref.: Letter Dated 09/09/2021	
		Date of Receipt: 09/09/2021	
Project Name: Katapadihale Iron & Manganese ore Mines		Date of Registration: 05/01/2021	
Sample Description: Surface Water Sample		State of commencement of testing: 10/09/2021	
Quantity: 1 Litre x 0.1 Litre sample		Date of completion of testing: 11/09/2021	
1 No. x 50 ml Sample (Metal)		Sample condition at receipt: 1 Litre x 0.1	
1 No. x 50 ml Wide mouth Glass bottle for C&F		Sample tested as received	
1 No. x 250 ml Sample Pre-sigilized Iron & Iron Mine			
Packing: 1 Plastic Bottle			
Test Required: As per schedule			
<b>Sampling Details</b>			
Date of Sampling: 07/09/2021		Sampling Method/Procedure: IS 3025 Part 1	
Location of Sampling: Urahahadale upstream		General Environment conditions: ok	
Page No.: 1 of 1			

### TEST RESULTS

S. No.	Test Parameter	Unit	Test Method	Result	Limits for Surface Water Standards
1.	Color	Hazen Unit, Max.	IS 3025 Part-11	10	700
2.	pH	-	IS 3025 Part-11	6.82	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 Part-13	38	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 Part-16	115	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 Part-17	30	400
6.	Fluoride (F <sup>-</sup> )	mg/l, Max.	IS 3025 Part-18	0.15	50
7.	Sulfate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 3025 Part-19	9.2	400
8.	Hardness (CaCO <sub>3</sub> )	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	0.20	—
9.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017 Cadmium Reduction Spectrophotometric Method	4.0	50
10.	Copper (as Cu)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	APHA 21 <sup>st</sup> Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	0.05	5
14.	Cadmium (as Cd)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	<0.1
15.	Lead (as Pb)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.01	0.2
17.	Cyanide (as CN <sup>-</sup> )	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.02	0.05
19.	Antimony (as Sb)	mg/l, Max.	APHA 21 <sup>st</sup> Edition 2017	<0.1	—
20.	Phosphate (as PO <sub>4</sub> <sup>3-</sup> )	mg/l, Max.	IS 3025 Part-43	<0.01	0.20
21.	COB	mg/l	IS 3025 Part-38	45	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 Part-44	5	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l Min	IS 3025 Part-36	5.5	1
24.	Oil & Grease	mg/l, Max.	IS 3025 Part-45	<1	0.1
25.	Total Cr. Iron	mg/l, Max.	IS 3025	5000	—

Interpretation of results: No. Deviation from test method: Nil

\*Comments: Register is available at Laboratory

Authorized Signatory  
(G. Chandra Mohan)  
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End of the Report

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# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/S. JSW Steel Limited		Test Report No : BS/1/2021/005/0014	
Project Name : Narayanpatti Iron & Alagapattinam Steel		Lab Code No : 23464949	
Sample Description: Surface Water Sample		Issue Date : 17/09/2021	
Quantity : 1 No. of 0.1 Ltr Sample		Type Ref : 1 Ltrm Test on 09/09/2021	
1 No. of 500 ml Sample + Metals		Date of Receipt : 09/09/2021	
1 No. of 500 ml Wide mouth Glass Bottle for Cd/Cr		Date of Registration : 09/09/2021	
1 No. of 250 ml Sample for Ammonia Nitrate for Nitrate		Date of commencement of testing : 10/09/2021	
Parking : Near 15th floor		Date of completion of testing : 17/09/2021	
Test Required : As given below		Sample condition at receipt : 1 Sample	
		Sample tested as received	
Date of Sampling : 07/09/2021		Sampling Details	
Location of Sampling : Orphanwala Damparam		Sampling Method/Procedure: IS 3025 Part 1	
		General Environment monitoring Lab.	
		Page No : 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limit (for Surface Water Standards)
1.	TDS	Hazen Units, Max.	IS 3025 (Part 1)	15	500
2.	pH	-	IS 3025 (Part 1)	6.80	7.4 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part 1)	65	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part 1)	175	1500
5.	Chloride (as Cl <sup>-</sup> )	mg/l, Max.	IS 3025 (Part 2)	20	600
6.	Iron (as Fe)	mg/l, Max.	APHA 2005 Edition 2017	0.32	50
7.	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l, Max.	IS 3025 (Part 2)	10	400
8.	Fluoride (as F <sup>-</sup> )	mg/l, Max.	4500-FO APHA 2005 Edition 2017	0.28	1.5
9.	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l, Max.	4500-NO-3 UV Spectrophotometric Spectrometry Method	0.9	50
10.	Copper (as Cu)	mg/l, Max.	APHA 2005 Edition 2017	<0.02	1.5
11.	Manganese (as Mn)	mg/l	APHA 2005 Edition 2017	<0.02	—
12.	Secchi (as Sec)	mg/l, Max.	APHA 2005 Edition 2017	<0.00	5.00
13.	Zinc (as Zn)	mg/l, Max.	APHA 2005 Edition 2017	0.04	15
14.	Cadmium (as Cd)	mg/l, Max.	APHA 2005 Edition 2017	<0.000	<0.1
15.	Lead (as Pb)	mg/l, Max.	APHA 2005 Edition 2017	<0.00	<1
16.	Arsenic (as As)	mg/l, Max.	APHA 2005 Edition 2017	<0.00	0.2
17.	Cyanide (as C <sub>2</sub> N <sub>2</sub> )	mg/l, Max.	APHA 2005 Edition 2017	<0.02	0.05
18.	Chromium (as Cr <sup>6+</sup> )	mg/l, Max.	APHA 2005 Edition 2017	<0.02	0.05
19.	Arsenic Dithionite Sulphate (APDS)	mg/l, Max.	APHA 2005 Edition 2017	<0.1	1
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> O <sub>2</sub> )	mg/l, Max.	IS 3025 (Part 3)	<0.000	0.005
21.	COD	mg/l	IS 3025 (Part 5)	55	—
22.	BOD <sub>5</sub> (at 20°C)	mg/l	IS 3025 (Part 4)	5	3
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part 3)	6.1	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part 6)	<1	0.1
25.	Total Coliform	Large Colony, Max.	IS 3025	135	500

Integration of results Nil. Deviation from test method Nil

\*Complaints Register is available at Laboratory

Authorized Signatory  
Dr. Chandra Mouli  
Environmental Scientist



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

Name & Address of the Customer : M/S. ISW Steel Limited		Test Report No. : BS-ENVI/2021/0530014	
		Lab Code No. : 15058509	
		Issue Date : 17.09.2021	
		Your Ref. : Letter Dated 09/09/2021	
		Date of Receipt : 09.09.2021	
Project Name : Narasimha Iron & Manganese ore Mines		Date of Registration	09.09.2021
Sample Description : Surface Water Sample		Date of commencement of testing	16.09.2021
Quarry : 1 No. x 10 Ltr. Jar Sample		Date of completion of testing	17.09.2021
1 No. x 500 ml Sample (Main)		Sample condition on receipt	Found ok
1 No. x 500 ml Sample (Glass bottle for Cd)		Sample tested as received	
1 No. x 250 ml Sample Pre-Separated Bottle For Visc			
Packing : Plastic Bottle			
Test Required : As per schedule			
Date of Sampling : 05.09.2021		Sampling Method/Procedure : IS 3025 Part 1	
Location of Sampling : Karna river / gatecum		General Environment conditions ok	
		Page No. 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limits for Surface Water Standards
1.	Coke	Hazen Units, Max.	IS 3025 (Part-1)	10	20
2.	pH	-	IS 3025 (Part-1)	8.69	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025 (Part-1)	90	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-1)	128	1500
5.	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-1)	15	250
6.	Iron (as Fe)	mg/l, Max.	IS 3025 (Part-1)	0.21	50
7.	Sulphate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-1)	24	400
8.	Fluoride (as F)	mg/l, Max.	IS 3025 (Part-1)	0.20	1.5
9.	Nitrates (as NO <sub>3</sub> )	mg/l, Max.	IS 3025 (Part-1)	5.8	50
10.	Copper (as Cu)	mg/l, Max.	IS 3025 (Part-1)	<0.02	1.5
11.	Manganese (as Mn)	mg/l	IS 3025 (Part-1)	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	IS 3025 (Part-1)	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	IS 3025 (Part-1)	0.02	1.5
14.	Cadmium (as Cd)	mg/l, Max.	IS 3025 (Part-1)	<0.003	0.1
15.	Lead (as Pb)	mg/l, Max.	IS 3025 (Part-1)	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	IS 3025 (Part-1)	<0.01	0.2
17.	Cyanide (as CN)	mg/l, Max.	IS 3025 (Part-1)	<0.02	2.00
18.	Chromium (as Cr)	mg/l, Max.	IS 3025 (Part-1)	<0.02	0.05
19.	Aromatic Organics (as TOC)	mg/l, Max.	IS 3025 (Part-1)	<0.1	1
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> )	mg/l, Max.	IS 3025 (Part-1)	<0.001	0.002
21.	FOO	mg/l	IS 3025 (Part-1)	35	—
22.	BOD (as O <sub>2</sub> )	mg/l	IS 3025 (Part-1)	5	1
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min	IS 3025 (Part-1)	5.9	1
24.	Oil & Grease	mg/l, Max	IS 3025 (Part-1)	<1	0.1
25.	Total Coliform	1000 CFU/ml, Max.	IS 3025	65	5000

Interpretation of results: Nil, Deviation from method: Nil

Complaints Register is available at Laboratory

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Environmental Scientist





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

Name & Address of the Customer : M/s. BSV Steel Limited		Test Report No : BSV/2020/ENV-01916	
		Lab Code No : T1666666	
		Issue Date : 17.09.2021	
		Your Ref : Letter Dated 09.09.2021	
		Date of Receipt : 09.09.2021	
Project Name: Narayanpuri Iron & Manganese Ore Mines		Date of Registration	05.09.2021
Sample Description: Surface Water Sample		Date of commencement of testing	10.09.2021
Quantity : 1 No. x 500 ml Sample		Date of completion of testing	17.09.2021
1 No. x 500 ml Sample (Mash)		Sample condition at receipt	Fine and ok
1 No. x 500 ml Wide mouth Glass bottle for O&G		Sample tested as received	
1 No. x 250 ml Sample Pre Sterilized Bottle For Micro			
Packaging : Plastic Bottles			
Test Required : As per checklist			
<b>Sampling Details</b>			
Date of Sampling: 07.09.2021		Sampling Method/Procedure: IS 5025 Part 1	
Location of Sampling: Kori river Downstream (Bale Nagar gate No 1)		General Environment condition: ok	
		Page No: 1 of 1	

### TEST RESULTS

S. No.	Test Parameter	Units	Test Method	Result	Limit as per Stream Water Standards
1.	Color	Hazen Units, P-45	IS 3025 (Part-4)	15	100
2.	pH		IS 3025 (Part-11)	6.85	6.5 to 8.5
3.	Total Suspended Solids	mg/l	IS 3025- Part-13	50	—
4.	Total Dissolved Solids	mg/l, Max.	IS 3025 (Part-16)	150	1500
5.	Chloride (as Cl)	mg/l, Max.	IS 3025 (Part-32)	25	600
6.	Sulfate (as S)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	0.29	50
7.	Sulfate (as SO <sub>4</sub> )	mg/l, Max.	IS 3025 (Part-24)	22	400
8.	Fluoride (as F)	mg/l, Max.	4500-F.D APHA 23rd Edition 2017	0.23	1.5
9.	Nitrate (as NO <sub>3</sub> )	mg/l, Max.	1500-NO <sub>3</sub> -B 11V Spectrophotometric Screening Method	5.1	50
10.	Copper (as Cu)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	<0.02	1.5
11.	Manganese as Mn	mg/l	3.11 B of APHA 23rd Edition 2017	<0.02	—
12.	Selenium (as Se)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	<0.01	0.05
13.	Zinc (as Zn)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	0.05	15
14.	Cadmium (as Cd)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	<0.005	<0.1
15.	Lead (as Pb)	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	<0.01	0.1
16.	Arsenic (as As)	mg/l, Max.	3.11 C of APHA 23rd Edition 2017	<0.01	0.2
17.	Chromate (as Cr)	mg/l, Max.	4900-CR.L Chromatographic Method, APHA 23rd Edition 2017	<0.02	0.05
18.	Chromate (as Cr <sup>6+</sup> )	mg/l, Max.	3.11 B of APHA 23rd Edition 2017	<0.02	0.05
19.	Anionic Detergents (as MBAS)	mg/l, Max.	Annex K of IS 3042	<0.1	1
20.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l, Max.	IS 3025 (Part-47)	<0.001	0.005
21.	TOC	mg/l	IS 3025 - Part-48	50	—
22.	BOD (as B <sub>5</sub> )	mg/l	IS 3025 (Part-44)	4	5
23.	Dissolved Oxygen (as O <sub>2</sub> )	mg/l, Min.	IS 3025 (Part-38)	5.0	4
24.	Oil & Grease	mg/l, Max.	IS 3025 (Part-19)	<1	0.1
25.	Total Coliform	Colony/100ml, Max.	IS 3022		5000

Interpretation of results: Nil, Deviation from test method: Nil

\*Complaints Register is Available at Laboratory

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**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

WATER FLOW RATE  
REPORT

**SEPTEMBER-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : September  
**Date** : 22.09.2021

### SURFACE WATER FLOW RATE OF STREAMS

S.No	Location	Flow rate (Velocity) in Meter/Second
1.	Orahari Nala Up Stream	0.666
2.	Confluence of Orahari & Karo Nala	1.159
3.	Kasira Nala (Nala between Quarry no-3 & 4)	0.619
4.	Karo River Down Stream (Nala near Gate no-1)	1.298

For B.S Envi-Tech (P) Ltd.,

  
**Authorised Signatory**  


\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **NOISE MONITORING REPORT**

**APRIL-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-04	<b>Issued to:</b>
<b>Reporting Date:</b> 03.05.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> April-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 33.1
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.4	<b>MAX:</b> 7.3
<b>Wind Direction:</b>	<b>SW-NE</b>	
<b>Cloud Cover:</b>	<b>Sunny</b>	<b>Octas - 4/8</b>
<b>Distance from Source (In Meter)</b>	<b>2</b>	
<b>SLM type:</b>	<b>Iatron, Model SL-4023SD</b>	
<b>SLM Serial Number:</b>	<b>Q652513 &amp; Q652517</b>	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	07.04.2021	09.15 AM-10.15 AM	64.7	63.8	64.1	64.6	65.1	65.5
ML BOUNDARY PILLAR NO.1	07.04.2021	09.15 AM-10.15 AM	59.4	58.5	58.9	59.2	59.7	60.3
MINES FACE/BENCH	07.04.2021	10.45 AM-11.45 AM	79.7	78.5	79.2	79.7	80.2	80.6
HALLAGE ROAD	07.04.2021	10.45 AM-11.45 AM	78.2	77.4	77.8	78.1	78.5	78.9
CRUSHER PLANT	07.04.2021	02.30 PM-03.30 PM	79.3	78.6	78.9	79.2	79.6	80.1
SCREEN PLANT	07.04.2021	02.30 PM-03.30 PM	78.9	78.0	78.5	78.8	79.2	79.7
ORE STORAGE & LOADING POINT	07.04.2021	12.30 PM-01.30 PM	78.9	77.9	78.3	78.8	79.4	79.9
WASTE DUMP	07.04.2021	12.30 PM-01.30 PM	62.0	61.1	61.5	61.9	62.3	62.8

**N.B: <85 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 58.5 to 80.6 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-04	<b>Issued to:</b>
<b>Reporting Date:</b> 03.05.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> April-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 36.4
<b>Wind speed(m/s):</b>	AVG: 3.9	<b>MAX:</b> 8.3
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	<b>Octas - 4/8</b>
<b>Distance from Source (In Meter):</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	14.04.2021	11.00 AM-12.00 PM	63.3	62.5	62.9	63.1	63.6	64.2
ML BOUNDARY PILLAR NO-1	14.04.2021	11.00 AM-12.00 PM	61.5	60.6	60.9	61.4	61.9	62.3
MINES FACE/BENCH	14.04.2021	12.30 PM-01.30 PM	77.5	76.9	77.1	77.5	77.8	78.2
HAULAGE ROAD	14.04.2021	12.30 PM-01.30 PM	79.4	78.5	78.9	79.3	79.8	80.2
CRUSHER PLANT	14.04.2021	12.30 PM-01.30 PM	79.9	79.0	79.4	79.9	80.3	80.8
SCREEN PLANT	14.04.2021	11.00 AM-12.00 PM	79.1	78.3	78.8	79.1	79.4	79.8
ORE STORAGE & LOADING POINT	14.04.2021	09.30 AM-10.30 AM	78.2	77.2	77.6	78.1	78.7	79.2
WASTE DUMP	14.04.2021	09.30 AM-10.30 AM	66.7	65.8	66.2	66.7	67.1	67.4

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 60.6 to 80.8 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-04	<b>Issued to:</b>
<b>Reporting Date:</b> 03.05.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> April-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

Temperature		<sup>o</sup> Celsius: 35.9
Wind speed(m/s):	AVG. 3.1	MAX: 6.8
Wind Direction:	SW-NE	
Cloud Cover:	Sunny	Ocas - 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>95</sub>
MAGAZINE AREA	21.04.2021	03.45 PM-04.45 PM	62.3	61.5	61.9	62.2	62.6	63.2
ML BOUNDARY PILLAR NO-1	21.04.2021	03.45 PM-04.45 PM	60.8	59.7	60.2	60.6	61.2	61.8
MINES FACE/BENCH	21.04.2021	03.45 PM-04.45 PM	78.8	77.7	78.2	78.8	79.2	79.7
HAULAGE ROAD	21.04.2021	11.45 AM-12.45 PM	77.9	76.9	77.3	77.8	78.2	78.8
CRUSHER PLANT	21.04.2021	11.45 AM-12.45 PM	78.8	77.9	78.3	78.7	79.2	79.5
SCREEN PLANT	21.04.2021	11.45 AM-12.45 PM	78.1	77.2	77.7	78.1	78.5	78.9
ORE STORAGE & LOADING POINT	21.04.2021	02.15 PM-03.15 PM	79.2	78.1	78.6	79.2	79.7	80.2
WASTE DUMP	21.04.2021	02.15 PM-03.15 PM	65.8	64.7	65.2	65.8	66.3	66.9

**N.B: <85 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 59.7 to 80.2 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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CIN No. : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-04</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	03.05.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b>	: April-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

Temperature:		°Celsius: 36.1
Wind speed(m/s):	AVG: 3.7	MAX: 7.8
Wind Direction:	SW-NE	
Cloud Cover:	Sunny	Octas - 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	28.04.2021	08.30 AM-09.30 AM	60.8	59.9	60.5	60.8	61.2	61.5
ML BOUNDARY PILLAR NO-1	28.04.2021	08.30 AM-09.30 AM	60.0	59.2	59.5	59.9	60.3	60.7
MINES FACE/BENCH	28.04.2021	08.30 AM-09.30 AM	76.7	75.8	76.2	76.7	77.1	77.5
HALLAGE ROAD	28.04.2021	11.30 AM-12.30 PM	75.3	74.4	74.8	75.2	75.7	76.1
CRUSHER PLANT	28.04.2021	11.30 AM-12.30 PM	78.9	78.1	78.5	78.8	79.2	79.7
SCREEN PLANT	28.04.2021	11.30 AM-12.30 PM	77.2	76.6	76.9	77.2	77.5	77.9
ORE STORAGE & LOADING POINT	28.04.2021	10.00 AM-11.00 AM	79.3	78.6	78.9	79.1	79.4	80.3
WASTE DUMP	28.04.2021	10.00 AM-11.00 AM	64.8	63.8	64.5	64.8	65.2	65.6

**N.B: <85 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 59.2 to 80.3 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory

4<sup>th</sup> Floor, 'AMITY VILLE', 12-13-1270/71/73,  
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 C/N No : U74210TG1999PTC032358





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-04</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	03.05.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: April 2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Measurement Location:</b>	Koina Basti	
<b>Temperature:</b>		<b>°Celsius: 25.6</b>
<b>Wind speed(m/s):</b>	AVG: 3.5	<b>MAX: 7.7</b>
<b>Wind Direction:</b>	SW NE	
<b>Cloud Cover:</b>	Sunny	<b>Octas - 4/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{eq,T}$	$L_{A_{max}}$	$L_{A_{min}}$	$L_A$ avg	Leq Day	Leq Night	Day Time	Night Time
08.00 AM	24 hrs	07.04.2021	53.4	54.6	41.6	54.4	53.4	42.8	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 41.6 to 54.6 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



\* Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-04	<b>Issued to:</b>
<b>Reporting Date:</b> 03.05.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level <b>Month:</b> April-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Kasira Basti	
<b>Temperature:</b>		<b>°Celsius:</b> 26.2
<b>Wind speed(m/s):</b>	AVG: 3.2	<b>MAX:</b> 7.5
<b>Wind Direction:</b>	SW NE	
<b>Cloud Cover:</b>	Sunny	<b>Octas - 4/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>avg,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A</sub> <sub>eq,T</sub>	L <sub>eq</sub> <sub>Day</sub>	L <sub>eq</sub> <sub>Night</sub>	Day Time	Night Time
08.30 AM	24 hrs	07.04.2021	53.9	54.4	39.5	54.1	52.9	40.9	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include  Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 40.9 to 54.4 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)



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 CIN No. : U74210TG1999PTC032358

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

NOISE MONITORING  
REPORT

**MAY-2021**





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-05</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.06.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: May-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd..</b>		

Temperature:		°Celsius: 33.5
Wind speed(m/s):	AVG: 3.1	MAX: 6.9
Wind Direction:	SW-NE	
Cloud Cover:	Sunny	Ocas - 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652513 & Q652517	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	04.05.2021	10.00 AM-11.00 AM	60.7	59.8	60.3	60.6	61.1	61.7
ML BOUNDARY PILLAR NO-1	04.05.2021	10.00 AM-11.00 AM	58.8	57.9	58.3	58.8	59.1	59.6
MINES FACE/BENCH	04.05.2021	11.30 AM-12.30 PM	78.7	77.7	78.1	78.6	79.2	79.7
HAULAGE ROAD	04.05.2021	11.30 AM-12.30 PM	76.8	75.8	76.2	76.7	77.1	77.7
CRUSHER PLANT	04.05.2021	02.15 PM-03.15 PM	79.4	78.3	78.8	79.5	79.9	80.2
SCREEN PLANT	04.05.2021	02.15 PM-03.15 PM	78.1	77.2	77.7	78.1	78.5	78.8
ORE STORAGE & LOADING POINT	04.05.2021	03.45 PM-04.45 PM	79.5	78.6	79.1	79.5	79.8	80.2
WASTE DUMP	04.05.2021	03.45 PM-04.45 PM	66.4	65.5	65.9	66.3	66.8	67.2

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 57.9 to 80.2 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory

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CIN No : U74210TG1999PTC032358



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-05	<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date:</b> 01.06.2021	
<b>Sample Description:</b> Ambient Noise Level <b>Month:</b> May-2021	
<b>Sample Collected by:</b> B.S. Envi Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 34.7
<b>Wind speed(m/s):</b>	AVG: 3.6	MAX: 8.0
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	Octas - 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	11.05.2021	08.30 AM-09.30 AM	61.6	60.6	61.1	61.5	62.1	62.6
ML BOUNDARY PILLAR NO-1	11.05.2021	08.30 AM-09.30 AM	59.3	58.3	58.8	59.2	59.7	60.3
MINES FACE/BENCH	11.05.2021	08.30 AM-09.30 AM	79.1	78.2	78.8	79.1	79.4	79.9
HAULAGE ROAD	11.05.2021	11.15 AM-12.15 PM	77.9	76.9	77.3	77.9	78.4	78.9
CRUSHER PLANT	11.05.2021	10.00 AM-11.00 AM	79.7	78.7	79.1	79.6	80.2	80.6
SCREEN PLANT	11.05.2021	10.00 AM-11.00 AM	78.7	77.8	78.3	78.7	79.1	79.5
ORE STORAGE & LOADING POINT	11.05.2021	10.00 AM-11.00 AM	77.7	76.8	77.1	77.5	78.1	78.7
WASTE DUMP	11.05.2021	11.15 AM-12.15 PM	63.7	62.8	63.1	63.7	64.1	64.5

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 58.3 to 80.6 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-05	<b>Issued to:</b>
<b>Reporting Date:</b> 01.06.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> May-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 33.9
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.3	<b>MAX:</b> 7.1
<b>Wind Direction:</b>	<b>SW-NE</b>	
<b>Cloud Cover:</b>	<b>Sunny</b>	<b>Ocas - 4/8</b>
<b>Distance from Source (In Meter)</b>	<b>2</b>	
<b>SLM type:</b>	<b>Lutron, Model SL-4023SD</b>	
<b>SLM Serial Number:</b>	<b>Q652514, Q652513 &amp; Q652516</b>	

Locations	Date	Time	Noise Levels in dB(A)					
			<b>L<sub>eq</sub></b>	<b>L<sub>eqn</sub></b>	<b>L<sub>90</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>10</sub></b>	<b>L<sub>max</sub></b>
MAGAZINE AREA	18.05.2021	10.15 AM-11.15 AM	59.7	58.7	59.2	59.6	60.1	60.5
ML BOUNDARY PILLAR NO-1	18.05.2021	10.15 AM-11.15 AM	57.9	56.9	57.4	57.9	58.2	58.8
MINES FACE/BENCH	18.05.2021	10.15 AM-11.15 AM	77.6	76.8	77.1	77.5	77.9	78.3
HAULAGE ROAD	18.05.2021	02.30 PM-03.30 PM	78.3	77.4	77.8	78.3	78.8	79.2
CRUSHER PLANT	18.05.2021	02.30 PM-03.30 PM	80.0	79.1	79.6	79.9	80.3	80.8
SCREEN PLANT	18.05.2021	02.30 PM-03.30 PM	79.0	78.2	78.5	78.9	79.3	79.7
ORE STORAGE & LOADING POINT	18.05.2021	11.45 AM-12.45 PM	78.3	77.5	77.9	78.2	78.8	79.1
WASTE DUMP	18.05.2021	11.45 AM-12.45 PM	67.3	66.1	66.7	67.2	67.8	68.3

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 56.9 to 80.8 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-05	<b>Issued to:</b>
<b>Reporting Date:</b> 01.06.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> May-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 31.9
<b>Wind speed(m/s):</b>	AVG: 3.7	MAX: 8.3
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	Octas - 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>1min</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>max</sub>
MAGAZINE AREA	25.05.2021	11.45 AM-12.45 PM	59.0	58.2	58.5	58.9	59.3	59.7
ML BOUNDARY PILLAR NO-1	25.05.2021	11.45 AM-12.45 PM	58.3	57.2	57.7	58.1	58.8	59.2
MINES FACE/BENCH	25.05.2021	11.45 AM-12.45 PM	75.8	74.7	75.2	75.8	76.3	76.9
HAULAGE ROAD	25.05.2021	09.00 AM-10.00 AM	74.9	73.9	74.4	74.9	75.2	75.8
CRUSHER PLANT	25.05.2021	09.00 AM-10.00 AM	78.9	78.0	78.4	78.9	79.3	79.7
SCREEN PLANT	25.05.2021	09.00 AM-10.00 AM	78.4	77.5	77.9	78.3	78.7	79.2
ORE STORAGE & LOADING POINT	25.05.2021	10.30 AM-11.30 AM	79.2	78.3	78.8	79.2	79.6	79.9
WASTE DUMP	25.05.2021	10.30 AM-11.30 AM	70.2	69.1	69.4	70.2	70.7	71.1

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 57.2 to 79.9 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-05</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.06.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: May-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Measurement Location:</b>	Koira Basti	
<b>Temperature:</b>		<b>°Celsius: 26.1</b>
<b>Wind speed(m/s):</b>	<b>AVG: 3.3</b>	<b>MAX: 6.8</b>
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	<b>Occlus - 4/8</b>
<b>SLM type</b>	Lutron, Model SL 4023SD	
<b>SLM Serial Number:</b>	Q652514	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{eq,T}$	$L_{Amax}$	$L_{Amin}$	$L_A$ 90.T	$L_{eq}$ Day	$L_{eq}$ Night	Day Time	Night Time
08.00 AM	24 hrs	04.05.2021	53.5	54.7	40.5	54.5	53.5	41.4	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 40.5 to 54.7 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)



Env. Engineer

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-05</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.06.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: May-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Measurement Location:</b>	Kasira Basti	
<b>Temperature:</b>		"Celsius: 26.6
<b>Wind speed(m/s):</b>	AVG: 3.4	MAX: 7.8
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	Oclas - 9/8
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>eq,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>Aeq,T</sub>	Leq Day	Leq Night	Day Time	Night Time
08.30 AM	24 hrs	04.05.2021	52.1	54.0	38.9	53.7	52.1	40.3	55	46

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 38.9 to 54.0 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



Env. Engineer

\*Complaints Register is available at Laboratory

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CIN No. : U74210TG1999PTC032358



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

GROUND WATER  
LEVEL REPORT

**MAY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

**Client** : M/s. JSW Steel Ltd.  
**Name of Mines:** Narayanposhi Iron & Manganese Ore Mine  
**Month** : May  
**Date** : 18.05.2021

### GROUND WATER LEVEL, DEPTH FROM SURFACE

S.No	Location	Ground Water Level In Meters
1.	Dug Well Koira Basti	10.27
2.	Dug Well Kasira Basti	9.46
3.	Site Services Area (Pizometer-01)	19.73
4.	Near 650 crusher (Pizometer-02)	14.41
5.	Crusher plant area (Pizometer-03)	35.55

For B.S Envi-Tech (P) Ltd.,

Authorised Signatory



\*Complaints Register is available at Laboratory

**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

NOISE MONITORING  
REPORT

**JUNE-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-06	<b>Issued to:</b>
<b>Reporting Date:</b> 01.07.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> June-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>*Celsius:</b> 34.1
<b>Wind speed(m/s):</b>	AVG: 2.9	MAX: 6.1
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	Occlus - 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL 4023SD	
<b>SLM Serial Number:</b>	Q652513 & Q652517	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>eq1m</sub>	L <sub>eq5</sub>	L <sub>eq15</sub>	L <sub>eq30</sub>	L <sub>max</sub>
MAGAZINE AREA	09.06.2021	10.30 AM-11.30 AM	60.3	59.5	59.9	60.2	60.6	61.1
ML BOUNDARY PILLAR NO 1	09.06.2021	10.30 AM-11.30 AM	56.4	55.5	55.9	56.4	56.8	57.2
MINES FACE/BENCH	09.06.2021	09.15 AM-10.15 AM	79.9	78.9	79.4	79.9	80.3	80.8
HAULAGE ROAD	09.06.2021	09.15 AM-10.15 AM	79.9	79.1	79.5	79.8	80.2	80.6
CRUSHER PLANT	09.06.2021	11.55 AM-12.55 PM	79.7	78.7	79.2	79.6	80.1	80.5
SCREEN PLANT	09.06.2021	11.55 AM-12.55 PM	78.5	77.6	78.1	78.4	78.9	79.2
ORE STORAGE & LOADING POINT	09.06.2021	02.15 PM-03.15 PM	80.3	79.2	79.7	80.3	80.8	81.2
WASTE DUMP	09.06.2021	02.15 PM-03.15 PM	70.3	69.1	69.6	70.3	70.8	71.2

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 55.6 to 81.2 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-06</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.07.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b>	: June-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

<b>Temperature:</b>		<b>*Celsius:</b> 32.9
<b>Wind speed(m/s):</b>	AVG: 3.2	<b>MAX:</b> 7.6
<b>Wind Direction:</b>	SW-NF.	
<b>Cloud Cover:</b>	Sunny	<b>Octas - 4/8</b>
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron. Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	16.06.2021	10.15 AM-11.15 AM	59.3	58.5	58.8	59.2	59.7	60.3
ML BOUNDARY PILLAR NO-1	16.06.2021	10.15 AM-11.15 AM	60.9	59.7	60.3	60.8	61.4	61.8
MINES FACE/BENCH	16.06.2021	10.15 AM-11.15 AM	76.8	75.9	76.3	76.8	77.1	77.5
HAULAGE ROAD	16.06.2021	02.30 PM-03.30 PM	78.8	77.9	78.3	78.8	79.2	79.6
CRUSHER PLANT	16.06.2021	02.30 PM-03.30 PM	79.2	78.2	78.5	79.1	79.7	80.1
SCREEN PLANT	16.06.2021	02.30 PM-03.30 PM	78.3	77.3	77.8	78.2	78.8	79.3
ORE STORAGE & LOADING POINT	16.06.2021	11.45 AM-12.45 PM	79.8	78.8	79.4	79.8	80.2	80.7
WASTE DUMP	16.06.2021	11.45 AM-12.45 PM	67.8	66.7	67.2	67.9	68.3	68.8

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 58.5 to 80.7 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-06</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.07.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: June-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd ,</b>		

<b>Temperature:</b>		<b>*Celsius: 29.7</b>
<b>Wind speed(m/s):</b>	AVG: 3.5	<b>MAX: 7.9</b>
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Occlus 4/8</b>
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL 4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	23.06.2021	10.00 AM-11.00 AM	58.8	57.9	58.3	58.8	59.2	59.6
ML BOUNDARY PILLAR NO-1	23.06.2021	10.00 AM-11.00 AM	58.4	57.4	57.9	58.3	58.8	59.2
MINES FACE/BENCH	23.06.2021	10.00 AM-11.00 AM	78.7	77.7	78.3	78.8	79.2	79.5
HAULAGE ROAD	23.06.2021	11.30 AM-12.30 PM	79.3	78.5	78.9	79.3	79.7	80.1
CRUSHER PLANT	23.06.2021	11.30 AM-12.30 PM	80.4	79.5	79.9	80.3	80.7	81.2
SCREEN PLANT	23.06.2021	11.30 AM-12.30 PM	77.8	76.8	77.2	77.7	78.3	78.8
ORE STORAGE & LOADING POINT	23.06.2021	08.30 AM-09.30 AM	79.2	78.1	78.6	79.2	79.8	80.2
WASTE DUMP	23.06.2021	08.30 AM-09.30 AM	69.2	68.3	68.8	69.2	69.6	70.1

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 57.4 to 81.2 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-06</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.07.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: June-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

Temperature:		*Celsius: 30.6
Wind speed(m/s):	AVG: 3.3	MAX: 7.5
Wind Direction:	SW-NE	
Cloud Cover:	Sunny	Ocas - 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	
Calibration Validity	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	30.06.2021	08.30 AM 09.30 AM	60.2	59.1	59.6	60.2	60.7	61.2
ML BOUNDARY PILLAR NO-1	30.06.2021	08.30 AM 09.30 AM	59.3	58.3	58.8	59.2	59.7	60.2
MINES FACE/BENCH	30.06.2021	08.30 AM 09.30 AM	77.7	76.6	77.1	77.7	78.2	78.8
HAULAGE ROAD	30.06.2021	11.15 AM- 12.15 PM	78.2	77.4	77.8	78.2	78.5	78.9
CRUSHER PLANT	30.06.2021	10.00 AM- 11.00 AM	80.0	79.1	79.6	80.0	80.4	80.8
SCREEN PLANT	30.06.2021	10.00 AM 11.00 AM	78.9	78.1	78.4	78.8	79.2	79.7
ORE STORAGE & LOADING POINT	30.06.2021	10.00 AM- 11.00 AM	80.5	79.7	80.1	80.5	80.8	81.2
WASTE DUMP	30.06.2021	11.15 AM- 12.15 PM	71.7	70.7	71.2	71.7	72.2	72.6

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 58.3 to 81.2 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-06</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.07.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: June-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Measurement Location:</b>	Koira Basti	
<b>Temperature:</b>		<b>°Celsius: 27.5</b>
<b>Wind speed(m/s):</b>	AVG: 3.6	<b>MAX:8.0</b>
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Sunny	<b>Octas 4/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>avg,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A</sub> <sub>eq,T</sub>	Leq Day	Leq Night	Day Time	Night Time
08.00 AM	24 hrs	09.06.2021	53.2	54.3	40.4	54.1	53.2	41.4	55	46

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (min:sec)
No specific source.		
Village activities prevailing which include	Values ranged from 40.4 to 54.3 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		

  
**Env. Engineer**



\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-06</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.07.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b>	June-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

<b>Measurement Location:</b>	Kasira Basti	
<b>Temperature:</b>		<b>*Celsius:</b> 27.9
<b>Wind speed(m/s):</b>	AVG. 3.8	<b>MAX:</b> 8.3
<b>Wind Direction:</b>	SW NE	
<b>Cloud Cover:</b>	Sunny	<b>Octas</b> 4/8
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	
<b>Calibration Validity</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>avg,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A</sub> <sub>90,T</sub>	L <sub>eq</sub> Day	L <sub>eq</sub> Night	Day Time	Night Time
08.30 AM	24 hrs	09.06.2021	51.4	52.8	39.7	52.5	51.4	41.0	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 39.7 to 52.8 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



\*Complaints Register is available at Laboratory



**NARAYANPOSHI IRON AND  
MANGENESE ORE MINES**

**NOISE MONITORING  
REPORT**

**JULY-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-07	<b>Issued to:</b>
<b>Reporting Date:</b> 02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> July-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 29.6
<b>Wind speed(m/s):</b>	AVG: 3.1	<b>MAX:</b> 6.9
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Octas:</b> 4/8
<b>Distance from Source (In Meter):</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652513 & Q652517	
<b>Calibration Validity:</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	09.07.2021	10.00 AM-11.00 AM	58.8	57.9	58.3	58.8	59.2	59.7
ML BOUNDARY PILLAR NO-1	09.07.2021	10.00 AM-11.00 AM	56.2	55.1	55.5	56.1	56.7	57.2
MINES FACE/BENCH	09.07.2021	11.30 AM-12.30 PM	79.4	78.4	78.8	79.3	79.7	80.4
HAULAGE ROAD	09.07.2021	11.30 AM-12.30 PM	79.4	78.5	78.8	79.3	79.9	80.3
CRUSHER PLANT	09.07.2021	02.15 PM-03.15 PM	79.0	78.1	78.6	79.1	79.4	79.8
SCREEN PLANT	09.07.2021	02.15 PM-03.15 PM	78.3	77.3	77.8	78.2	78.8	79.3
ORE STORAGE & LOADING POINT	09.07.2021	03.45 PM-04.45 PM	79.7	78.8	79.2	79.6	80.1	80.7
WASTE DUMP	09.07.2021	03.45 PM-04.45 PM	67.2	66.1	66.6	67.2	67.7	68.1

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 55.1 to 80.7 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-07</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	02.08.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b>	: July-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

Temperature:		°Celsius: 28.8
Wind speed(m/s):	AVG: 3.6	MAX: 8.9
Wind Direction:	SW-NE	
Cloud Cover:	Cloudy	Occlus 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	
Calibration Validity	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>Min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>Max</sub>
MAGAZINE AREA	16.07.2021	10.00 AM-11.00 AM	59.0	58.2	58.6	58.9	59.3	59.8
ML BOUNDARY PILLAR NO-1	16.07.2021	10.00 AM-11.00 AM	58.7	57.7	58.2	58.6	59.1	59.5
MINES FACE/BENCH	16.07.2021	10.00 AM-11.00 AM	75.8	74.8	75.3	75.6	76.1	76.7
HAULAGE ROAD	16.07.2021	11.30 AM-12.30 PM	78.3	77.3	77.8	78.2	78.8	79.3
CRUSHER PLANT	16.07.2021	11.30 AM-12.30 PM	80.0	79.1	79.5	79.9	80.3	80.8
SCREEN PLANT	16.07.2021	11.30 AM-12.30 PM	78.4	77.5	77.9	78.3	78.7	79.2
ORE STORAGE & LOADING POINT	16.07.2021	08.30 AM-09.30 AM	80.1	79.1	79.5	80.0	80.6	81.1
WASTE DUMP	16.07.2021	08.30 AM-09.30 AM	66.8	65.9	66.3	66.8	67.2	67.7

**N.B: <65 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 57.7 to 81.1 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-07</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	02.08.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: July-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd..</b>		

Temperature:		*Celsius: 29.3
Wind speed(m/s):	AVG: 3.0	MAX: 7.2
Wind Direction:	SW-NE	
Cloud Cover:	Cloudy	Okus 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	
Calibration Validity	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	23.07.2021	08.30 AM-09.30 AM	58.4	57.5	57.9	58.4	58.8	59.3
ML BOUNDARY PILLAR NO-1	23.07.2021	08.30 AM-09.30 AM	59.3	58.3	58.8	59.2	59.7	60.1
MINES FACE/BENCH	23.07.2021	08.30 AM-09.30 AM	77.3	76.1	76.9	77.3	77.8	78.2
HALLAGE ROAD	23.07.2021	11.15 AM-12.15 PM	79.8	78.9	79.3	79.8	80.2	80.6
CRUSHER PLANT	23.07.2021	10.00 AM-11.00 AM	79.6	78.7	79.2	79.6	79.9	80.3
SCREEN PLANT	23.07.2021	10.00 AM-11.00 AM	77.5	76.6	77.1	77.5	77.9	78.3
ORE STORAGE & LOADING POINT	23.07.2021	10.00 AM-11.00 AM	79.2	78.3	78.8	79.3	79.6	80.0
WASTE DUMP	23.07.2021	11.15 AM-12.15 PM	67.9	67.1	67.4	67.8	68.2	68.6

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s. events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 57.5 to 80.6 dB(A)	1 to 2 hrs



Env. Engineer

\*Complaints Register is available at Laboratory

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**TEST REPORT**

**NOISE LEVEL MONITORING REPORT**

<b>REPORT NO: JSW/NPIMO/ENV/2021/NG/2021-07</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	02.08.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: July-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Temperature:</b>		<b>*Celsius: 26.3</b>
<b>Wind speed(m/s):</b>	AVG: 3.5	<b>MAX: 8.4</b>
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Ocas - 4/8</b>
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL 4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	30.07.2021	10.15 AM-11.15 AM	57.9	56.9	57.3	57.8	58.2	58.8
ML BOUNDARY PILLAR NO-1	30.07.2021	10.15 AM-11.15 AM	58.3	57.3	57.9	58.2	58.8	59.1
MINES FACE/BENCH	30.07.2021	10.15 AM-11.15 AM	76.9	75.8	76.3	76.9	77.2	77.9
HAULAGE ROAD	30.07.2021	02.30 PM-03.30 PM	79.9	79.1	79.4	79.9	80.2	80.6
CRUSHER PLANT	30.07.2021	02.30 PM-03.30 PM	79.3	78.4	78.8	79.2	79.6	80.1
SCREEN PLANT	30.07.2021	02.30 PM-03.30 PM	77.7	76.9	77.2	77.7	78.1	78.5
ORE STORAGE & LOADING POINT	30.07.2021	11.45 AM-12.45 PM	78.8	77.9	78.3	78.8	79.2	79.6
WASTE DUMP	30.07.2021	11.45 AM-12.45 PM	66.4	65.5	65.9	66.3	66.8	67.2

**N.B: <85 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 56.9 to 80.6 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-07	<b>Issued to:</b>
<b>Reporting Date:</b> 02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> July-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Koira Basti	
<b>Temperature:</b>		<b>°Celsius:</b> 27.2
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.3	<b>MAX:</b> 7.8
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Occlus -</b> 4/8
<b>SLM type:</b>	Lutron. Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>avg,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>Aeq,T</sub>	Leq Day	Leq Night	Day Time	Night Time
08.00 AM	24 hrs	09.07.2021	52.9	54.5	40.4	54.2	52.9	42.1	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 40.4 to 54.5 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of flippers.		



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**TEST REPORT**

**NOISE LEVEL MONITORING REPORT**

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-07	<b>Issued to:</b>
<b>Reporting Date:</b> 02.08.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level <b>Month:</b> July-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Kasira Basti	
<b>Temperature:</b>		<b>°Celsius:</b> 27.7
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.8	<b>MAX:</b> 8.5
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Ordnas - 4/8</b>
<b>SLM type:</b>	Lutron. Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	
<b>Calibration Validity:</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			Leq,T	L <sub>Amax</sub>	L <sub>Aeq,1h</sub>	L <sub>A</sub> eq,1	Leq Day	Leq Night	Day Time	Night Time
08.30 AM	24 hrs	09.07.2021	51.3	53.1	56.4	52.6	51.3	37.9	55	45

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.  Village activities prevailing which include  Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 56.4 to 53.1 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)



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# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **NOISE MONITORING REPORT**

**AUGUST-2021**



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August 2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 30.3
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.6	<b>MAX:</b> 7.4
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Clear	<b>Octas - 4/8</b>
<b>Distance from Source [In Meter]</b>	2	
<b>SLM type:</b>	Lutron Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652513 & Q652517	
<b>Calibration Validity:</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			<b>L<sub>eq</sub></b>	<b>L<sub>min</sub></b>	<b>L<sub>90</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>10</sub></b>	<b>L<sub>max</sub></b>
MAGAZINE AREA	06.08.2021	09.00 AM-10.00 AM	56.6	55.8	56.2	56.6	56.9	57.3
ML BOUNDARY PILLAR NO. 1	06.08.2021	09.00 AM-10.00 AM	55.6	54.7	55.1	55.6	55.9	56.3
MINES FACE/BENCH	06.08.2021	10.30 AM-11.30 AM	78.4	77.6	77.9	78.3	78.8	79.2
HAULAGE ROAD	06.08.2021	10.30 AM-11.30 AM	79.9	79.1	79.5	79.8	80.2	80.6
CRUSHER PLANT	06.08.2021	12.00 PM-01.00 PM	78.4	77.5	77.9	78.3	78.8	79.2
SCREEN PLANT	06.08.2021	12.00 PM-01.00 PM	77.7	76.6	77.1	77.8	78.2	78.6
ORE STORAGE & LOADING POINT	06.08.2021	02.15 PM-03.15 PM	80.1	79.1	79.5	80.1	80.5	80.9
WASTE DUMP	06.08.2021	02.15 PM-03.15 PM	65.7	64.8	65.2	65.7	66.1	66.6

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 54.7 to 80.9 dB(A)	1 to 2 hrs



*[Signature]*  
**Env. Engineer**

\*Complaints Register is available at Laboratory.





# B.S. ENVI - TECH PVT. LTD.

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## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 29.7
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.2	<b>MAX:</b> 7.0
<b>Wind Direction:</b>	<b>SW-NE</b>	
<b>Cloud Cover:</b>	<b>Clear</b>	<b>Occlus - 4/8</b>
<b>Distance from Source (in Meter)</b>	<b>2</b>	
<b>SLM type:</b>	<b>Lutron, Model SL-40235D</b>	
<b>SLM Serial Number:</b>	<b>Q652514, Q652513 &amp; Q652516</b>	
<b>Calibration Validity</b>	<b>13/10/2021</b>	

Locations	Date	Time	Noise Levels in dB(A)					
			<b>L<sub>eq</sub></b>	<b>L<sub>Min</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>50</sub></b>	<b>L<sub>10</sub></b>	<b>L<sub>Max</sub></b>
MAGAZINE AREA	13.08.2021	10.15 AM-11.15 AM	57.1	56.3	56.7	57.1	57.4	57.6
ML BOUNDARY PILLAR NO-1	13.08.2021	10.15 AM-11.15 AM	56.8	55.9	56.3	56.8	57.2	57.5
MINES FACE/BENCH	13.08.2021	10.15 AM-11.15 AM	76.3	75.5	75.9	76.3	76.7	77.1
HAULAGE ROAD	13.08.2021	02.30 PM-03.30 PM	78.7	77.7	78.2	78.6	79.1	79.5
CRUSHER PLANT	13.08.2021	02.30 PM-03.30 PM	78.9	78.2	78.6	78.9	79.2	79.6
SCREEN PLANT	13.08.2021	02.30 PM-03.30 PM	77.9	77.1	77.5	77.9	78.2	78.7
ORE STORAGE & LOADING POINT	13.08.2021	11.45 AM-12.45 PM	80.3	79.4	79.9	80.2	80.7	81.2
WASTE DUMP	13.08.2021	11.45 AM-12.45 PM	66.5	65.7	66.1	66.6	66.9	67.2

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 55.9 to 81.2 dB(A)	1 to 2 hrs



*[Signature]*  
**Env. Engineer**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 29.5
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.4	<b>MAX:</b> 7.7
<b>Wind Direction:</b>	<b>SW-NE</b>	
<b>Cloud Cover:</b>	<b>Cloudy</b>	<b>Occlus - 4/8</b>
<b>Distance from Source (In Meter):</b>	<b>2</b>	
<b>SLM type:</b>	<b>Iatron. Model SL-4023SD</b>	
<b>SLM Serial Number:</b>	<b>Q652514, Q652513 &amp; Q652516</b>	
<b>Calibration Validity:</b>	<b>13/10/2021</b>	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>eq10</sub>	L <sub>eq5</sub>	L <sub>eq1</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	20.08.2021	02.00 PM-03.00 PM	57.7	56.9	57.3	57.6	58.0	58.5
ML BOUNDARY PILLAR NO-1	20.08.2021	02.00 PM-03.00 PM	56.3	55.5	55.8	56.2	56.6	57.1
MINES FACE/BENCH	20.08.2021	02.00 PM-03.00 PM	77.6	76.7	77.2	77.6	78.0	78.5
HAULAGE ROAD	20.08.2021	03.30 PM-04.30 PM	79.3	78.3	78.6	79.2	79.7	80.1
CRUSHER PLANT	20.08.2021	03.30 PM-04.30 PM	79.2	78.4	78.9	79.2	79.6	79.9
SCREEN PLANT	20.08.2021	03.30 PM-04.30 PM	77.3	76.3	76.8	77.2	77.7	78.1
ORE STORAGE & LOADING POINT	20.08.2021	11.45 AM-12.45 PM	79.6	78.7	79.2	79.6	79.9	80.3
WASTE DUMP	20.08.2021	11.45 AM-12.45 PM	66.2	65.2	65.6	66.1	66.6	67.2

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumpers Movements	Values ranged from 55.5 to 80.3 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory





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Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

Temperature:		*Celsius: 29.1
Wind speed(m/s):	AVG: 3.0	MAX: 7.1
Wind Direction:	SW-NE	
Cloud Cover:	Cloudy	Ocas - 4/8
Distance from Source (in Meter)	2	
SLM type:	Lutron Model SL-4023SD	
SLM Serial Number:	Q652514, Q652513 & Q652516	
Calibration Validity	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>eq</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	27.08.2021	09.15 AM-10.15 AM	58.6	57.7	58.2	58.5	58.9	59.3
MI. BOUNDARY PILLAR NO. 1	27.08.2021	09.15 AM-10.15 AM	56.0	55.1	55.6	55.9	56.3	56.8
MINES FACE/BENCH	27.08.2021	09.15 AM-10.15 AM	79.0	76.1	78.5	79.1	79.4	79.8
HAULAGE ROAD	27.08.2021	10.45 AM-11.45 AM	79.6	78.7	79.2	79.6	79.9	80.2
CRUSHER PLANT	27.08.2021	10.45 AM-11.45 AM	78.8	77.9	78.3	78.8	79.2	79.6
SCREEN PLANT	27.08.2021	10.45 AM-11.45 AM	77.9	76.9	77.4	77.9	78.3	78.8
ORE STORAGE & LOADING POINT	27.08.2021	12.15 AM-01.15 PM	80.4	79.6	79.9	80.3	80.8	81.2
WASTE DUMP	27.08.2021	12.15 AM-01.15 PM	67.0	66.1	66.6	66.9	67.3	67.7

N.B: <85 dB(A) AS PER CTO & EC

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 55.1 to 81.2 dB(A)	1 to 2 hrs



Env. Engineer

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## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Koira Dasu	
<b>Temperature:</b>		<b>°Celsius:</b> 26.9
<b>Wind speed(m/s):</b>	AVG. 3.4	<b>MAX:</b> 8.0
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Clear	<b>Ortas - 4/H</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity:</b>	13/10/2021	

#### Measurement details and statistical noise levels - dB (A)

Start Time	Duration	Date	Noise Level [dB (A)]						Applicable Standard [dB (A)]	
			Leq,T	LAmax	LAmin	LAeq,7	Leq Day	Leq Night	Day Time	Night Time
08.00 AM	24 hrs	06.08.2021	52.2	54.0	40.3	53.7	52.2	42.0	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 40.3 to 54.0 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



Env. Engineer

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## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-08	<b>Issued to:</b>
<b>Reporting Date:</b> 01.09.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> August-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Kastur Basti	
<b>Temperature:</b>		<b>Celsius:</b> 27.3
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.6	<b>MAX:</b> 8.3
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Clear	<b>Ocas - 1/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	
<b>Calibration Validity:</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{eq,T}$	$L_{Amax}$	$L_{Amin}$	$L_{A_{90,T}}$	$L_{eq Day}$	$L_{eq Night}$	Day Time	Night Time
08.30 AM	24 hrs	08.08.2021	51.1	53.2	39.7	52.8	51.1	40.6	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration [mm:ss]
No specific source.		
Village activities prevailing which include	Values ranged from 39.7 to 53.2 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



Env. Engineer

\*Complaints Register is available at Laboratory.

# **NARAYANPOSHI IRON AND MANGENESE ORE MINES**

## **NOISE MONITORING REPORT**

**SEPTEMBER-2021**





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

Temperature:		Celsius: 28.7
Wind speed(m/s):	AVG: 3.1	MAX: 6.8
Wind Direction:	SW-NE	
Cloud Cover:	Clear	Octas - 4/8
Distance from Source (In Meter)	2	
SLM type:	Lutron, Model SL-4023SD	
SLM Serial Number:	Q652513 & Q652517	
Calibration Validity	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>pm</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	02.09.2021	02.10 PM-03.10 PM	55.5	54.7	53.1	55.5	55.8	56.3
ML BOUNDARY PILLAR NO-1	02.09.2021	02.10 PM-03.10 PM	54.2	53.3	53.7	54.2	54.6	54.9
MINES FACE/BENCH	02.09.2021	03.30 PM-04.30 PM	72.7	71.9	72.2	72.6	73.1	73.4
HAULAGE ROAD	02.09.2021	03.30 PM-04.30 PM	77.5	76.6	77.1	77.5	77.8	78.2
CRUSHER PLANT	02.09.2021	10.15 AM-11.15 AM	79.3	78.5	78.9	79.3	79.6	80.1
SCREEN PLANT	02.09.2021	10.15 AM-11.15 AM	77.9	77.0	77.4	77.9	78.2	78.6
ORE STORAGE & LOADING POINT	02.09.2021	11.45 AM-12.45 PM	79.6	78.7	79.2	79.6	79.9	80.3
WASTE DUMP	02.09.2021	11.45 AM-12.45 PM	63.5	62.8	63.2	63.5	63.9	64.4

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 53.3 to 80.3 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 28.1
<b>Wind speed(m/s):</b>	AVG: 3.4	<b>MAX:</b> 7.2
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Ocas:</b> 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>min</sub>	L <sub>50</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	09.09.2021	09.15 AM-10.15 AM	54.1	53.2	53.7	54.1	54.6	54.9
ML BOUNDARY PILLAR NO-1	09.09.2021	09.15 AM-10.15 AM	53.7	52.7	53.3	53.7	54.1	54.5
MINES FACE/BENCH	09.09.2021	09.15 AM-10.15 AM	73.5	72.7	73.1	73.5	73.8	74.2
HAULAGE ROAD	09.09.2021	10.45 AM-11.45 AM	78.2	77.3	77.7	78.1	78.6	78.9
CRUSHER PLANT	09.09.2021	10.45 AM-11.45 AM	78.6	77.8	78.1	78.6	78.9	79.3
SCREEN PLANT	09.09.2021	10.45 AM-11.45 AM	77.2	76.5	76.9	77.2	77.4	77.8
ORE STORAGE & LOADING POINT	09.09.2021	12.15 PM-01.15 PM	78.9	78.1	78.5	78.9	79.3	79.6
WASTE DUMP	09.09.2021	12.15 PM-01.15 PM	60.5	59.8	60.2	60.5	60.9	61.2

**N.B: <85 dB(A) AS PER CTO & EC**

**Noted noise source/s, events and contribution level details:**

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 52.7 to 79.6 dB(A)	1 to 2 hrs

  
**Env. Engineer**



\*Complaints Register is available at Laboratory.



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPLMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 29.3
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.0	<b>MAX:</b> 6.6
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	<b>Clear</b>	<b>Occlus</b> 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>max</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	16.09.2021	08.30 AM-09.30 AM	55.7	55.1	55.4	55.6	55.9	56.2
ML BOUNDARY PILLAR NO-1	16.09.2021	08.30 AM-09.30 AM	53.1	52.2	52.6	53.1	53.4	53.8
MINES FACE/BENCH	16.09.2021	08.30 AM-09.30 AM	73.8	73.1	73.4	73.9	74.2	74.5
HALLAGE ROAD	16.09.2021	10.00 AM-11.00 AM	76.7	75.9	76.3	76.6	77.1	77.4
CRUSHER PLANT	16.09.2021	10.00 AM-11.00 AM	78.2	77.3	77.8	78.2	78.5	78.9
SCREEN PLANT	16.09.2021	10.00 AM-11.00 AM	76.9	76.1	76.4	76.9	77.2	77.7
ORE STORAGE & LOADING POINT	16.09.2021	11.30 AM-12.30 PM	78.8	77.9	78.3	78.8	79.2	79.5
WASTE DUMP	16.09.2021	11.30 AM-12.30 PM	59.7	58.8	59.2	59.7	60.1	60.5

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 52.2 to 79.5 dB(A)	1 to 2 hrs



**Env. Engineer**

\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level	
<b>Month:</b> September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Temperature:</b>		<b>°Celsius:</b> 28.9
<b>Wind speed(m/s):</b>	AVG: 3.5	<b>MAX:</b> 7.9
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Cloudy	<b>Octas:</b> 4/8
<b>Distance from Source (In Meter)</b>	2	
<b>SLM type:</b>	Lutron. Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514, Q652513 & Q652516	
<b>Calibration Validity</b>	13/10/2021	

Locations	Date	Time	Noise Levels in dB(A)					
			L <sub>eq</sub>	L <sub>eqn</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub>
MAGAZINE AREA	24.09.2021	09.45 AM-10.45 AM	54.7	53.9	54.2	54.7	55.1	55.5
ML BOUNDARY PILLAR NO-1	24.09.2021	09.45 AM-10.45 AM	52.7	51.9	52.2	52.6	53.1	53.5
MINES FACE/BENCH	24.09.2021	09.45 AM-10.45 AM	73.1	72.2	72.7	73.1	73.4	73.8
HAULAGE ROAD	24.09.2021	11.15 AM-12.15 PM	77.2	76.3	76.8	77.1	77.5	78.0
CRUSHER PLANT	24.09.2021	11.15 AM-12.15 PM	78.9	78.1	78.4	78.9	79.2	79.6
SCREEN PLANT	24.09.2021	11.15 AM-12.15 PM	77.2	76.3	76.8	77.2	77.5	77.9
ORE STORAGE & LOADING POINT	24.09.2021	02.00 PM-03.00 PM	78.2	77.5	77.9	78.2	78.6	78.9
WASTE DUMP	24.09.2021	02.00 PM-03.00 PM	59.2	58.3	58.7	59.2	59.6	60.1

**N.B: <85 dB(A) AS PER CTO & EC**

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
Ore Crushing Activities, DG Sets, Dumper Movements	Values ranged from 51.9 to 79.6 dB(A)	1 to 2 hrs



\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-09</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.10.2021	
<b>Sample Description: Ambient Noise Level</b>		
<b>Month</b>	: September-2021	
<b>Sample Collected by: B.S. Envi-Tech (P) Ltd.,</b>		

<b>Measurement Location:</b>	Koira Basti	
<b>Temperature:</b>		<b>°Celsius: 25.5</b>
<b>Wind speed(m/s):</b>	AVG: 3.0	MAX: 6.6
<b>Wind Direction:</b>	SW-NR	
<b>Cloud Cover:</b>	Clear	<b>Octas - 4/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{eq,T}$	$L_{Aequr}$	$L_{Aeqle}$	$L_{Aeq,r}$	Leq Day	Leq Night	Day Time	Night Time
08.00 AM	24 hrs	02.09.2021	51.1	52.5	40.4	52.4	51.1	41.9	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 40.4 to 52.5 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)

  
**Env. Engineer**



\*Complaints Register is available at Laboratory



# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level <b>Month:</b> September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	Kasra Basti	
<b>Temperature:</b>		<b>Celsius:</b> 25.9
<b>Wind speed(m/s):</b>	<b>AVG:</b> 3.4	<b>MAX:</b> 7.8
<b>Wind Direction:</b>	SW-NR	
<b>Cloud Cover:</b>	Clear	<b>Octas:</b> 4/8
<b>SLM type:</b>	Lutron, Model SL-4023SF1	
<b>SLM Serial Number:</b>	Q652516	
<b>Calibration Validity:</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{eq,T}$	$L_{A_{max}}$	$L_{A_{min}}$	$L_{A_{90,T}}$	$L_{eq Day}$	$L_{eq Night}$	Day Time	Night Time
08:30 AM	24 hrs	02.09.2021	49.4	51.2	39.3	51.0	49.4	40.4	55	45

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 39.3 to 51.2 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		

  
 Env. Engineer



\*Complaints Register is available at Laboratory





# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-09</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.10.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b>	: September-2021	
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

<b>Measurement Location:</b>	East Boundary	
<b>Temperature:</b>		<b>°Celsius: 28.1</b>
<b>Wind speed(m/s):</b>	AVG: 3.9	MAX: 8.3
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Clear	<b>Octas - 4/8</b>
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>max</sub> ,T	L <sub>Amax</sub>	L <sub>A10</sub>	L <sub>A50</sub> ,T	L <sub>eq</sub> Day	L <sub>eq</sub> Night	Day Time	Night Time
08.00 AM	24 hrs	30.09.2021	64.9	69.2	56.6	68.3	64.9	58.5	75	70

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 56.6 to 69.2 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)

  
**Env. Engineer**



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-09</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.10.2021	
<b>Sample Description:</b> Ambient Noise Level <b>Month</b> : September-2021		
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

Measurement Location:	West Boundary	
Temperature:		°Celsius: 28.4
Wind speed(m/s):	AVG: 3.6	MAX: 8.6
Wind Direction:	SW-NE	
Cloud Cover:	Clear	Octas: 4/8
SLM type:	Lutron. Model SL-4023SD	
SLM Serial Number:	Q652516	
Calibration Validity	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>eq,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A</sub> <sub>90,T</sub>	L <sub>eq</sub> <sub>Day</sub>	L <sub>eq</sub> <sub>Night</sub>	Day Time	Night Time
06.30 AM	24 hrs	30.09.2021	60.4	64.8	52.7	63.7	60.4	56.0	75	70

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 52.7 to 64.8 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		



Env. Engineer

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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt: Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO:</b> JSW/NPIMO/ENV/2021/NQ/2021-09	<b>Issued to:</b>
<b>Reporting Date:</b> 01.10.2021	<b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Sample Description:</b> Ambient Noise Level <b>Month:</b> September-2021	
<b>Sample Collected by:</b> B S. Envi-Tech (P) Ltd.,	

<b>Measurement Location:</b>	North Boundary	
<b>Temperature:</b>		Celsius: 28.9
<b>Wind speed(m/s):</b>	AVG: 3.3	MAX: 7.5
<b>Wind Direction:</b>	SW NE	
<b>Cloud Cover:</b>	Clear	Octas: 4/8
<b>SLM type:</b>	Lutron, Model SL-4023SD	
<b>SLM Serial Number:</b>	Q652514	
<b>Calibration Validity:</b>	13/10/2021	

Measurement details and statistical noise levels - dB (A)										
Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			L <sub>1eq,T</sub>	L <sub>Amax</sub>	L <sub>Amin</sub>	L <sub>A</sub> <sub>90,T</sub>	Leq Day	Leq Night	Day Time	Night Time
09:00 AM	24 hrs	30.09.2021	69.2	71.3	55.2	71.1	69.2	56.6	75	70

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source,  Village activities prevailing which include  Movement of vehicles mainly two wheelers, transportation of tippers.	Values ranged from 55.2 to 71.3 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)

  
 Env. Engineer



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# B.S. ENVI - TECH PVT. LTD.

Recognized by MoEF & CC, Govt. Valid upto August, 2022

## TEST REPORT

### NOISE LEVEL MONITORING REPORT

<b>REPORT NO: JSW/NPIMO/ENV/2021/NQ/2021-09</b>		<b>Issued to:</b>  <b>Narayanposhi Iron &amp; Manganese Ore Mines of M/s JSW Steel Ltd.</b>
<b>Reporting Date</b>	01.10.2021	
<b>Sample Description:</b> Ambient Noise Level		
<b>Month</b> : September-2021		
<b>Sample Collected by:</b> B.S. Envi-Tech (P) Ltd.,		

<b>Measurement Location:</b>	South Boundary	
<b>Temperature:</b>		<b>°Celsius:</b> 29.2
<b>Wind speed(m/s):</b>	AVG: 3.7	<b>MAX:</b> 8.0
<b>Wind Direction:</b>	SW-NE	
<b>Cloud Cover:</b>	Clear	<b>Octas</b> : 1/8
<b>SLM type:</b>	Lutron, Model: SL-4023SD	
<b>SLM Serial Number:</b>	Q652516	
<b>Calibration Validity</b>	13/10/2021	

#### Measurement details and statistical noise levels - dB (A)

Start Time	Duration	Date	Noise Level (dB (A))						Applicable Standard (dB (A))	
			$L_{avg,T}$	$L_{Amax}$	$L_{Aeq,10}$	$L_{A_{90,T}}$	$L_{eq, Day}$	$L_{eq, Night}$	Day Time	Night Time
09.30 AM	24 hrs	30.09.2021	64.4	67.2	52.6	66.8	64.4	64.7	75	70

#### Noted noise source/s, events and contribution level details:

Noise Source/Event Description	Noise Level dB(A)	Event Duration (mm:ss)
No specific source.		
Village activities prevailing which include	Values ranged from 52.6 to 67.2 dB(A)	Maximum recorded is for 2 minutes (only during vehicle movement)
Movement of vehicles mainly two wheelers, transportation of tippers.		

  
 Env. Engineer



\*Complaints Register is available at Laboratory