Deputy Director General of Forests (C),
Ministry of Env., Forest and Climate Change,
Integrated Regional Office,
A/3, Chandrasekharpur,
Bhubaneswar – 751023
Email: roez.bsr-mef@nic.in

MD/ENV/ 1293 /104 / 2024
Date: 25.11.2024

Sub: Half-yearly compliance status report of Environmental Clearance conditions for the period April to September 2024 in respect of Katamati Iron Mine, M/s Tata Steel Limited.

Ref: 1. Environmental Clearance letter no. J-11015/63/2008-IA-II(M) dated: 26.11.2010.
2. Environmental Clearance letter no. J-11015/120/2003-IA-II(M) dated: 06.05.2005.

Dear Sir,

Kindly find attached herewith the half-yearly compliance status report in respect of the stipulated Environmental Clearance conditions of Katamati Iron Mine, M/s Tata Steel Limited for the period from **April 2024 – September 2024.**
We trust that the measures taken towards environmental safeguards comply with the stipulated environmental conditions. We look forward to your further guidance which shall certainly help us in our endeavor for further improve upon our Environmental Management practices.

Thanking you,

Yours faithfully,
f: M/s Tata Steel Limited

Area Manager (Environment), OMQ

Encl. : As above
Copy to : The Chairman, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700107 (W. B.)
: The Member Secretary, State Pollution Control Board, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII, Bhubaneswar – 751012 (Odisha)
: The Regional Officer, SPCB, College Road, Baniapata, Keonjhar – 758001 (Odisha)

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HALF-YEARLY EC COMPLIANCE REPORT FOR
KATAMATI IRON MINE OF TATA STEEL LIMITED

ENVIRONMENTAL CLEARANCE NO. J-11015/63/2008-IA-II(M) DATED 26.11.2010 (Period of Compliance: April to September 2024)		
Sl	**Specific Conditions**	
i.	The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Orissa and effectively implement all the conditions stipulated therein.	Consent to Establish has been obtained vide letter no. 12850/IND-II-NOC-5109, dated: 04.08.2010. And subsequently Consent to Operate for 8.00 MTPA (ROM) has been obtained vide letter no. 1202/IND-I-CON-185, dated: 24.01.2011. The front page of the CTE & CTO are attached as **Annexure-I & II** respectively.
ii.	Environmental clearance is subject to grant of forestry clearance. Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 199.172ha forestland Involved in the project shall be obtained before starting mining operation in that area. No mining shall be undertaken In the forest area without obtaining requisite prior forestry clearance.	The forest diversion proposal was submitted on 17.04.2007 over an area of 196.9719 ha (165.7928 ha fresh diversion and 31.1791 ha forest land broken prior to 1980) leaving a safety zone of 2.2001 ha. Then mining operation was restricted within the non-forest land. And subsequently the Forest clearance has been granted for 360.01 ha. Vide letter no. 8-1/1018-FC dated: 09.06.2021.
iii.	Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.	Noted. There is no National Park, Sanctuaries, elephant corridor and tiger reserves within 10 KM radius of lease area.
iv.	Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.	No specific clearance under the Wildlife (Protection) Act, 1972 is required for the project.
v.	The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table. In case of working below the ground water table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.	The water table in the area is about 519 mRL. Whereas the maximum depth at conceptual stage is 564 mRL. Hence, throughout the course of mining operations, the ground water table will remain undisturbed, and the mining operation will not intersect ground water table.
vi.	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the first order and the second order streams, If any, emanating from the mine lease area during the course of mining operation.	No natural watercourse or water resources are obstructed due to mining operation. Further, there are no first order or second order streams emanating from mining lease area.
vii.	The top soil, If any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	No topsoil generated during the reporting period April to September 2024. Previously generated topsoil has been utilized for the purpose of green belt development, dump stabilization and horticulture activities.

viii.	The subgrade material, if any shall be stacked at the earmarked sites.	Sub-grade material is being stacked at earmarked area within the mining lease area as per the approved mining plan.
ix.	The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and Its phase-wise stabilization shall be carried out. Partial backfilling proposed after cessation of mining. The maximum height of the OB dump(s) shall not exceed 30m having three terraces of 10m each and the overall slope of the dumps shall not exceed 27°. It shall be ensured that the OB dump(s) shall have a factor of safety not less than 1.3. The OB dump(s) should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.	Over burden material is being stacked at earmarked area within the mining lease area as per the approved mining plan. Backfilling activities are also in progress. The dump height is being maintained as per the slope stability study report submitted by CIMFR, Dump stabilization by laying of coir-mat, vegetation of native species, sal plantation, vetiver plantation is being carryout. The compliance status is being regularly sent to the Regional office, MoEF&CC, Bhubaneswar & SPCB Odisha on six monthly basis.
x.	Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, sub-grade, over burden and mineral dump(s) to prevent run off of water and flow of sediments directly into the Mahadev Nallah, Betlata Nallah, Baitarni River and other water bodles. The water so collected should be utilized for watering the mine area, Toads, green belt development etc. The drains shall be regularly desilted particularly after the monsoon and maintained properly. Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, over burden dumps and sub-grade and mineral dump(s) to prevent run off of water and flow of sediments directly into the Mahadev Nallah, Betlata Nallah, Baitarni River and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.	Garland drains with settling pits have been made all along the OB & sub-grade dumps. 4 nos. of settling pits have been constructed at the end of garland rains to take care of run-off water and sediments. The majority of the run-off generated from mines is diverted to the mining pit. There is no effluent discharge outside the mining lease area.

	Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.	
xi.	Dimension of the retaining wall at the toe of the over burden dump(s) and the OB benches within the mine to check run-off and siltation shall be based on the rain fall data.	Retaining wall and garland drains have been constructed around the OB dump to check mines run-off.
xii.	Trace Metals such as Ni, Co, As, and Hg should be analysed in dust fall and soil samples for at least one year during summer, monsoon and winter monsoon. If concentrations of these metals are found below the standards then with prior approval of MOEF this specific monitoring could be discontinued.	We are monitoring trace metals in dust fall and soil samples.
xiii.	Plantation shall be raised in an area of 370,1555ha including a 7.5m wide green belt In the safety zone around the mining lease, over burden dump(s), backfilled and reclaimed area, mine benches, around water body, roads etc. In consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per hectare. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.	Plantation over 370.1555 ha shall be raised at the end of the mines life. Plantation over 7.5 m wide green belt in the safety zone area all around the mines boundary is complete. We have maintained tree density of 2500 plant per hectare.
xiv.	The void left unfilled in an area of 11.2ha shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.	Shall be complied at the end of the mines life.
xv.	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system. Mist cannons have placed at strategic points to prevent and control of fugitive dust emission. Ambient air quality conforms to the CPCB norms.
xvi.	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 maintained.	Water quality monitoring & flow rate monitoring of nallahs present outside the mine lease area is being done regularly and the records are being maintained. The surface water quality report & surface water flow rate is attached as **Annexure III & IV** respectively.

xvii.	The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	Due to area constraint inside the mine lease area ponds have been constructed in the buffer zone for ground water recharge. Further all the surface runoff generated is directed to mine pit where it is allowed to settle and augment ground water table. Photographs of the Rain water harvesting ponds in surrounding villages is attached as **Annexure V**.
xviii.	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)) shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board, If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.	Regular monitoring of ground water level on monthly basis and its quality on quarterly basis is being carried out within the mine lease area and surrounding areas. A network of dug wells and borewells with piezometers already exists for this purpose. The report of the same is being shared to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board on six monthly basis. The ground water quality & level report is attached as **Annexure-VI A & B** respectively.
xix.	Appropriate mitigative measures should be taken to prevent pollution of the Baitarni River in consultation with the State Pollution Control Board.	Being complied.
xx.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water required for the project. The ground water shall not be used for mining operations. Prior approval of Central Ground Water Authority shall be obtained for using ground water.	We have obtained NOC from CGWA, New Delhi for drawl of ground water vide NOC no. CGWA/NOC/MIN/REN/2/2023/7915 dated: 26.05.2023. The copy of the CGWA NOC is attached as **Annexure VII**. Additionally, surface water is being sourced from Noamundi Iron Mine for which surface water permission from Water resource department has been taken.
xxi.	Suitable rainwater harvesting measures on long term basis shall be planned and Implemented in consultation with the Regional Director, Central Ground Water Board.	Due to area constraint inside the mine lease area ponds have been constructed in the buffer zone for ground water recharge. Further all the surface runoff generated is directed to mine pit where it is allowed to settle and augment ground water table. Photographs of the Rain water harvesting ponds in surrounding villages is attached as **Annexure V**.
xxii.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The	Vehicular emission checks of all the wheel mounted HEMMs are done at regular intervals. Maintenance of mining equipment is done on regular basis. It is

	mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	mandatory for any vehicle entering the mine premises to have a valid fitness certificate. The mineral transported trucks are not overloaded.
xxiii.	Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be Implemented.	Blasting operation are being carried out during day time only. Blasting is done using the controlled blasting technique. In this regard, one study has been made by CIMFR (Central Mining and Fuel Research Institute), Dhanbad and recommendations therein are being followed. Initiation system is through either NONEL/electronic detonation system so as to ensure minimal ground vibration. The sample vibration report is attached as **Annexure VIII**.
xxiv.	Drills shall either be operated with the dust extractors or equipped with water injection system.	All drilling machines are equipped with in-built dust extraction/ suppression system which has an interlock which prohibits drilling without water.
xxv.	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas Including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system. Mist cannons have placed at strategic points to prevent and control of fugitive dust emission.
xxvi.	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.	A 30 KLD CETP along with Oil and Grease trap is installed to treat all the effluent generated from washing of HEMM's in workshop at Noamundi. This caters to Katamati mine as well.
xxvii.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Initial Medical Examination and Periodic Medical Examinations are conducted for all employees at the TSL health facility periodically and records are maintained. This is being carried in compliance to Mines Act, 1952 and Rules 1956 and amendments thereto. During the period April to September 2024 a total of 103 nos. of IMEs were conducted and 44 nos. of PMEs were conducted.
xxviii.	Effective safeguard measure shall be taken to ensure that the RSPM levels in the area are well below the prescribed standards.	A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system. Mist cannons have placed at strategic points to prevent and control of fugitive dust emission. Ambient air quality conforms to the CPCB norms.

xxix.	The height of stack shall be as per the prescribed standards / guidelines.	No stacks present within the mine lease area.
xxx.	Trace metals such as Fe, Cr +6, Cu, Se, As, Cd, Hg, Pb, Zn and Mn shall be periodically monitored at specific locations in both surface water downstream and in ground water at lower elevations from mine area, in consultation with the OSPCB and State Ground Water Board. Suitable treatment measures shall be undertaken in case levels are found to be higher than permissible limits.	Trace metals are monitored for both ground water & surface water. The reports are shared to OSPCB on quarterly basis. The monitoring report of Surface water & Ground water qualities are attached as **Annexure- III & VI A** respectively.
xxxi.	Occupational health programme encompassing identification of hazards, ranking of the risks, plan to handle such risk should be prepared and implemented effectively.	Awareness programs on Occupational Health and Safety are being done regularly by our central medical team located at Jamshedpur. Similar programs are arranged at site level to include all the contract workers as well. A Central Hospital located at Noamundi caters to both Noamundi and Katamati mine. A full-time Occupational Health Specialist has been appointed in the hospital for periodic health check-up of employees and contractual workers. A program called Wellness-at-Workplace is being conducted at the mine and health of all mine workers is checked and monitored every month. All the health records are maintained. We will follow and implement the additional suggestions as provided.
xxxii.	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora and endangered fauna namely elephant, sloth bear etc. found in the study area. Action plan for conservation of flora and fauna prepared shall be implemented in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife Conservation Plan prepared specific to this project site shall be effectively Implemented. Necessary allocation of funds for Implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar.	The new conservation plan has been approved vide letter no. 7924/CWLW-FDWC-FD-0021-2021 dated 14th July 2023.
xxxiii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary	Not applicable. As no separate colony for Katamati iron mine.

	structures to be removed after the completion of the project.	
xxxiv.	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MOEF and Its regional office	The digital processing of entire lease area is being carried out regularly. The current land use pattern is made by M/s Geo Consultants Pvt. Ltd. the authorized agency by ORSAC, Bhubaneshwar. And the LULC report is attached as **Annexure-IX**.
xxxv.	The critical parameters such as RSPM (Particulate matter with size less than 10micron 1.e., PM10) and NOx In the ambient air within the Impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)). The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-JA.II(M) dated 27.05.2009 Issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	All the parameters are being monitored and the monitoring data is being uploaded on the company's website as part of six monthly EC compliance. All the monitoring parameters are digitally displayed on the digital display board installed at the mines main gate.
xxxvi.	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Progressive mine closure plan has been approved by IBM. As per the MCDR, 2017 the Final Mine closure plan shall be submitted to competent authority for approval two years prior to the proposed closure of the mine.
B.	**General Conditions**	
i.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	We are operating the mines as per the mining plan approved by IBM.
ii.	No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.	No change in calendar plan as approved by IBM.
iii.	At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10micron i.e., PM10) and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally	Eight manual ambient air quality monitoring stations are installed at prominent places such as pit office, viewpoint & surrounding villages etc. and monitoring is done on regular basis as per the NEERI recommendation. The Ambient Air Quality monitoring report for the period April to September 2024 is attached as **Annexure X**.

	and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	
iv.	Data on ambient air quality [(RSPM(Particulate matter with size less than 10micron i.e., PM10) and NOx) should be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.	RSPM(Particulate matter with size less than 10micron i.e., PM10) and NOx monitoring is being carryout on daily basis at 4 locations within the mines lease area and the report are submitted to the Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.
v.	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system. Mist cannons have placed at strategic points to prevent and control of fugitive dust emission.
vi.	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	Monitoring of Noise level are being done regularly at the identified major sources of noise generation within core zone. The noise monitoring report is attached as **Annexure XI**. People working at high noise areas are provided with ear plugs and ear muffs.
vii.	Industrial waste water (workshop and waste water from the mine). should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	A 30 KLD CETP along with Oil and Grease trap is installed to treat all the effluent generated from washing of HEMM's in workshop at Noamundi. This caters to Katamati mine as well.
viii.	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. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Personal Protective Equipment for working in dusty areas are provided to all personnel. Periodic training on safety and health aspects is carried out at the training centre.
ix.	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization,	A separate environmental management cell is in place with people having relevant qualification on environmental science. Organization has adequate environmental reporting system for adequate decision making.

x.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.	Funds allocated for environment management are spent only for environment related purposes and not diverted for any other use.
xi.	The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	We shall abide by the said condition.
xii.	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Full cooperation shall be extended to the officers in furnishing the requisite data/ information/ monitoring reports.
xiii.	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions Including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.	Six monthly compliance report both hard copy and soft copy is being submitted on regular basis. And the same is being uploaded on TSL website.
xiv.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, If any, from whom suggestions/ representations, If any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	A copy of Environment Clearance has been sent to the nearby Panchayats. The copy of letters is attached as **Annexure-XII.** Further, copy of EC letter has also been uploaded on the Tata Steel website www.tatasteel.com.
xv.	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.	Complied with.

xvi.	The environmental statement for each financial year ending 31st March in Form-V as Is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.	Environment statement is being submitted on annual basis before 30th September of every year and the same has been hosted on Company's website www.tatasteel.com.
xvii.	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.	Details of Environment Clearance with regard to Katamati Iron Mine were published both in English (New Indian Express) and Odiya (Pragatibadi) in local newspapers on 02.12.2010. The copy of the same is attached as **Annexure-XIII**.

ENVIRONMENTAL CLEARANCE NO. J-11015/120/2003-IA-II(M) DATED 06.05.2005		
Sl.	**Specific Conditions**	
i	Mining shall not be undertaken in forestland without the necessary approvals/ forestry clearance.	At the time prior to grant of Forest clearance the mining activities were restricted within the non-forest area. Subsequently the Forest clearance has been granted for 360.01 ha. Vide letter no. 8-1/1018-FC dated: 09.06.2021.
ii	OB should be stacked at the two earmarked dump site(s) only, stabilised and reclaimed. The maximum overall slope of dump even if single stage shall not exceed 28°.	OB is being stacked at one dump. The dump is stabilized with coir-mat, plantation, vetiver etc.
iii	Mineral rejects shall be stacked separately at earmarked site/dump-only.	Sub-grade material is being stacked at earmarked area within the mining lease area as per the approved mining plan.
iv	Mineral rejects shall be stacked separately at earmarked site/dump-only. Garland drains (size, gradient & length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Storm water return system should be provided. Storm water should not be allowed to	Over burden material is being stacked at earmarked area within the mining lease area as per the approved mining plan. Dump stabilization by laying of coir-mat, vegetation of native species, sal plantation, vetiver plantation is being carryout. Retaining wall and garland drains have been constructed around the OB dump to check mines run-off. Storm water is not allowed to mix with the effluent generated from vehicle washing. Majority of the run-off generated within the mines is being diverted into the mines pit.

	go to the effluent treatment plant during high rainfall/super cyclone period. A separate storm water sump for this purpose should be created.	
v	Dimension of retaining wall at the toe of OB dumps and benches within the mine to check run-off and siltation should be based on the rainfall data.	Retaining wall and garland drains have been constructed around the OB dump to check mines run-off.
vi	Trace Metals such as Ni, Co, As, and Hg should be analysed in dust fall and soil samples for at least one year during summer, monsoon and winter seasons. If concentrations ofthese metals are found below the standards then with prior approval of MOEF this specific monitoring could be discontinued.	We are monitoring trace metals in dust fall and soil samples.
vii	Road network shall be developed within the lease area before expansion for transport of the mineral form the quarry area.	Road network has been developed within the mining lease area for transport of mineral from quarry area.
viii	Mineral and OB transportation shall be in trucks/dumpers covered with tarpaulins. Vehicular emissions should be kept under control and regularly monitored. Suitable measures should be taken to check fugitive emissions from haulage roads, transfer points, etc.	It is ensured that all the vehicles exiting the mine gate are checked for use of tarpaulin cover and are not overloaded. Vehicular emission checks of all the wheel mounted HEMMs are done at regular intervals. Maintenance of mining equipment is done on regular basis. A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system.
ix	A green belt of adequate width should be raised by planting the native species around ML area. Plantation should also be carried out along roads, OB dump sites etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2500 plants per ha.	Adequate number of saplings have been planted in the safety zone. A total of 11276 nos. of saplings were planted during the period April to September 2024. The tree density is maintained around 2500 plants per ha.
x	Groundwater shall not be used for mine operations. Prior approval of CGWA shall be obtained for using groundwater.	We have obtained NOC from CGWA, New Delhi for drawl of ground water vide NOC no. CGWA/NOC/MIN/REN/2/2023/7915 dated: 26.05.2023. The copy of the CGWA NOC is attached as **Annexure VII**.
xi	Mining will not intersect groundwater. Prior permission of the MOEF and CGWA shall be taken to mine below water table.	The water table in the area is about 519 mRL. Whereas the maximum depth at conceptual stage is 564 mRL. Hence, throughout the course of mining operations, the ground water table will remain undisturbed, and the mining operation will not intersect ground water table.
xii	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers. The monitoring should be done for quantity four times a year in pre-monsoon (April	Ground water quality and Ground water level are being monitored periodically in and around the lease areas. All the monitoring results are being submitted to regulatory agencies. The ground water quality & level report is attached as **Annexure-VI A & B** respectively.

	/May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected should be submitted to the Ministry of Environment & Forests and the Central Ground Water Authority quarterly.	
xiii	Trace metals such as Fe, Cr +6, Cu, Se, As, Cd, Hg, Pb, Zn and Mn shall be periodically monitored at specific locations in both surface water downstream and in ground water at lower elevations from mine area, in consultation with the OSPCB and State Ground Water Board. Suitable treatment measures shall be undertaken in case levels are found to be higher than permissible limits	Trace metals are monitored for both ground water & surface water. The reports are shared to OSPCB on quarterly basis. The monitoring report of Surface water & Ground water qualities are attached as **Annexure- III & VI A** respectively.
xiv	"Consent to Operate" should be obtained from SPCB before expanding mining activities.	Consent to Operate for 2.0 MTPA (ROM) was obtained vide letter no. 6845/SPCB/BBSR-I-IND(CON)-185, dated: 30.03.2006. Copy of the same is attached as **Annexure-XIV**.
xv	Specific conservation measures shall be taken up for conservation of endangered fauna, if found within the lease area, in consultation with the State Government.	The new conservation plan has been approved vide letter no. 7924/CWLW-FDWC-FD-0021-2021 dated 14th July 2023.
xvi	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Progressive mine closure plan has been approved by IBM is in place. As per the MCDR, 2017 the Final Mine closure plan shall be submitted to competent authority for approval two years prior to the proposed closure of the mine.
B.	**General Conditions**	
i	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	We are operating the mines as per the mining plan approved by IBM.
ii	No change in the calendar plan including excavation, quantum of iron ore and waste should be made.	No change in calendar plan as approved by IBM.
iii	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO2, NOx & CO monitoring. Location of the stations should be decided based on the meteorological data, topographical features, and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (RPM, SPM, SO2, NOx & CO) should be regularly submitted to the Ministry including its Regional office at Bhubaneshwar and the State Pollution Control Board / Central Pollution Control Board once in six months.	Eight manual ambient air quality monitoring stations are installed at prominent places such as pit office, viewpoint & surrounding villages etc. and monitoring is done on regular basis as per the NEERI recommendation.

iv	Drills should be wet operated or with dust extractors and controlled blasting should be practiced.	All drilling machines are equipped with in-built dust extraction/ suppression system which has an interlock which prohibits drilling without water. Blasting is done using the controlled blasting technique. In this regard, one study has been made by CIMFR (Central Mining and Fuel Research Institute), Dhanbad and recommendations therein are being followed. Initiation system is through either NONEL/electronic detonation system so as to ensure minimal ground vibration.
v	Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangements on haul roads, wagon loading, dumpers/ trucks, loading & unloading points should be provided and properly maintained.	A network of fixed water sprinklers has been laid on permanent haul roads. Mobile water tankers of large capacity namely 50 KL which can cover the entire the entire width of the haul road has been commissioned. All feed hoppers where ore is unloaded and all transfer chutes have been provided with dry-fog dust suppression system.
vi	Adequate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc should be provided with ear plugs / muffs.	Adequate measures are taken for control of work noise levels such as all HEMMs have acoustic cabins with air conditioners and the exhaust manifold have silencers. Noisy operations have been identified and persons engaged in such operations are provided with ear plugs/muffs.
vii	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	A 30 KLD CETP along with Oil and Grease trap is installed to treat all the effluent generated from washing of HEMM's in workshop at Noamundi. This caters to Katamati mine as well.
viii	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	An environment lab has been setup at Noamundi.
ix	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. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Personal Protective Equipment for working in dusty areas are provided to all personnel. Periodic training on safety and health aspects is carried out at the training centre.
x	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	A separate environmental management cell is in place with people having relevant qualification on environmental science. Organization has adequate environmental reporting system for adequate decision making.

xi	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneshwar.	Funds allocated for environment management are spent only for environment related purposes and not diverted for any other use.
xii	The Regional Office of this Ministry located at Bhubaneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Full cooperation shall be extended to the officers in furnishing the requisite data/ information/ monitoring reports.
xiii	A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.	A copy of Environment Clearance has been sent to the nearby Panchayats. The copy of letters is attached as **Annexure-XV.**
xiv	The State Pollution Control Board should display a copy of the clearance letter at the regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.	Complied with.
xv	The project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at Web Site of the Ministry of Environment & Forests at http://envfor.nic.in. and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneshwar.	Details of Environment Clearance with regard to Katamati Iron Mine were published both in English (Sambad) and Odiya (Pragatibadi) in local newspapers on 12.05.2005. The copy of the same is attached as **Annexure-XVI**.

ANNEXURE-I

ANNEXURE

BY REGD POST

ORISSA

OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ORISSA

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751 012

No. 12850 / IND-II-NOC- **5109** Date 04.08.10

OFFICE MEMORANDUM

In consideration of the application for obtaining Consent to Establish **for M/s Katamati Iron Mine of Tata Steel Limited** the State Pollution Control Board has been pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for increase in production of **Iron Ore from 2.0 Million Ton /Annum to 8.0 Million Ton/Annum (Over mine lease hold area of 403.3238 ha) At/Po: Deojhar,** in the district of **Keonjhar** with the following conditions.

GENERAL CONDITIONS.

1. This Consent to establish is valid for the product, quantity, manufacturing process and raw materials as mentioned in the application and for a period of five years from the date of issue of this letter, provided commencement of production of the proposed project has not taken place in the meantime.
2. If the proponent fails to start operation of the project within five years but substantial physical progress has been made then a renewal of this consent shall be sought by the proponent.
3. Adequate effluent treatment facilities are to be provided such that the quality of sewage and trade effluent satisfies the standards as prescribed under Environment Protection Rule,1986 or as prescribed by the Central Pollution Control Board and/or State Pollution Control Board or otherwise stipulated in the special conditions.
4. All emission from the industry as well as the ambient air quality and noise shall conform to the standards as laid down under Environment (Protection) Act. 1986 or as prescribed by Central Pollution Control Board/State Pollution Control Board or otherwise stipulated in the special conditions.
5. Appropriate method of disposal of solid waste is to be adopted to avoid environmental pollution.
6. The industry shall comply to the provisions of Environment Protection Act, 1986 and the rules made there under with their amendments from time to time such as the Hazardous Waste (Management & Handling) Rules 1989, Hazardous Chemical Rules, /Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 etc. and amendments there under. The industry shall also comply to the provisions of Public Liability Insurance Act, 1991, if applicable.

7. The industry is to apply for grant of Consent to operate under section 25/26 of Water(Prevention & Control of Pollution)Act, 1974 & Air (Prevention & Control of Pollution)Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board.

8. **This consent to establish is subject to statutory and other clearances from Govt. of Orissa and/or Govt. of India, as and when applicable.**

SPECIAL CONDITIONS : -

1. **The mine has to seek environmental clearance as per the EIA notification 2006 and mining activity for proposed mining project shall commence after obtaining environmental clearance.**

2. **A bank guarantee commensurate with the production level will be taken by the Board for continuous satisfactory environmental compliance of the mine during the period for which consent to operate is granted as and where required.**

3. **The mine is operating under provisions of deemed extension of mining lease since 17.1.2003. Consent to establish for the proposal is subject to grant of mining lease from Steel & Mines Department, Govt. of Orissa.**

4. **The mine shall obtain permission for drawl of water from Water Resource Deptt., Govt. of Orissa before implementation of this expansion project.**

5. **The mine has proposed for increase of height of dyke of tailing pond of beneficiation plant of Nuamundi iron ore mine for tailing disposal. Consent to establish for the proposal is subject to permission from concerned authority for increase of height of dyke of tailing pond.**

6. The mine shall achieve the production target by deployment of following equipment and machineries.

Sl.No.	Equipment	Capacity	Number
1.	Shovels	(3.5/6.0) m^3	4-5
2.	Drills	(100-150) mm	4-5
3.	Dumpers	25 T/50T/60T/100T	18-22
4.	Dozer	300KW	04
5.	Grader	16 feet blade	02
6.	Mining Loader	10 m^3	02
7.	Water Sprinkler	28KL	02
8.	Pit Vehicles	-	03
9.	Maintenance van	-	01
10.	Diesel tanker	10 KL	01
11.	Jack Hammer	32mm	03

7. No change in mining technology and scope of working shall be made without prior approval of the Board.

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

9. Concurrent back-filling should be started from the fourth year of operation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests with a copy to the Board on yearly basis.

10. Reclamation programme alongwith the post closure plan is to be submitted within 06 months from the date of issue of this order. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.

11. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data. The detail specification shall be worked out and submitted to the Board.

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

13. Surface run-off from OB dump area, mineral stock yard, top soil storage area and rain water to be pumped from quarry shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed standard of SS-50 mg/l and O& Grease-5 mg/l before discharge into natural stream/water courses during monsoon.

14. Regular monitoring of ground water level and quality should be carried out by establishing a net work of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), Monsoon (August), Post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly. Following heavy metals need to be monitored at least once during post monsoon period whose values shall not exceed as per following standard.

i)	Cd	-	2.0 mg/l
ii)	Cr+6	-	0.10 mg/l
iii)	Copper	-	3.0 mg/l
iv)	Lead	-	0.10 mg/l
v)	Mercury	-	0.01 mg/l
vi)	Nickel	-	0.50 mg/l
vii)	Zinc	-	5.0 mg/l

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

16. Wastewater (workshop, wastewater from the mine i.e. pit water, check dams or any other discharge leaving lease boundary of the mine) should be properly collected, treated so as to conform the prescribed standard i.e. pH = 6 – 9.0, SS = 50 mg/l, & O & G = 5 mg/l as amended from time to time. Oil and grease trap should be installed before discharge of effluents from workshop.
17. Drill should be wet operated or with dust extractors and controlled blasting should be practices.
18. Six ambient air quality monitoring stations for 24 hours operation should be established in the core zone as well as in the buffer zone for RPM, SPM, SO_2, NOx and CO monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.
19. Data on ambient air quality (PM10, PM2.5 SPM, SO_2, NOx and CO) should be regularly submitted to the State Pollution Control Board once in six months.
20. Adequate measures to control fugitive emission shall be taken during loading and transportation of minerals, haul roads, drilling, excavation, ore stack pile and truck loading areas.
21. The speed of dumpers / trucks on haul roads shall be controlled as increased speed increases dust emission. Overloading of transport vehicles shall be avoided.
22. Drilling operation need to be conducted as per the recommendations of the manufacturer using sharp drill bits. Applying sufficient thrust on the drill bit and providing dust hood at the mouth of drill hole collar to prevent the generation of dust to be air-borne.
23. Pre-wetting of blasting site shall be practiced.
24. Optimized blasting methods shall be practiced i.e. matching the explosive to the drilling pattern, rock characteristics and proper stemming of the holes. Site specific drilling pattern, optimum charging of explosives, adequate stemming and introduction of delays shall be practiced.
25. During transportation of ore by trucks through public roads, the truck shall be properly covered with tarpaulin sheets / leak proof coverings and shall ply at safe speed.
26. Dust suppression on mine haul roads, active OB dumps and mine working benches shall be done by spraying water through water sprinklers along with chemical binders/wetting agents at frequent interval in order to reduce water consumption and to improve retention and re-absorption capacity of water. The additive chemicals should not have any adverse impact on the environment. Water sprinklers of fixed type shall also be provided at the mine HEMM maintenance shop, other service centers and approach roads from mines to raw material handling & product handling area to prevent the generation of dust to be air borne.
27. The mine shall provide dry fog as well as dust extraction system in the potential dust generating points of crusher and screening plants to control fugitive emission.
28. Regular collection of spilled over raw material from haul roads shall be practiced to prevent the generation of dust due to movement of dumpers /truck.

29. **A green belt of adequate width and density preferably with local species along the periphery of the mine shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover. The proponent shall ensure the maintenance of green belt throughout the year and for all time to come. It is advised that they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared and shall be submitted accordingly**.

30. Noise is best abated at source by selecting right machinery and equipment by proper mounting of equipment by providing noise insulating enclosures or padding as far as possible.

31. Noise barriers shall be constructed between sources and affected areas (thick belt of trees around mine boundaries, waste dumps, hills and mountainous land forms can act as such barrier).

32. Adequate measures shall be taken for control of noise levels in the work environment of mine area so that noise levels at the boundary line of M.L area shall not exceed 75 dB(A) during day time (6 AM to 10 AM) and 70 dB(A) during night time (10, PM to 6 AM).

33. The waste dumps shall be located away from the natural nallas, rivers in the area and on an impervious & non-mineralised area to minimize the water pollution.

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

35. The completed out slope of the waste dumps should not exceed 37degrees from horizontal to avoid excessive erosion and easy vegetation.

36. Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.

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

38. All efforts shall be taken to protect the existing water bodies in the surrounding. A definite plan in this regard shall be submitted to the Board within 06 month from the date of issue of this order.

39. This consent to establish is granted subject to grant of Explosive License from competent Authority. The valid Explosive License must be submitted to this Board while applying for consent to operate to this Board.

40. The mine shall obtain forest clearance under Forest (Conservation) Act. 1980 if there is involvement of forest land in the mining lease area.

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

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

MEMBER SECRETARY

To,

The General Manager (OMQ)
Katamati Iron Mine of Tata Steel Ltd.,
At/PO: Noamundi, Dist: Singhbhum(W)
Jharkhand- 833217

Memo No._____/Dt.

Copy forwarded to:

1. The Secretary Steels & Mines, Govt. of Orissa, Bhubaneswar
2. The Collector, Keonjhar
3. The Director, Factories & Boiler, Bhubaneswar
4. Regional Officer, .S.P.C.Board, Keonjhar
5 DFO, Keonjhar
6. Copy to Guard file/Consent section

SR. ENV. ENGINEER (N)

ANNEXURE-II

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ORISSA

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2561909, Fax: 2562822, 2560955

REVISED CONSENT ORDER

No. 1202 /IND-I-CON-185 Dt. 24.01.2011

CONSENT ORDER NO. 114

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

Ref : Your letter **No. MD/ENV/317/110/2010, Dtd. 23/10/2010**

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

Name of the Industry **Katamati Iron Ore Mines (Tata Steel Ltd)**

Name of the Occupier & Designation **Rajesh Patel, Head (Planning) OMQ**

Address **At/Po – Joda, Dist – Keonjhar**

This consent order is valid for the period up to 31.03.2011

This consent order is valid for the product quantity, specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein. ***This order supersede earlier consent order issued vide letter No. 6570, dtd. 24/3/2007 & No. 6572, dtd. 24/3/2007.***

A. **Details of Products Manufactured**

Sl.No.	Product	Quantity
1.	Iron Ore	8.0 MTPA

PTO

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

ANNEEXURE

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge KLD or KL/hr	Pre-scribed Standard			
				pH	TSS mg/l	Oil & Grease mg/l	BOD mg/l
01.	*Domestic effluent*	*Septic tank & soak pit*	--	*5.5 to 9.0*	*200*	--	*100*
2.	*Mine drainage water / surface runoff / other wastewater*	*Nearby land/ inland surface water*	--	*5.5 to 9.0*	*50 (Non-rainy day)*	*10*	--
					100 (Rainy day)		

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

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission	Prescribed Standard				
				PM	SO_2	NO_x		

D. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site(TPD)	Quantity to be reused off site(TPD)	Quantity disposed off (TPD)	Description of disposal site.
01.	Top Soil / Overburden	As per approved mining plan	--	--	--	As per approved mining plan

E. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.

2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.

3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.

4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.

5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.

6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.

7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.

8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.

9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.

10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air

11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever.

12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:

    a) Industrial cooling, spraying in mine pits or boiler feed,
    b) Domestic purpose
    c) Process

13. The applicant shall display suitable caution board at the lace where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.

14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.

15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.

16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.

17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.

18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.

19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.

20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.

21. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.

22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.

23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.

24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.

P.T.O

25. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.

26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.

27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner and to ion of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).

28. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.

29. There shall not be any fugitive or episodal discharge from the premises.

30. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.

31. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.

32. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurence.

33. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.

34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.

35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
   i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
   ii) Controlled incineration, wherever possible in case of combustible organic material.
   iii) Composting, in case of bio-degradable material.

36. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.

37. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.

38. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.

39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.

40. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.

41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.

42. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.

43. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate.

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

1. The applicant shall analyse the emissions every month for the parameters indicated in TABLE .B & C as mentioned in this order and shall furnish the report thereof to the Board by the 10th of the succeeding month.

2. The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphor Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monixide and monitor the same once in a day/week/fortnight/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.

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

4 The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Orissa, Bhubaneswar regularly

a. Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month.
b. Progress on planting of trees quarterly.

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

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

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

7 **Non-compliance with effluent limitations**

a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.

i) Causes of non-compliance

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

ii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.

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

iv) Steps to be taken by the applicant too prevent the condition of non-compliance.

b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

8. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.

9 The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or trickling of acids or alkalies arbitrarily and utilizing poles for stirring etc. should not be resorted to.

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

Rotation of crops

Change of point of application of effluent on land

A portion of land kept fallow.

11. The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consultation with the Agriculture Department.

12. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent if any.

13. Proper house keeping shall be maintained by a dedicated team.

14. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.

F. SPECIAL CONDITIONS :

1) Grant of consent to operate order is subject to grant of forest clearance under the Forest (Conservation) Act, 1980 from the competent authority.

2) Grant of consent to operate is subject to clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.

3) A copy of the annual return (annual return submitted to IBM, Govt. of India/ Directorate of Mines, Govt. of Orissa) shall be submitted every year.

4) The environmental statement report shall be submitted to the Board in proper format every year.

5) Drills shall either be operated with dust extractors or equipped with water injection system.

6) Controlled blasting shall be practiced. No blasting shall be carried out after the sunset.

7) The top soil shall be stored at earmarked site (s) only and stabilized or shall be used for land reclamation and plantation.

8) The over burden generated during the course of mining shall be stacked at earmarked dump site (s) and stabilized or used for reclamation of excavated land followed by plantation.

9) The project proponent shall ensure that no natural water course and / or water resources are obstructed due to any mining operations.

10) Catch dams with siltation ponds shall be constructed at appropriate places of the mine lease area to prevent run off of water and flow of sediment directly into nearby water bodies. The water so collected shall be utilized for watering the mine area, roads, green belt development etc.

11) Retention wall shall be constructed at the toe of topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps, over burden dumps and mineral dumps terminating at settling pit to prevent run off of water and flow of sediments directly into nearby water bodies. Garland drain and sedimentation pit shall be desilted at regular intervals.

12) Regular water sprinkling shall be carried out in critical areas prone to air pollution such as around crushing and screening plant. Water sprinkling shall be carried out on haul roads at desired intervals. Adequate sprinkling arrangement shall be made for control of fugitive dust emission.

13) Mineral handling plant (crusher, screening plant and beneficiation plant) shall be provided with adequate number of high efficiency dust extraction system or dust suppression system preferably dry fog system. Loading the unloading areas including all the transfer points shall also have efficient dust suppression arrangements. These shall be properly maintained and operated. The tailings generated from the beneficiation plant shall be disposed of in a pond of adequate size.

14) The mine shall take necessary action for compliance of the following air and water quality standards. Emission and wastewater quality monitoring shall be

done by the lessee twice in a week and report shall be submitted once in six months to the Board.

Industry	Parameters	Standard
Iron ore mining & ore processing	**A. Emission standards for stack for De-dusting unit**	
	Particulate matter	100mg/Nm^3
	Stack height **	15.0m
	** Stack height for De-dusting unit shall be calculated as H=74 Q $^{0.27}$, where H and Q are stack height in metre and particulate matter (PM) emission in tonne / hr respectively, i.e.,	
	Q (kg/hr)	H (metre)
	Up to 2.71 2.72-7.86 7.87-17.96 17.97-35.29	15 20 25 30
	Note : - Stack attached to De-dusting unit shall have minimum height of 15.0 meters and would be atleast 2.50 meters above the top-most point of the nearby building / shed or plant in the mine	
	B. Fugitive Emission Standards	
	Particulate Matter	1200 µg/m^3
	Note : Fugitive emission shall be monitored in the predominant downwind direction at a distance 25.0 ± 2.0 metres from the source of fugitive emission as per following :	
	Area	**Monitoring Location**
	Mine face / Benches	Drilling, excavation and loading applicable for operating benches above water table
	Haul Roads/ Service Roads	Haul roads to ore processing plant, waste dumps and loading areas and service road.
	Crushing plant	Run-off mine unloading at hopper, crushing areas, screens and transfer points.
	Screening plant	Screens, conveying and transportation of ore discharge points.
	Ore storage and loading	Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas.
	Water dump	Active waste / reject dumps
	C. Effluent Standards	
	pH	5.5-9.0
	Suspended solids (non-rainy day)	50 mg/l
	Suspended solids (rainy day)	100 mg/l
	Oil & Grease	10 mg/l
	Note : (i) All efforts shall be made to reuse and re-circulate the treated effluent. (ii) The aforesaid effluent standards shall be complied with for sewage, service water, beneficiation of ore wash water and surface run -off put together"	

15) Adequate **Ambient Air Quality Monitoring Stations** shall be established and location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the Regional Officer, State Pollution Control Board.

16) **Monitoring of Ambient Air Quality** of the mine shall be done twice in a week (24 hourly) **at a particular site** and data shall be submitted to the State Pollution Control Board, once in six months.

17) It shall be ensured that the **Ambient Air Quality Parameters** conform to the norms prescribed for Industrial Area (**prescribed in the consent order**).

18) Regular monitoring of water quality of upstream and downstream of the nearby water bodies if any shall be carried out and record of monitored data shall be maintained and submitted to the State Pollution Control Board once in every year.

19) Appropriate mitigative measures shall be taken to prevent pollution of the nearby water bodies.

20) Sewage treatment plant shall be installed for the colony if any. Other domestic wastewater shall be discharged to soak pit through septic tank constructed as per BIS specification.

21) ETP shall also be provided for the wastewater generated during the mining operation. Oil and grease trap with sedimentation pit shall be provided for treatment of workshop effluent.

22) Measures shall be taken for control of noise levels below 85 dBA in the work environment.

23) Mine shall abide-by the Environment (Protection) Act, 1986 and rules framed thereunder.

24) Plantation shall be raised around the mining lease, backfilled and reclaimed area, around crusher, screen, beneficiation plant, roads etc. by planting the native species in consultation with the local DFO/ Agriculture Department.

25) The mine shall submit a declaration by 30th April every year that all pollution control systems are in good condition, operated and emission / air quality / ambient air quality and wastewater quality conform to the prescribed standards.

26) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and other action as deemed fit.

The occupier must comply with the conditions stipulated in section A,B,C,D,E and F to keep this consent order valid.

To,

The Manager,
Katamati Iron Mine, TISCO, Mines Division,
Noamundi - 833 217,
Singhbhum, West- Jharkhand

22/1/11

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ORISSA

Memo No._____/Dt.

Copy forwarded to :

i) Regional Officer, State Pollution Control Board, Keonjhar
ii) District Collector Keonjhar
iii) D.F.O Keonjhar
iv) Deputy Director of Mines Joda
(For Mines and Minerals Processing Unit only)
v) Cess Section (Head Office)
vi) Consent Register

ENV. SCIENTIST
STATE POLLUTION CONTROL BOARD, ORISSA

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS

C.O for STP - KTM - 8MTPA

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

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practible	------	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	-----	------	
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5^0C above the receiving water temperature	------	--------	Shall not exceed 5^0C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	----	------	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	------	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max.	100	----	------	100
11.	Free ammonia (as NH_3) mg/1 max.	5.0	----	------	5.0
12.	Biochemical Oxygen Demand (5 days at (20^0C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	----	------	250
14.	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/1 max.	0.01	0.01	------	0.001
16.	Lead (as pb) mg/1 max.	01.	1.0	------	2.0

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

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO_2), µg/m³	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO_2), µg/m³	Annual *	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM_{10}µg/m³	Annual *	60	60	-Gravimetric - TOEM
		24 Hours **	100	100	- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ µg/m³	Annual *	40	40	-Gravimetric - TOEM
		24 Hours **	60	60	- Beta Attenuation
5.	Ozone (O_3) µg/m³	8 Hours **	100	100	- UV Photometric - Chemiluminescence
		1 Hours **	180	180	- Chemical Method
6.	Lead (Pb) µg/m³	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper.
		24 Hours **	1.0	1.0	- ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR)
		1 Hours **	04	04	Spectroscopy
8.	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method
		24 Hours**	400	400	
9.	Benzene (C_6H_6) µg/m³	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

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

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

P.T.O

ANNEXURE-III

ANNEXURE-XXIII

Summarized Surface Water Quality Monitoring Report							
Katamati Iron Ore Mine of M/s tata steel Limited							
Period: April 2024 to September 2024							
Location		**Murga Nallah Upstream**					
Parameters		**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**
I	**Biological Testing 1.Water**						
1	Total Colifom	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)
II	**Chemical Testing 1.Water**						
2	pH value	6.51	6.51	6.37	6.43	6.37	6.41
3	Colour	26	26	21	23	32	42
4	Dissolved Oxygen	6.5	6.5	6.7	6.4	6.2	6.4
5	Total Suspended Solid (as TSS)	28	28	26	32	32	36
6	BOD (3 days at 27°C)	2.73	2.73	2.64	2.51	2.71	2.51
7	Chemical oxygen demand	8.19	8.19	8.53	7.19	8.53	7.93
8	Total Dissolved Solids (TDS)	1354	1354	1264	1354	1287	1347
9	Copper (as Cu)	0.06	0.06	0.07	0.06	0.08	0.07
10	Chloride (as Cl)	131.76	131.76	128.46	116.52	304.73	316.53
11	Sulphate (as SO_4)	252.19	252.19	264.91	252	182.36	176.28
12	Nitrate (as NO_3)	38.16	38.16	32.46	28.16	27.41	28.46
13	Fluoride (as F)	0.62	0.62	0.64	0.53	0.52	0.47
14	Cyanide (as CN)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
	Chemical Testing 2. Residues In Water						
17	Iron (as Fe)	0.46	0.46	0.42	0.43	0.38	0.32
18	Cadmium (as Cd)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr^{+6})	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

Summarized Surface Water Quality Monitoring Report							
Katamati Iron Ore Mine of M/s tata steel Limited							
Period: April 2024 to September 2024							
Location		**Murga Nallah Downstream**					
Parameters		**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**
I	**Biological Testing 1.Water**						
1	Total Colifom	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)
II	**Chemical Testing 1.Water**						
2	pH value	6.84	6.84	6.58	6.64	6.47	6.61
3	Colour	18	18	16	18	36	38
4	Dissolved Oxygen	6.1	6.1	6.3	6.1	6.4	6.3
5	Total Suspended Solid (as TSS)	16	16	18	24	26	28
6	BOD (3 days at 27°C)	2.64	2.64	2.53	2.47	2.84	2.47
7	Chemical oxygen demand	7.53	7.53	7.91	6.82	7.91	6.82
8	Total Dissolved Solids (TDS)	1192	1192	1132	1193	1193	1281
9	Copper (as Cu)	0.03	0.03	0.04	0.03	0.04	0.03
10	Chloride (as Cl)	121.58	121.58	116.53	103.94	294.76	281.79
11	Sulphate (as SO_4)	241.67	241.67	251.68	247	164.29	147.31
12	Nitrate (as NO_3)	27.94	27.94	28.52	21.94	24.93	19.32
13	Fluoride (as F)	0.51	0.51	0.53	0.47	0.46	0.38
14	Cyanide (as CN)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
	Chemical Testing 2. Residues In Water						
17	Iron (as Fe)	0.42	0.42	0.38	0.37	0.31	0.26
18	Cadmium (as Cd)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr^{+6})	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

Summarized Surface Water Quality Monitoring Report							
Katamati Iron Ore Mine of M/s tata steel Limited							
Period: April 2024 to September 2024							
Location		**Jojo Nallah Upstream**					
Parameters		**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**
I	**Biological Testing 1.Water**						
1	Total Colifom	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)
II	**Chemical Testing 1.Water**						
2	pH value	6.51	6.51	6.56	6.52	6.57	6.61
3	Colour	48	26	42	42	43	21
4	Dissolved Oxygen	6.7	6.5	6.5	6.7	6.4	6.7
5	Total Suspended Solid (as TSS)	52	28	48	53	43	38
6	BOD (3 days at 27°C)	2.76	2.73	2.84	2.91	2.61	2.71
7	Chemical oxygen demand	8.19	8.19	7.31	8.56	8.94	8.64
8	Total Dissolved Solids (TDS)	1387	1354	1297	1385	1387	1281
9	Copper (as Cu)	0.06	0.06	0.07	0.08	0.06	0.07
10	Chloride (as Cl)	151.68	131.76	148.36	137.36	326.47	306.92
11	Sulphate (as SO_4)	217.32	252.19	204.71	212.58	216.53	241.76
12	Nitrate (as NO_3)	26.81	38.16	21.76	23.58	26.43	28.46
13	Fluoride (as F)	0.64	0.62	0.53	0.47	0.38	0.37
14	Cyanide (as CN)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
	Chemical Testing 2. Residues In Water						
17	Iron (as Fe)	0.43	0.46	0.46	0.42	0.42	0.46
18	Cadmium (as Cd)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr^{+6})	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

Summarized Surface Water Quality Monitoring Report							
Katamati Iron Ore Mine of M/s tata steel Limited							
Period: April 2024 to September 2024							
Location		**Jojo Nallah Downstream**					
Parameters		**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**
I	**Biological Testing 1.Water**						
1	Total Colifom	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)
II	**Chemical Testing 1.Water**						
2	pH value	6.63	6.63	6.68	6.61	6.71	6.98
3	Colour	36	36	38	36	38	16
4	Dissolved Oxygen	6.3	6.3	6.1	6.4	6.7	6.4
5	Total Suspended Solid (as TSS)	48	48	36	42	38	26
6	BOD (3 days at 27°C)	2.53	2.53	2.62	2.76	2.52	2.43
7	Chemical oxygen demand	7.62	7.62	6.58	8.17	6.41	5.92
8	Total Dissolved Solids (TDS)	1294	1294	1136	1284	1291	1164
9	Copper (as Cu)	0.04	0.04	0.06	0.06	0.03	0.03
10	Chloride (as Cl)	147.39	147.39	138.29	116.52	273.81	264.71
11	Sulphate (as SO_4)	194.76	194.76	183.68	194.76	194.76	239.14
12	Nitrate (as NO_3)	24.58	24.58	17.32	18.54	18.52	16.52
13	Fluoride (as F)	0.58	0.58	0.47	0.38	0.27	0.31
14	Cyanide (as CN)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BDL(DL-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
	Chemical Testing 2. Residues In Water						
17	Iron (as Fe)	0.37	0.37	0.43	0.36	0.38	0.42
18	Cadmium (as Cd)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BDL(DL-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr^{+6})	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BDL(DL-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

ANNEXURE- XXIV

Surface Water Flow Rate Measurement Report				
Katamati Iron Ore Mine of M/s tata Steel Limited				
Period: October 2024 to September 2024				
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**
Noamundi iron Mine	Jojo Nalla	April 2024	Cu.m/hr	254.75
		May 2024	Cu.m/hr	264.61
		June 2024	Cu.m/hr	237.28
		July 2024	Cu.m/hr	229.82
		August 2024	Cu.m/hr	316.11
		September 2024	Cu.m/hr	745.24

ANNEXURE-V

Figure 6.4: Geo-tagged photographs of recharge ponds-A.

Figure 6.5: Geo-tagged photographs of recharge ponds-B.

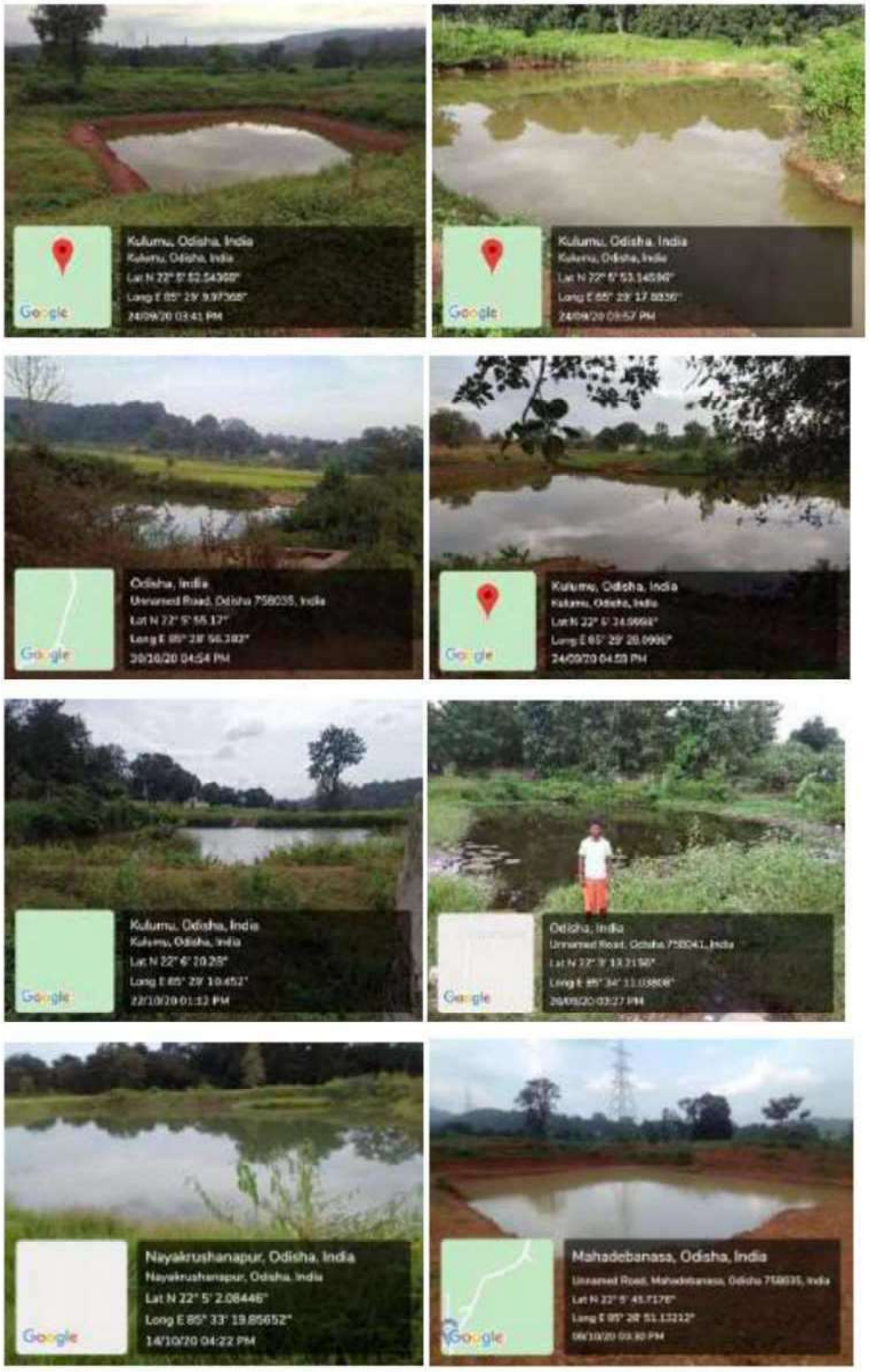


Figure 6.6: Geo-tagged photographs of recharge ponds-C.

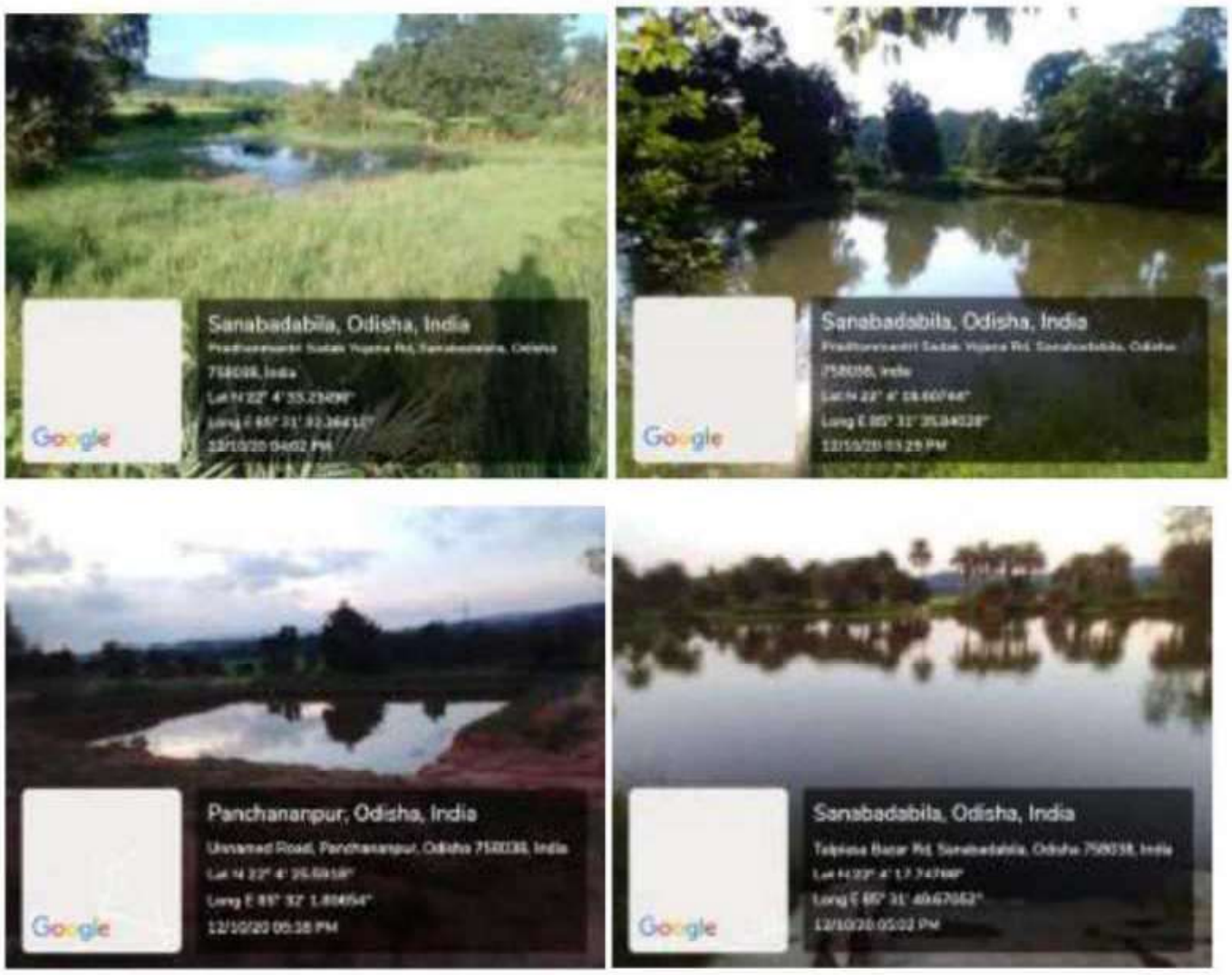


Figure 6.7: Geo-tagged photographs of recharge ponds-D.

ANNEXURE-XVI A

GROUND WATER QUALITY REPORT (APRIL 2024 - SEPTEMBER 2024)
KATAMATI IRON MINE

	Parameters	Mahadev Nasha Village	Dalfiri-2 Village	Dalfiri-1 Village	Village Nr. Tata Sponge	Near Metso Plant	Nr. Pit Office
		MAY 2024					
I	**Biological Testing 1. Water**						
1	*Escherichia coli*	Absent	Absent	Absent	Absent	Absent	Absent
II	**Chemical Testing 1. Water**						
2	Alkalinity (as $CaCO_3$)	181.68	169.87	164.27	157.46	196.38	167.49
3	Anionic detergent (as MBAS)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
4	Colour	1	1	1	1	1	1
5	Cyanide (as CN)	BDL (DL – 0.005)	BDL (DL – 0.005)	BDL (DL – 0.005)	BDL (DL – 0.005)	BDL (DL – 0.005)	BDL (DL – 0.005)
6	Chloride (as Cl)	26.52	24.63	23.67	23.17	26.81	23.81
7	Calcium (as Ca)	53.67	41.57	51.39	48.76	46.27	47.36
8	Free residual chlorine	BDL (DL - 0.1)	BDL (DL - 0.1)	BDL (DL - 0.1)	BDL (DL - 0.1)	BDL (DL - 0.1)	BDL (DL - 0.1)
9	Fluoride (as F)	0.21	0.21	0.26	0.18	0.19	0.27
10	Magnesium (as Mg)	11.64	13.97	11.57	11.43	13.52	13.91
11	Nitrate (as NO_3)	12.27	5.58	5.93	9.27	5.17	5.82
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	6.97	6.87	6.91	7.81	7.92	7.93
14	Phenolic compounds (as C_6H_5OH)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)
15	Sulphate (as SO_4)	13.81	13.64	13.87	13.57	13.81	14.76
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	462	492	463	462	462	481
18	Turbidity	0.4	0.6	0.3	BDL (DL – 0.1)	0.3	0.6
19	Total hardness (as $CaCO_3$)	181.98	161.30	175.99	168.84	171.20	175.53
II	Chemical Testing 2. Residues In Water						
20	Arsenic (as As)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
21	Aluminium (as Al)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
22	Barium (as Ba)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
23	Boron (as B)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
24	Copper (as Cu)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
25	Cadmium (as Cd)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)
26	Iron (as Fe)	0.21	0.32	0.24	0.36	0.21	0.24
27	Lead (as Pb)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
28	Manganese (as Mn)	BDL (DL – 0.02)	BDL (DL – 0.02)	BDL (DL – 0.02)	BDL (DL – 0.02)	BDL (DL – 0.02)	BDL (DL – 0.02)

ANNEXURE-XVI A

GROUND WATER QUALITY REPORT (APRIL 2024 - SEPTEMBER 2024)

KATAMATI IRON MINE

	Parameters	Mahadev Nasha Village	Dalfiri-2 Village	Dalfiri-1 Village	Village Nr. Tata Sponge	Near Metso Plant	Nr. Pit Office
		MAY 2023					
29	Mercury (as Hg)	BDL (DL - 0.001)	BDL (DL - 0.001)	BDL (DL - 0.001)	BDL (DL - 0.001)	BDL (DL - 0.001)	BDL (DL - 0.001)
30	Selenium (as Se)	BDL (DL- 0.01)	BDL (DL- 0.01)	BDL (DL- 0.01)	BDL (DL- 0.01)	BDL (DL- 0.01)	BDL (DL- 0.01)
31	Total Chromium (as Cr)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
32	Zinc (as Zn)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
33	Polynuclear aromatic hydrocarbon (PAH)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)
34	Mineral Oil	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)
II	**Chemical Testing 2. Residue In Water**						
35	**Pesticide Residues Organochlorine**						
i	Alpha-HCH	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
ii	Beta HCH	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
iv	Delta- HCH	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
v	Alachlor	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
vi	Aldrin	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
vii	Dieldrin	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
viii	Butachlor	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
ix	p,p′-DDE	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
x	o,p′-DDE	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xi	p,p′-DDD	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xii	o,p′-DDD	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xiii	o,p′- DDT	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xiv	p,p′- DDT	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xv	Monocrotophos	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xvi	Atrazine	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xvii	Parathion methyl	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xviii	Paraoxon methyl	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xix	Malathion	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xx	Malaoxon	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xxi	Ethion	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
xxii	Chlorpyrifos	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)

ANNEXURE-XVI A

GROUND WATER QUALITY REPORT (APRIL 2024 - SEPTEMBER 2024)
KATAMATI IRON MINE

	Parameters	Mahadev Nasha Village	Dalfiri-2 Village	Dalfiri-1 Village	Village Nr. Tata Sponge	Near Metso Plant	Nr. Pit Office
		AUGUST 2024					
I	**Discipline: Biological**						
1	*Escherichia coli*	Absent	Absent	Absent	Absent	Absent	Absent
II	**Discipline: Chemical**						
2	Alkalinity (as $CaCO_3$)	161.47	197.24	177.18	172.84	157.62	191.68
3	Anionic surface active agents (as MBAS)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
4	Colour	4	3	3	3	3	3
5	Cyanide (as CN)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
6	Chloride (as Cl)	36.17	36.57	38.71	36.57	17.91	26.78
7	Calcium (as Ca)	53.68	42.81	49.26	43.12	32.46	52.47
8	Free residual chlorine	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Fluoride (as F)	0.28	0.27	0.37	0.21	0.13	0.31
10	Magnesium (as Mg)	13.54	11.94	11.68	11.52	9.52	13.57
11	Nitrate (as NO_3)	9.36	5.26	5.17	5.36	3.87	7.63
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	6.71	7.92	8.13	7.17	7.16	6.72
14	Phenolic compounds (as C_6H_5OH)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
15	Sulphate (as SO_4)	12.68	7.68	11.64	6.94	4.82	8.36
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	471	452	471	472	453	451
18	Turbidity	0.6	0.6	0.3	0.3	0.2	0.3
19	Total hardness (as $CaCO_3$)	189.81	156.06	171.12	155.11	120.25	186.90
II	**Discipline: Chemical**						
20	Arsenic (as As)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Aluminium (as Al)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
22	Barium (as Ba)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Boron (as B)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
24	Copper (as Cu)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
25	Cadmium (as Cd)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
26	Iron (as Fe)	0.28	0.24	0.16	0.26	0.17	0.24
27	Lead (as Pb)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
28	Manganese (as Mn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

ANNEXURE-XVI A

GROUND WATER QUALITY REPORT (APRIL 2024 - SEPTEMBER 2024)

KATAMATI IRON MINE

	Parameters	Mahadev Nasha Village	Dalfiri-2 Village	Dalfiri-1 Village	Village Nr. Tata Sponge	Near Metso Plant	Nr. Pit Office
		AUGUST 2024					
29	Mercury (as Hg)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
30	Selenium (as Se)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
31	Total Chromium (as Cr)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
32	Zinc (as Zn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
33	Polynuclear aromatic hydrocarbon (PAH)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
III	**Discipline: Chemical**						
34	Mineral Oil	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
IV	**Discipline: Chemical**						
35	**Pesticide Residues Organochlorine**						
i	Alpha-HCH	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
ii	Beta HCH	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
iii	Gamma - HCH (Lindane)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
iv	Delta- HCH	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
v	Alachlor	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
vi	Aldrin	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
vii	Dieldrin	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
viii	Butachlor	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
ix	p,p′-DDE	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
x	o,p′-DDE	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xi	p,p′-DDD	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xii	o,p′-DDD	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xiii	o,p′- DDT	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xiv	p,p′- DDT	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xv	Monocrotophos	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xvi	Atrazine	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xvii	Parathion methyl	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xviii	Paraoxon methyl	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xix	Malathion	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xx	Malaoxon	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xxi	Ethion	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
xxii	Chlorpyrifos	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)

ANNEXURE-XVI B

Summarised Ground Water Level Report				
Katamati Iron Ore Mine of M/s Tata Steel Limited				
Period: April 2024 to September 2024				
Month	Locations wise Ground Water Level in Mtrs. = mbmp- magl			
	Mahadev Nasha	Daladiri-1	Tata Sponge	Daladiri-2
Apr' 24	3.46	4.27	4.46	4.56
May' 24	3.5	4.5	4.6	4.7
Jun' 24	3.46	4.27	4.34	4.61
Jul' 24	3.17	3.86	4.03	4.01
Aug' 24	3.01	3.53	3.41	3.41
Sep' 24	2.82	3.32	3.33	3.16

ANNEXURE-VII

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

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

Project Name:	Katamati Iron Mine Of Tata Steel Limited		
Project Address:	Katamati Iron Mine, Vill- Deojhar, Champua		
Village:	Deojhar	Block:	Joda
District:	Kendujhar	State:	Odisha
Pin Code:			
Communication Address:	Mr. D Vijayendra, Chief Mine Planning And Projects (omq Division),, Tata Steel Limited, P.o. Noamundi, Noamundi, West Singhbhum, Jharkhand - 833217		
Address of CGWB Regional Office :	Central Ground Water Board South Eastern Region, Bhujal Bhawan, Khandagiri Square, Nh-5, Bhubaneshwar, Khordha, Odisha - 750001		

1.	**NOC No.:**	CGWA/NOC/MIN/REN/2/2023/7915	2.	**Date of Issuence**	26/05/2023
3.	Application No.:	21-4/1627/OR/MIN/2018	4.	Category: (GWRE 2022)	Safe
5.	Project Status:	Existing Ground Water	6.	NOC Type:	Renewal
7.	**Valid from:**	10/10/2022	8.	**Valid up to:**	09/10/2024

9. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
460.00	123250.00						

10. Details of ground water abstraction /Dewatering structures

	Total Existing No.:2						Total Proposed No.:5					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	2	0	0	0	0	0	5	0	0	0

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

11.	Ground Water Abstraction/Restoration Charges paid (Rs.):		334100.00		
12.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers	Monitoring Mechanism		
			Manual	DWLR**	DWLR With Telemetry
	**DWLR - Digital Water Level Recorder	1	0	1	0

(Compliance Conditions given overleaf)

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

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

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

Mandatory conditions:

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

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

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

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

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

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

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

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

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

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

General conditions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.

30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

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

CENTRAL GROUND WATER AUTHORITY

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

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

पानी बचाये – जीवन बचाये
SAVE WATER - SAVE LIFE

Receipt

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

Application No,:	21-4/1627/OR/MIN/2018		
Name of Firm:	KATAMATI IRON MINE OF TATA STEEL LIMITED		
AppType Category:	*Iron ore*		
Application Type:	*Mining*		
PAN/GSTIN No. of Firm/Individual:		/	

SN	Description	Amount (Rs.)
1.	Application Processing Fee	1000.00
2.	Ground Water Abstraction /Restoration charges	334100.00
3.	Environmental Compensation Charges (ECRGW) *(Date From to) Days-*	
4.	Penalty for non-Compliance of NOC conditions *Condition to be mentioned*	
	Rs. Rupees Three Lakh Thirty Five Thousand One Hundred Only	**335100.00**

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

Instantel

Event Report

ANNEXURE-VIII

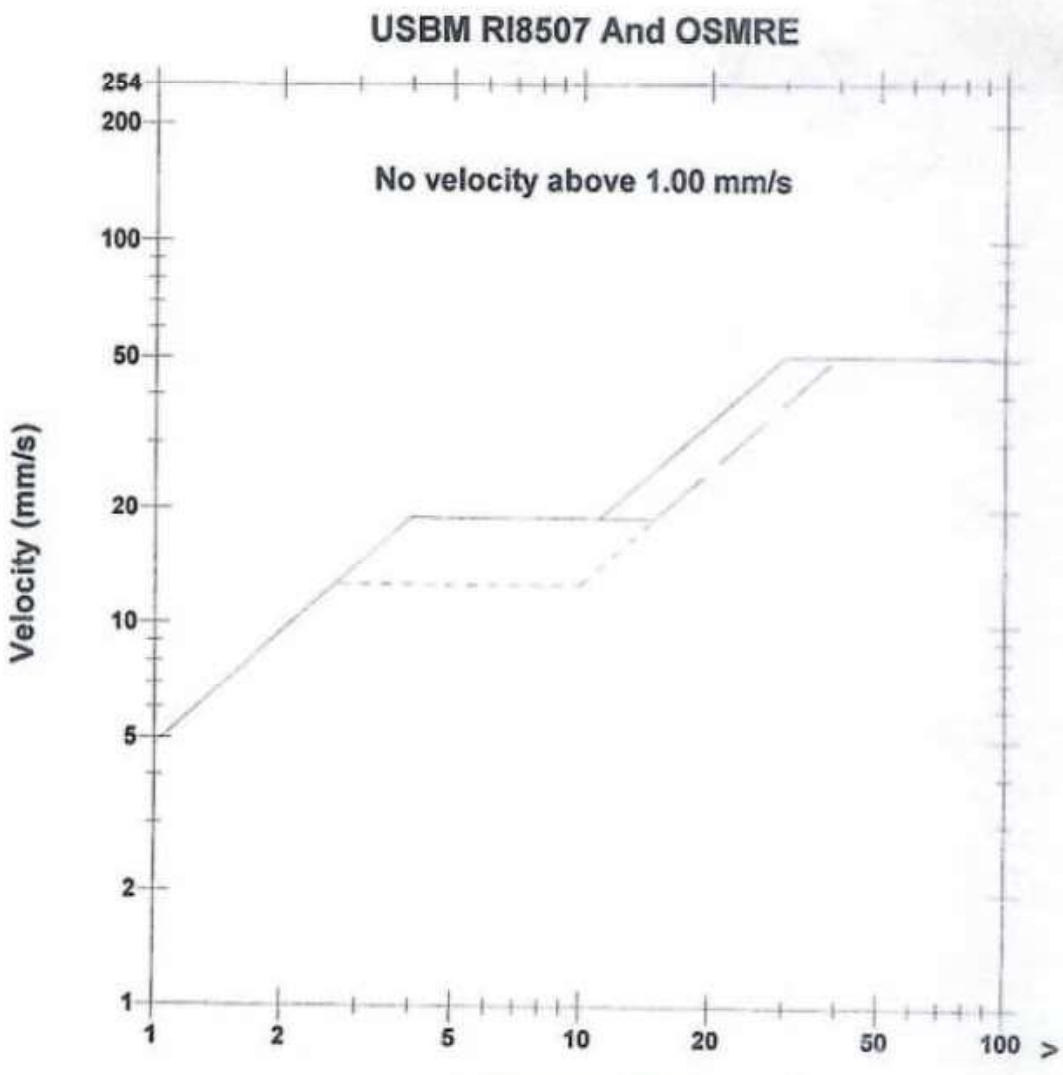
Date/Time	Long at 15:03:07 May 14, 2024
Trigger Source	Geo: 0.300 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

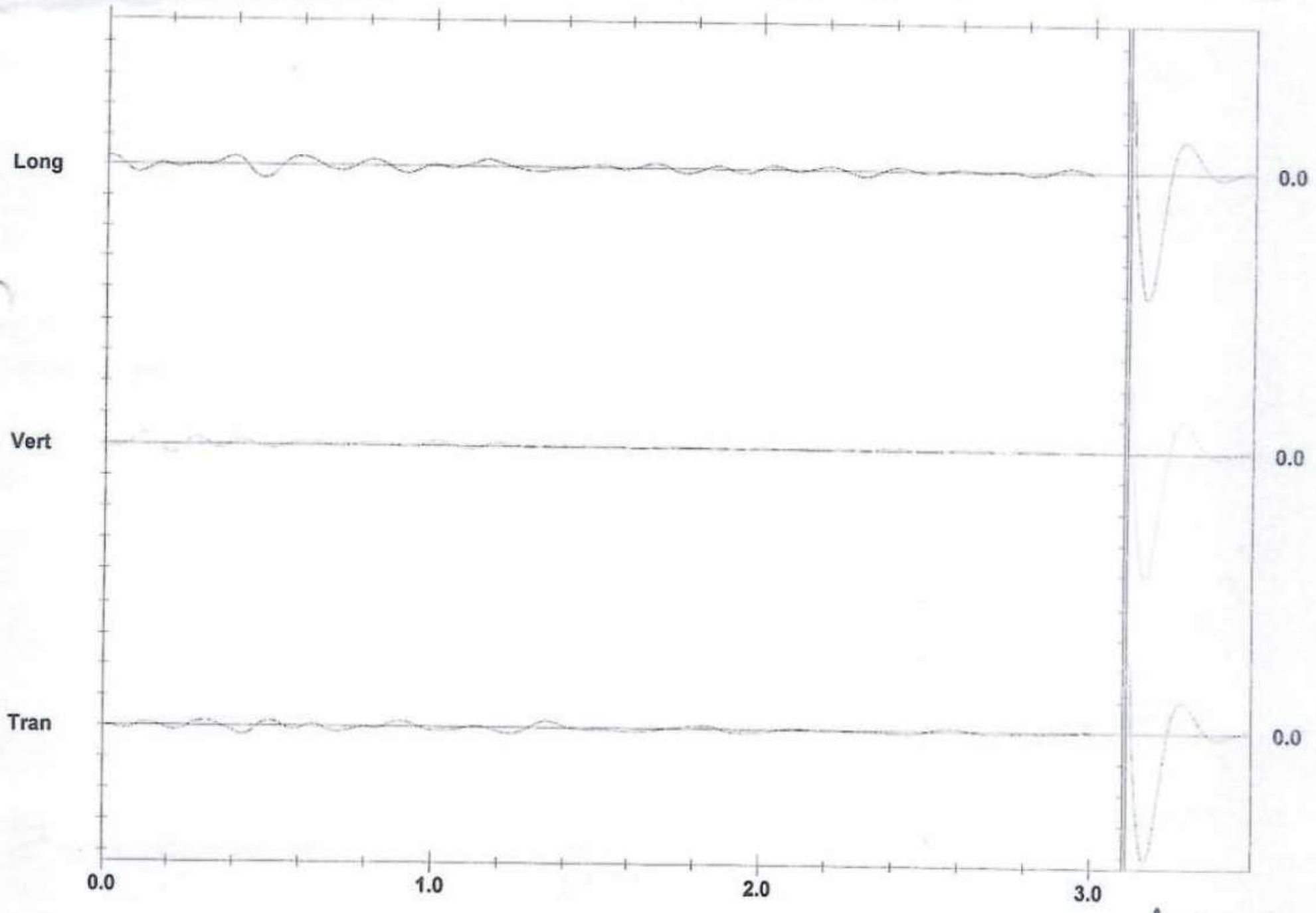
Serial Number	UM15576 V 10-89 Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	June 7, 2023 by CIMFR Dhanbad
File Name	UM15576_20240514150307.IDFW

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

	Tran	Vert	Long	
PPV	0.567	0.701	0.843	mm/s
ZC Freq	4.7	5.2	4.7	Hz
Time (Rel. to Trig)	0.426	0.114	0.478	sec
Peak Acceleration	0.010	0.010	0.008	g
Peak Displacement	0.017	0.021	0.029	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.3	Hz
Overswing Ratio	3.9	4.1	3.9	

Peak Vector Sum 0.883 mm/s at 0.488 sec





Sensor Check

for IDL Explosives Limited

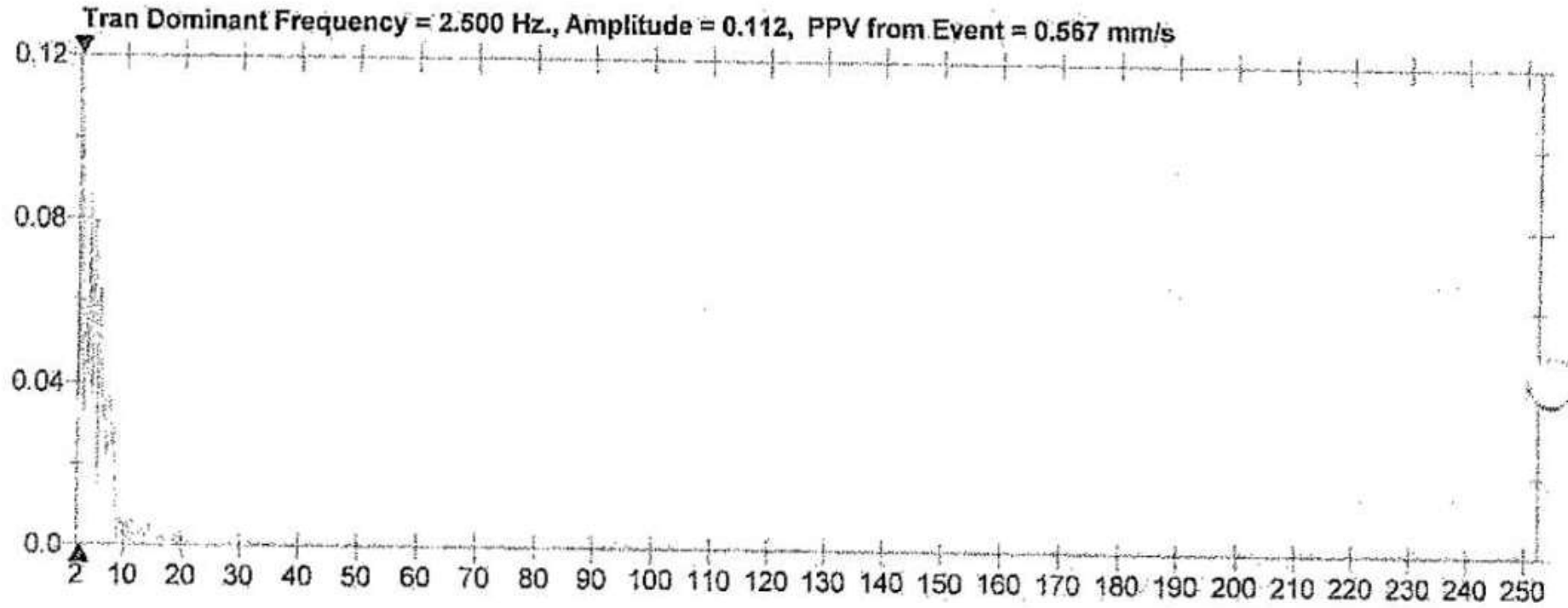
Instantel

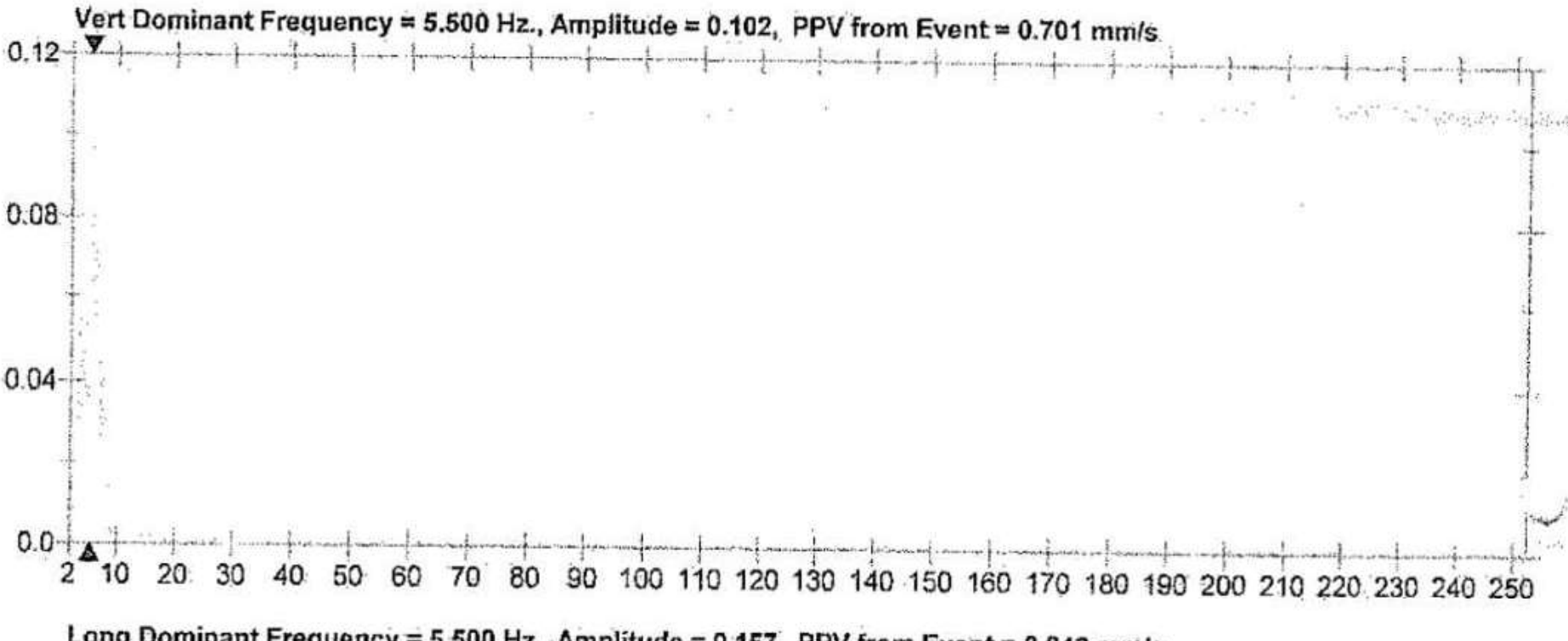
FFT Report

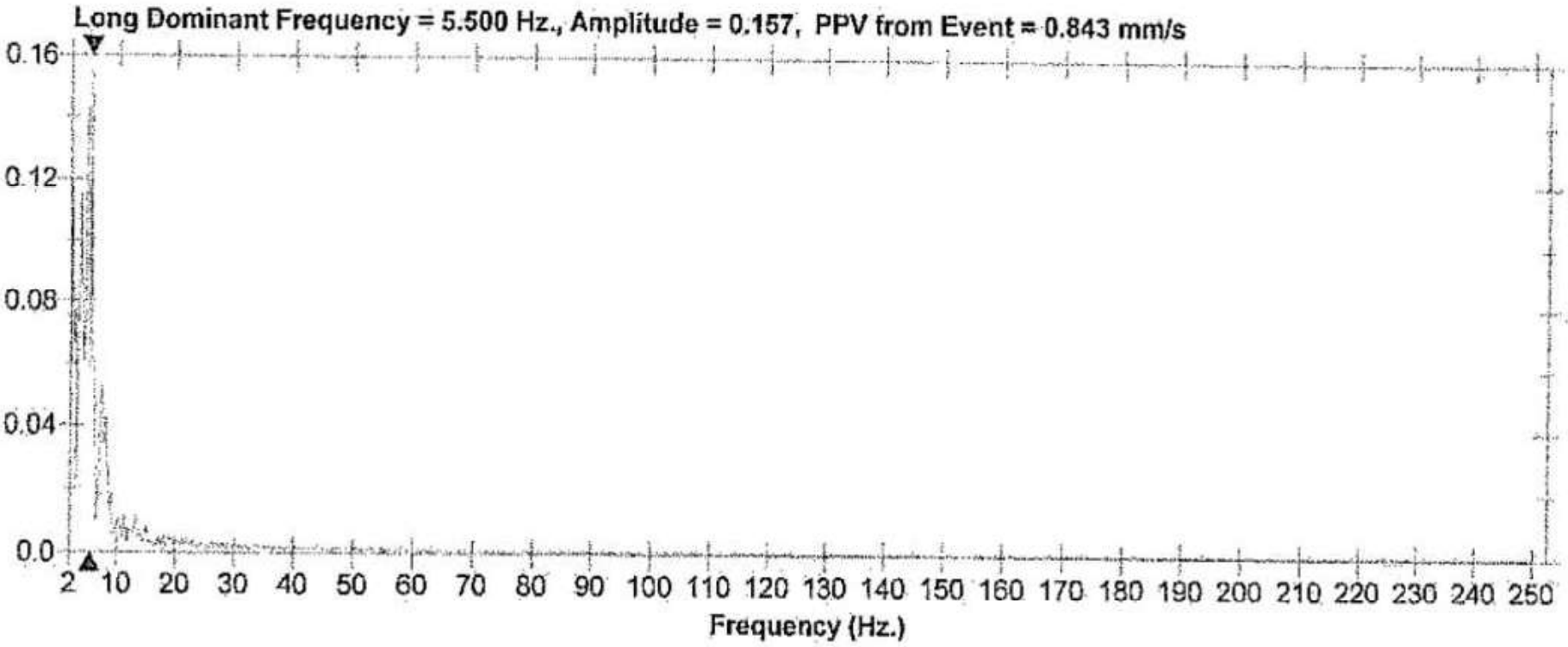
Date/Time	Long at 15:03:07 May 14, 2024
Trigger Source	Geo: 0.300 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

Serial Number	UM15576 V 10-89 Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	June 7, 2023 by CIMFR Dhanbad
File Name	UM15576_20240514150307.IDFW

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:







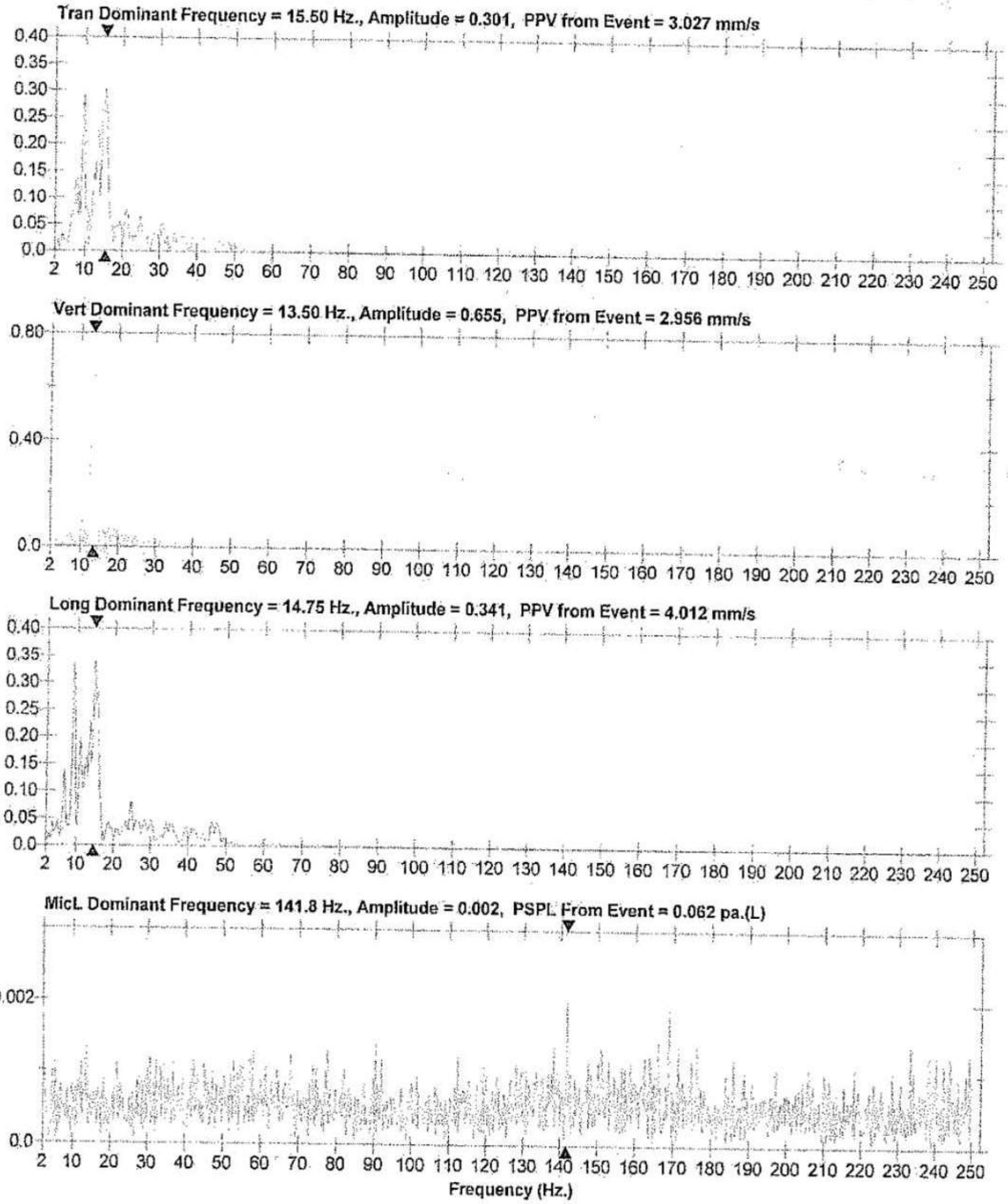
Instantel

FFT Report

Date/Time	Vert at 14:10:52 May 21, 2024	**Serial Number**	UM6253 V 10-76 Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 2.000 pa.(L)	**Battery Level**	3.6 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	February 26, 2024 by UES New Delhi
Record Time	3.0 sec at 1024 sps	**File Name**	UM6253_20240521141052.IDFW
Operator/Setup:	Operator/factory.MMB		

ANNEXURE-3A

Notes
Location: KTM
Client: TATA STEEL PVT LTD
User Name: IDL EXPLOSIVES LTD
General:



Instantel Event Report

Date/Time	Long at 13:42:20 June 8, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 2.000 pa.(L)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 1024 sps
Operator/Setup:	Operator/factory.MMB

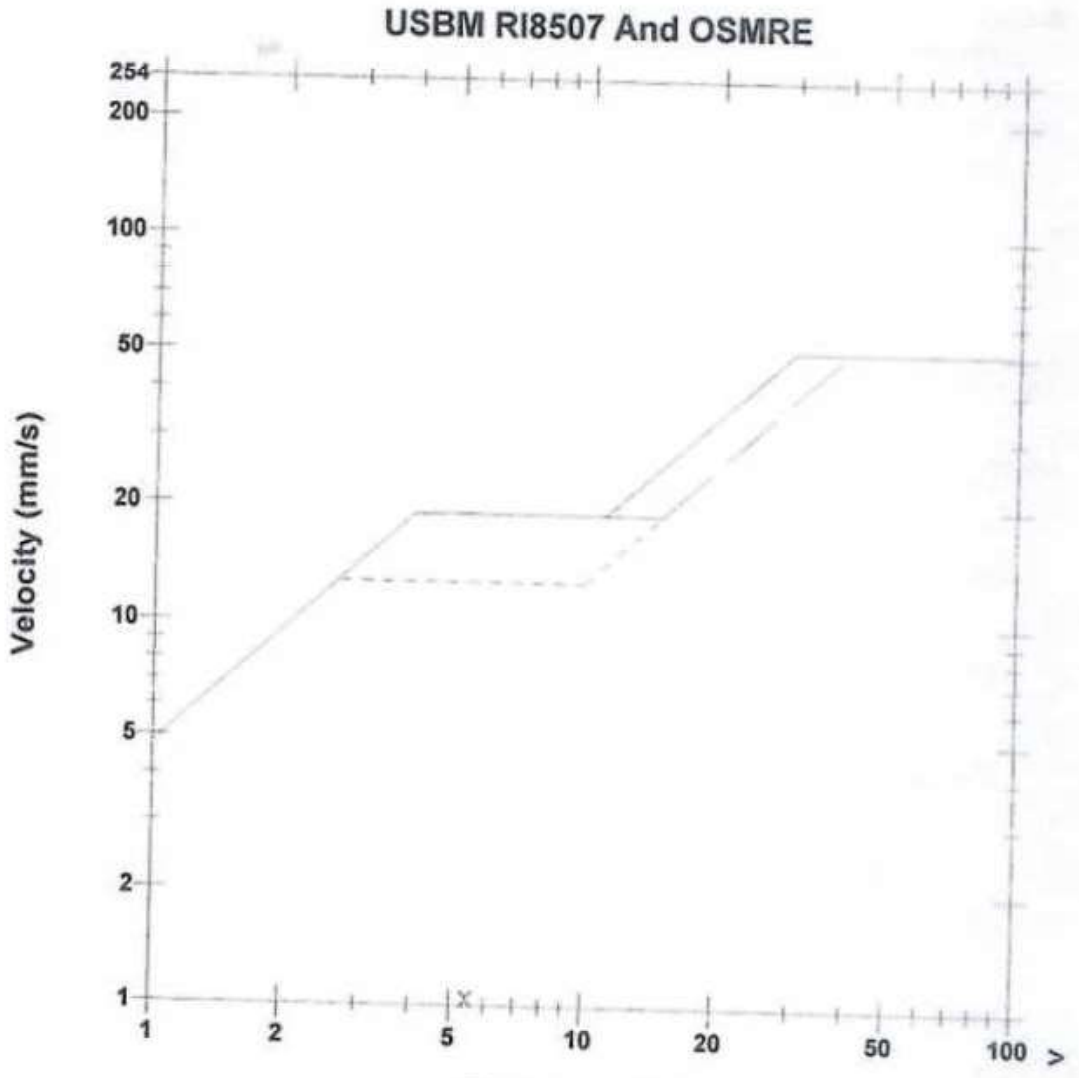
Serial Number	UM6253 V 10-76 Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM6253_20240608134220.IDFW

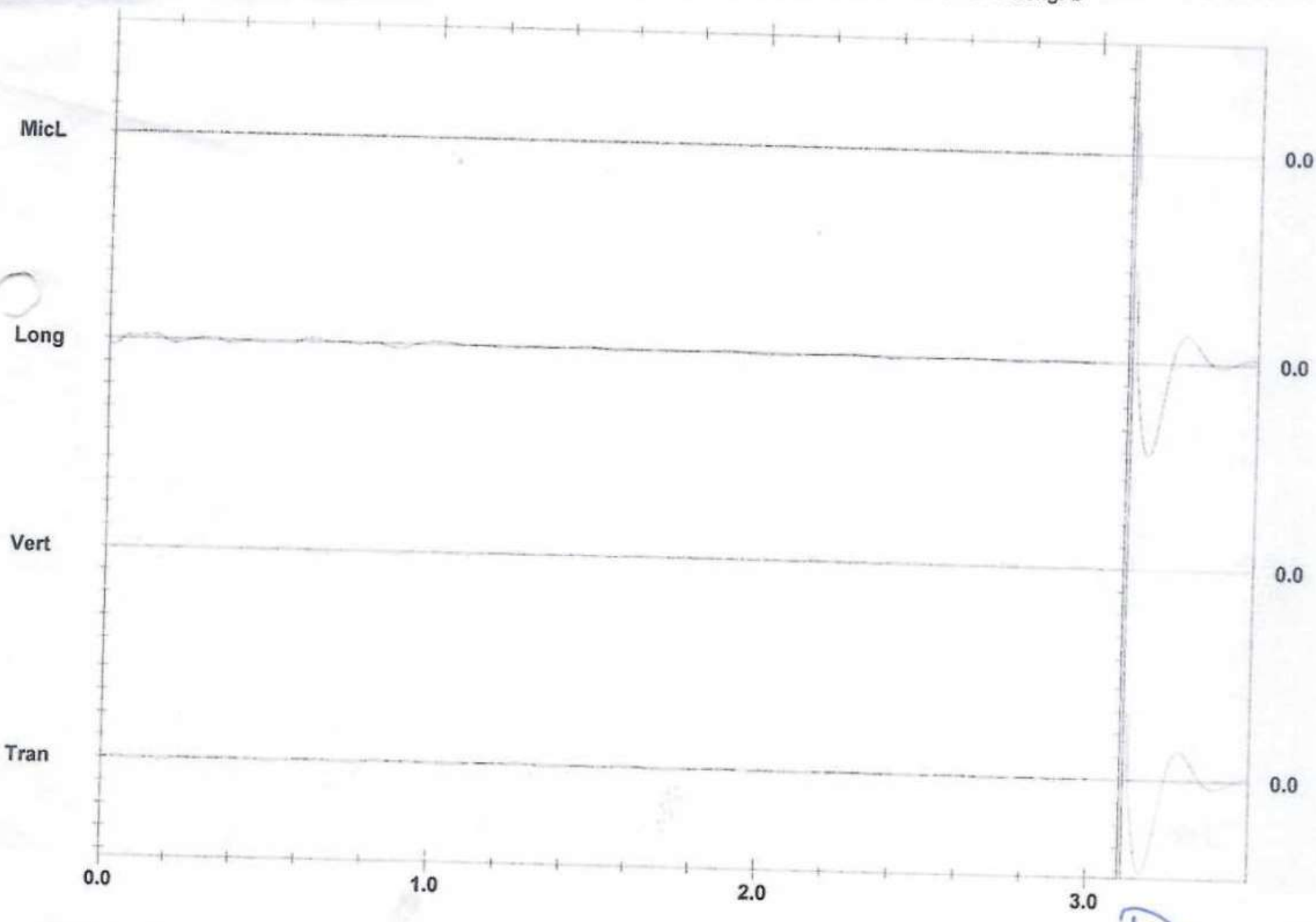
Notes
Location: KTM
Client: TATA STEEL PVT LTD
User Name: IDL EXPLOSIVES LTD
General:

Microphone	Linear Weighting
PSPL	<0.500 pa.(L)
ZC Freq	>100 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.229	1.056	0.544	mm/s
ZC Freq	7.8	5.4	11	Hz
Time (Rel. to Trig)	0.189	0.176	0.006	sec
Peak Acceleration	0.005	0.007	0.005	g
Peak Displacement	0.008	0.027	0.017	mm
Sensor Check	Passed	Check	Passed	
Frequency	7.3	1024.0	7.5	Hz
Overswing Ratio	3.3	0.0	3.3	

Peak Vector Sum 1.069 mm/s at 0.176 sec
N/A: Not Applicable





Sensor Check

For IDL Explosives Limited

ANNEXURE-II

Instantel

FFT Report

Date/Time	Long at 13:42:20 June 8, 2024	**Serial Number**	UM6253 V 10-76 Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 2.000 pa.(L)	**Battery Level**	3.8 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	February 26, 2024 by UES New Delhi
Record Time	3.0 sec at 1024 sps	**File Name**	UM6253_20240608134220.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location: KTM
Client: TATA STEEL PVT LTD
User Name: IDL EXPLOSIVES LTD
General:

Instantel Event Report

Date/Time	Long at 14:16:38 June 26, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

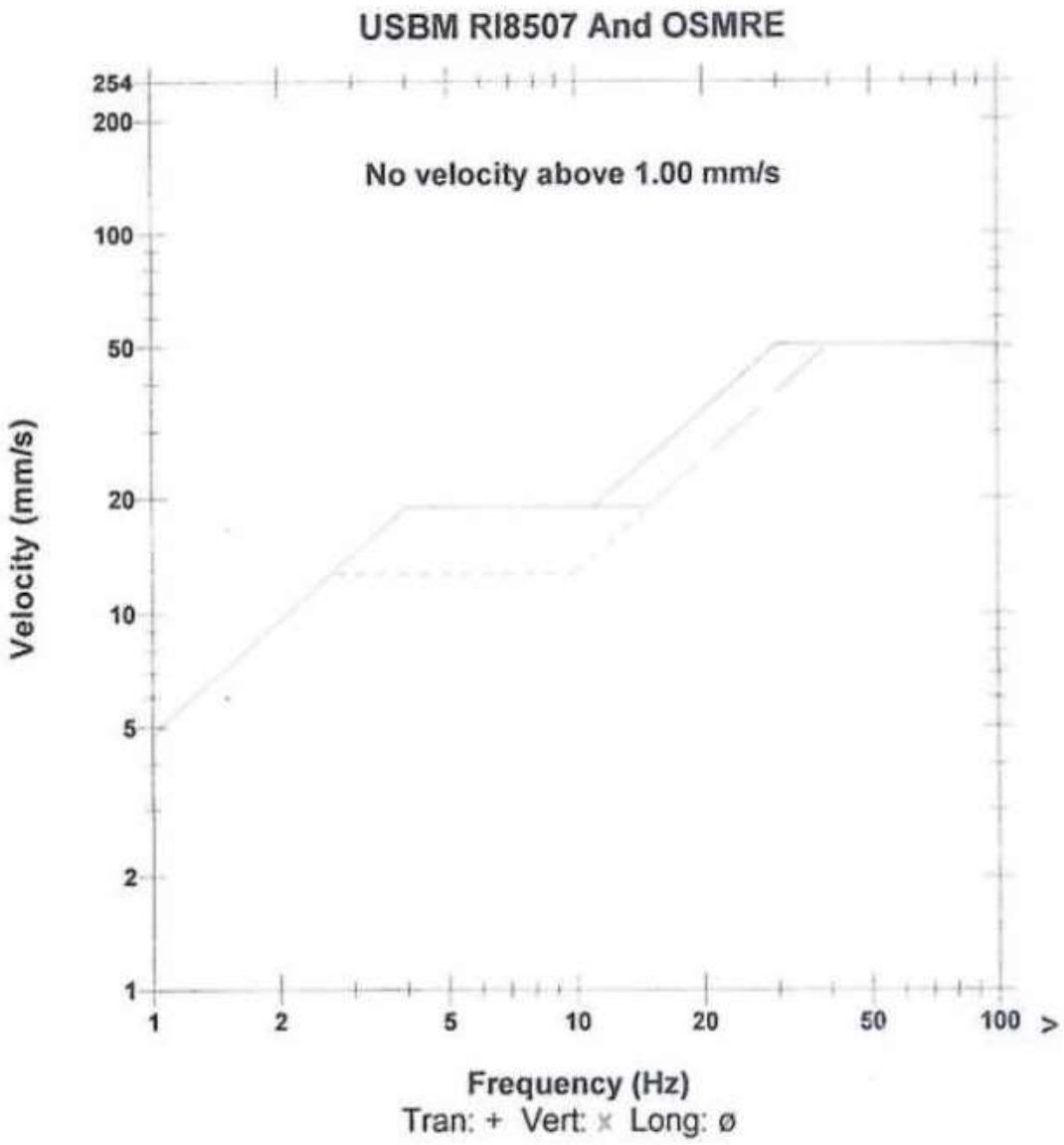
Serial Number	UM15576 V 10-90FB Micromate ISEE
Battery Level	3.6 Volts
Unit Calibration	June 19, 2024 by UES New Delhi
File Name	UM15576_20240626141638.IDFW

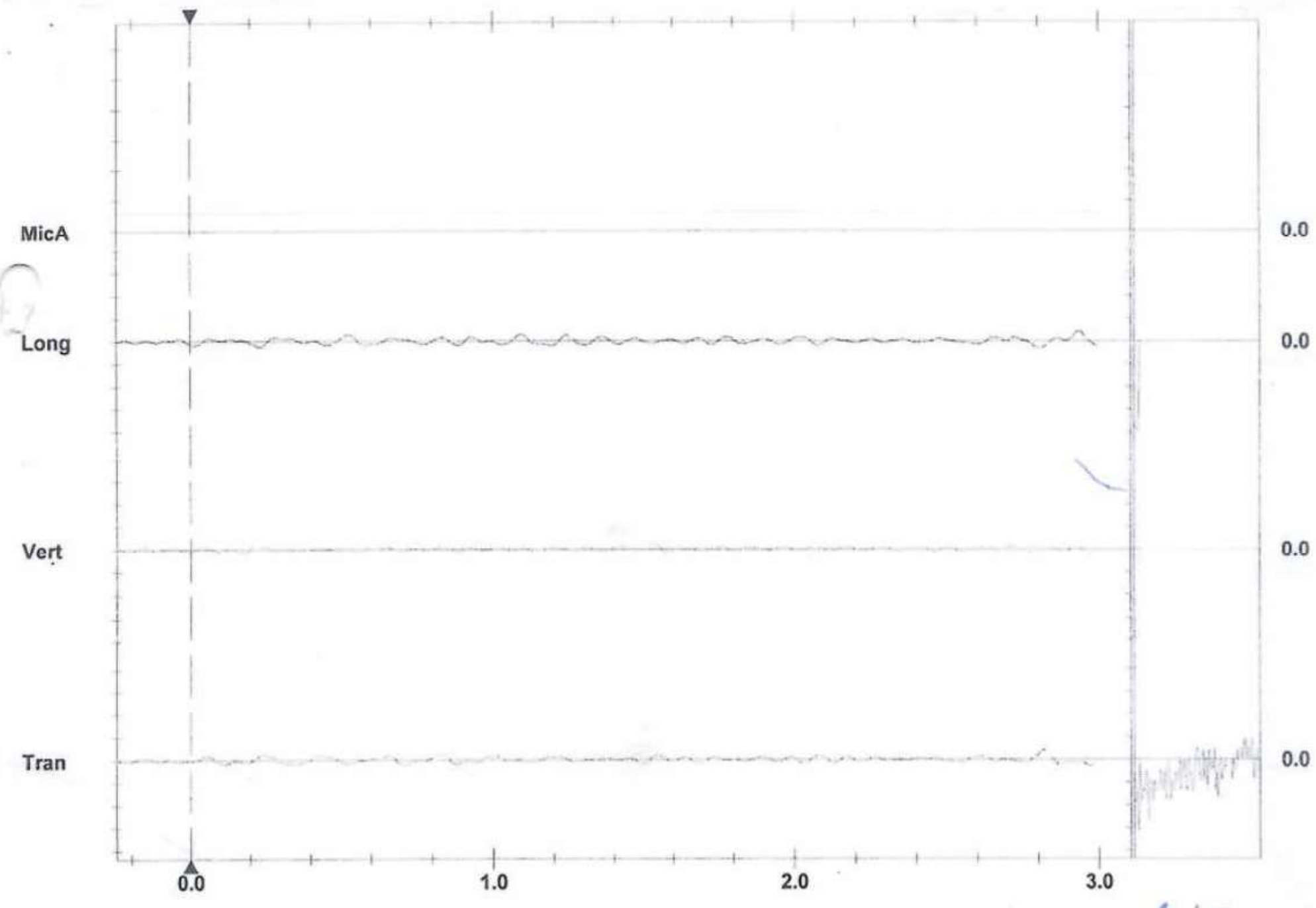
Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

Microphone 'A' Weight - Fast
LMax <30 dB(A)
Sound (dB) **LMin** 1.5 **L10** 29 **L90** 29 **Leq** 1.5
Channel Test Check (Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.859	0.552	0.899	mm/s
ZC Freq	7.0	10.0	4.0	Hz
Time (Rel. to Trig)	2.817	1.538	2.934	sec
Peak Acceleration	0.010	0.010	0.012	g
Peak Displacement	0.022	0.010	0.021	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.3	7.1	Hz
Overswing Ratio	4.0	4.1	4.2	

Peak Vector Sum 1.121 mm/s at 2.817 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 50.00 dB(A)/div
Trigger = ▶ ◀

Sensor Check

for IDL Explosives Limited

Instantel

FFT Report

Date/Time	Long at 14:16:38 June 26, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

Serial Number	UM15576 V 10-90FB Micromate ISEE
Battery Level	3.6 Volts
Unit Calibration	June 19, 2024 by UES New Delhi
File Name	UM15576_20240626141638.IDFW

Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

Instantel

Event Report

Date/Time	Vert at 13:31:30 July 9, 2024
Trigger Source	Geo: 0.300 mm/s
Range	Geo: 254.0 mm/s
Record Time	10 sec at 1024 sps
Operator/Setup:	Operator/factory.MMB

ANNEXURE

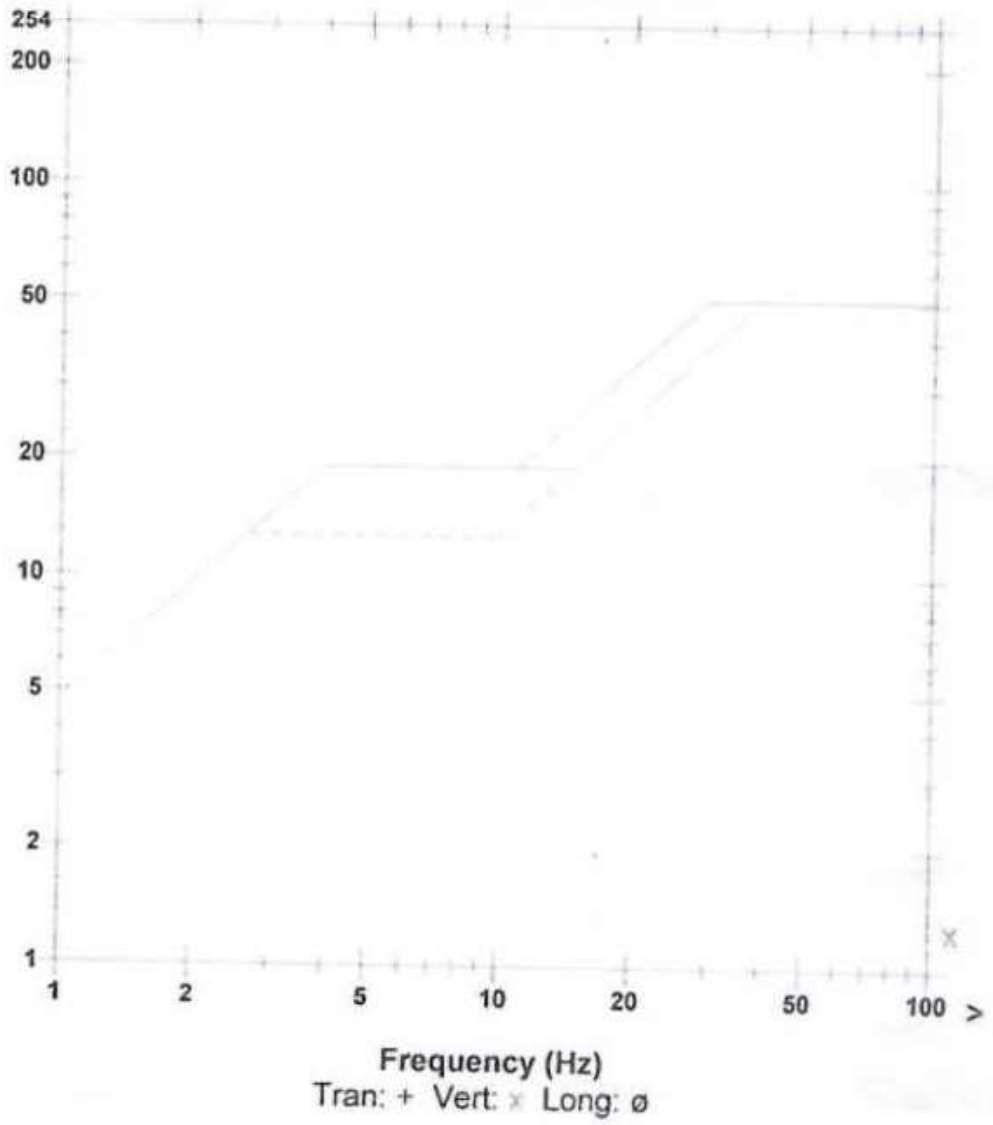
Serial Number	UM6253 V 10-76 Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM6253_20240709133130.IDFW

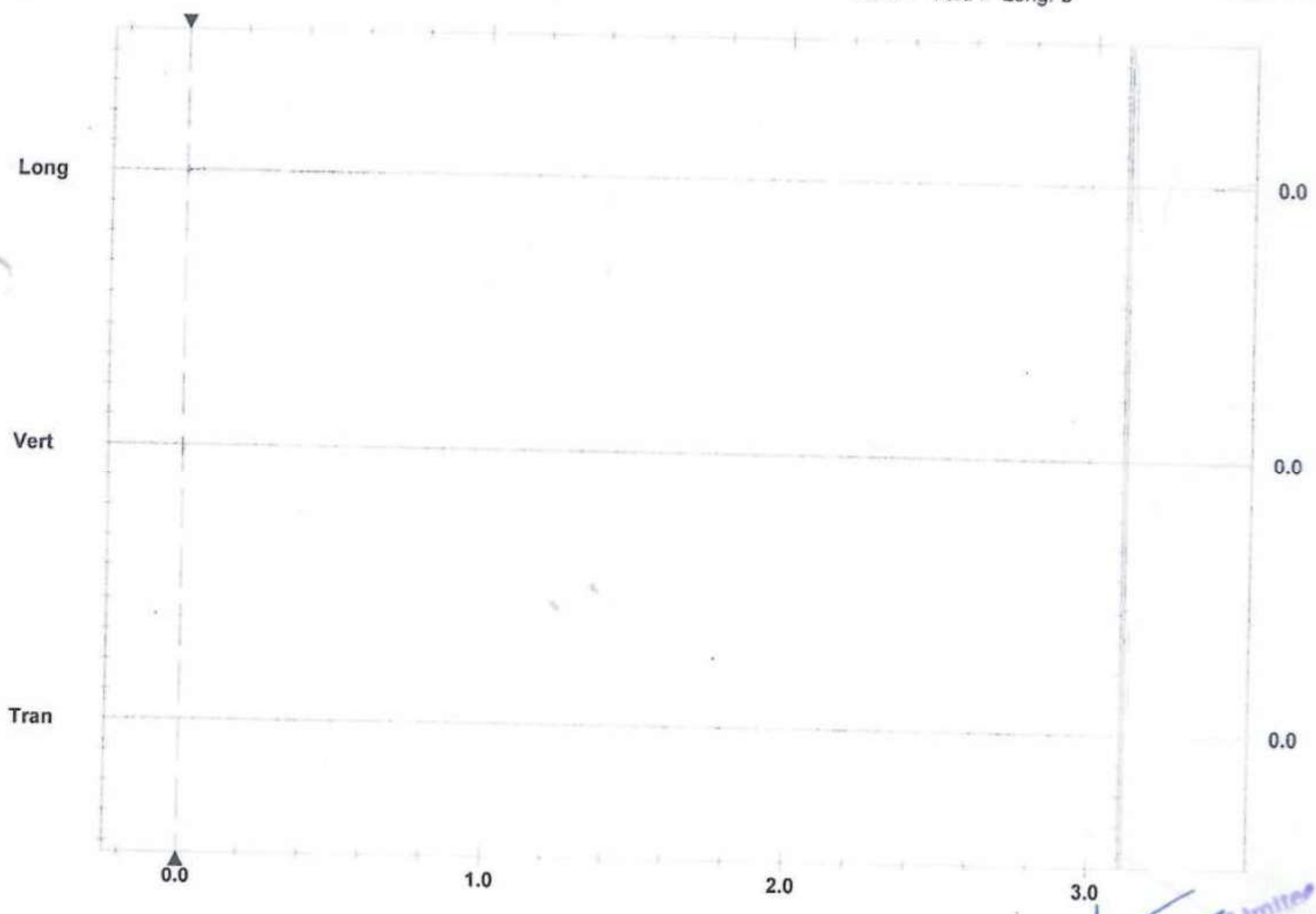
Notes
Location:
Client: TATA STEEL PVT LTD
User Name: IDL EXPLOSIVES LTD
General:

	Tran	Vert	Long	
PPV	0.039	1.269	0.363	mm/s
ZC Freq	>100	>100	>100	Hz
Time (Rel. to Trig)	-0.014	0.000	0.005	sec
Peak Acceleration	0.006	0.178	0.067	g
Peak Displacement	0.000	0.001	0.012	mm
Sensor Check	Check	Passed	Check	
Frequency	1024.0	7.7	7.7	Hz
Overswing Ratio	0.0	3.0	3.0	

Peak Vector Sum 1.272 mm/s at 0.000 sec

USBM RI8507 And OSMRE





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div
Trigger = ▶ ◀

Sensor Check

for IDL Explosives Limited

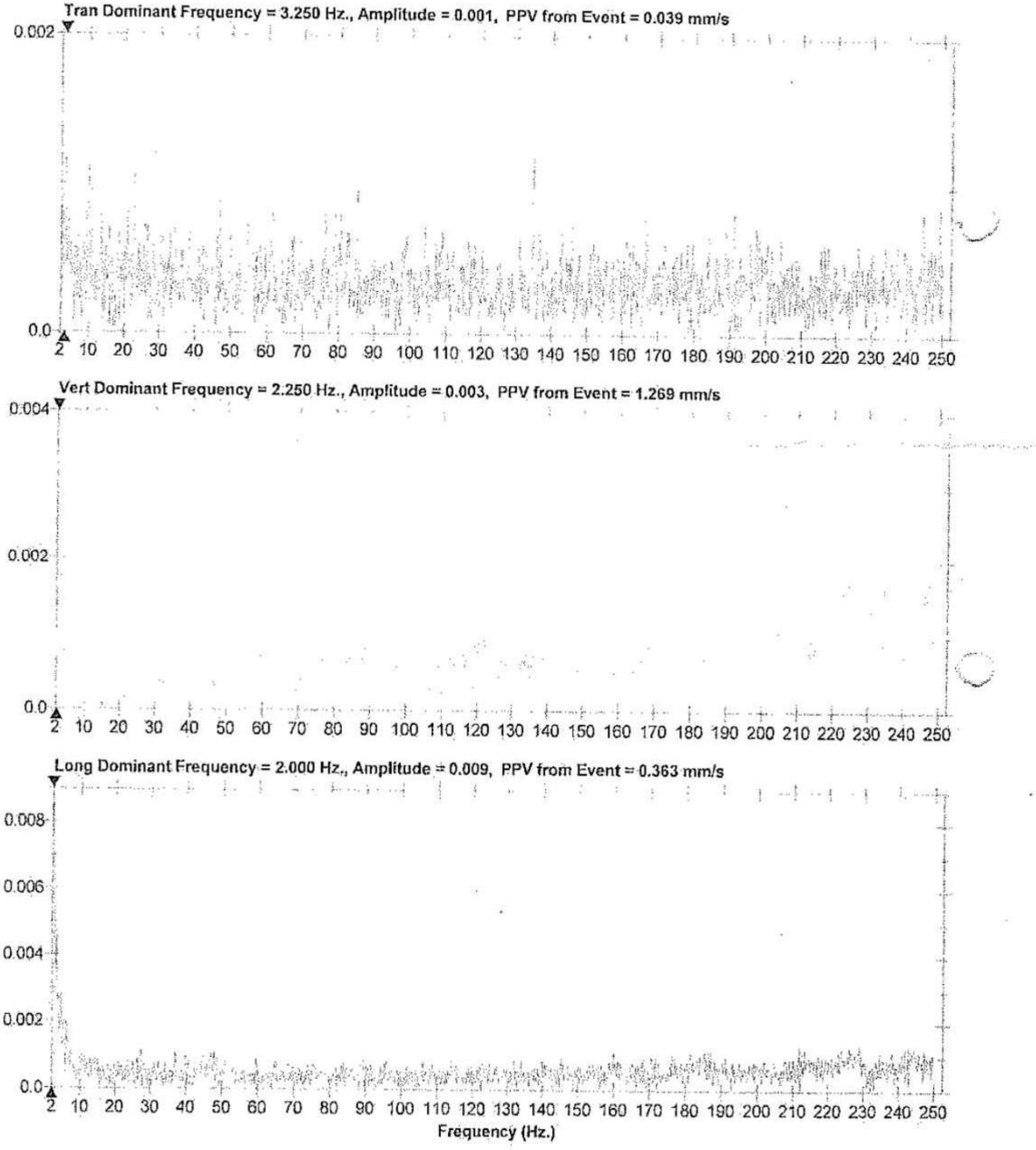
Instantel

FFT Report

Date/Time	Vert at 13:31:30 July 9, 2024
Trigger Source	Geo: 0.300 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 1024 sps
Operator/Setup:	Operator/factory MMB

Serial Number	UM6253 V 10-76 Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM6253_20240709133130.IDFW

Notes
Location:
Client: TATA STEEL PVT LTD
User Name: IDL EXPLOSIVES LTD
General:



Event Report

Date/Time	Long at 13:57:24 July 26, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

Serial Number	UM15576 V 10-90FB Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	June 19, 2024 by UES New Delhi
File Name	UM15576_20240726135724.IDFW

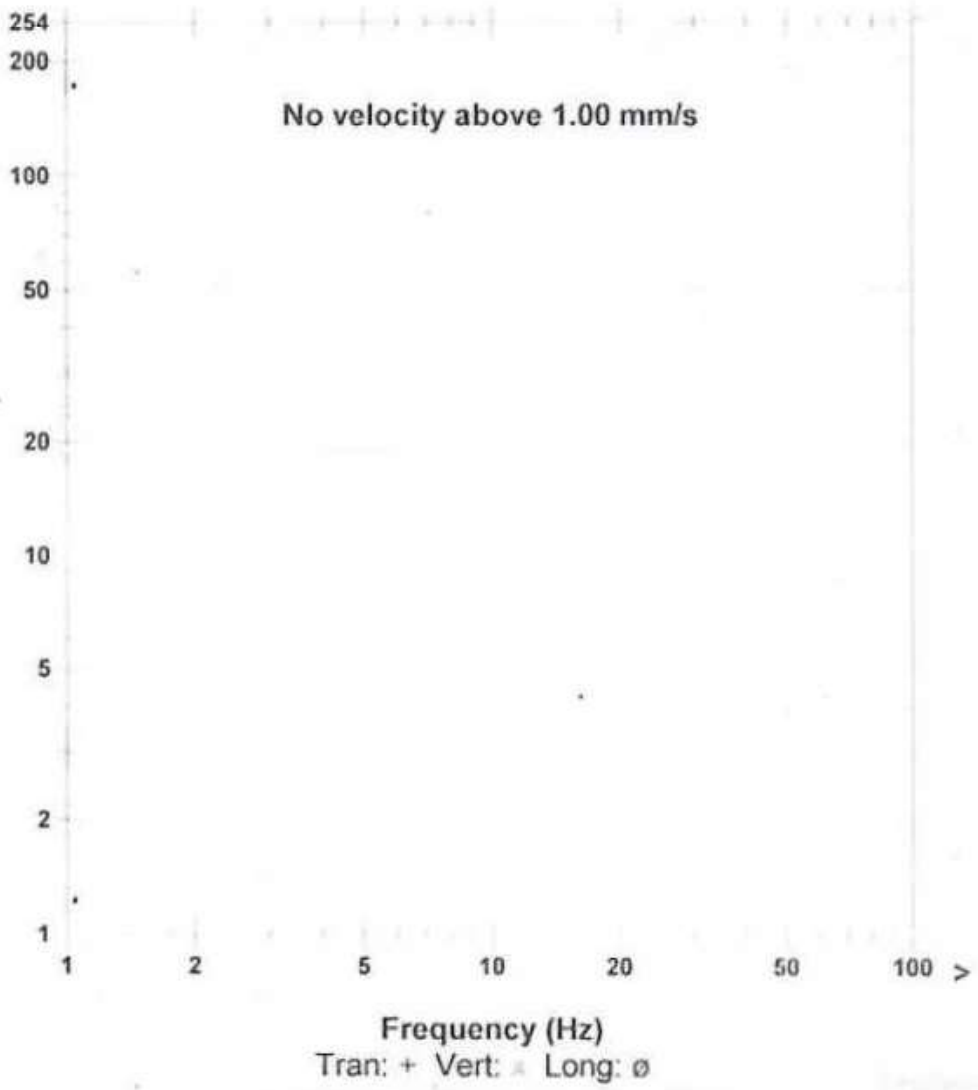
Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

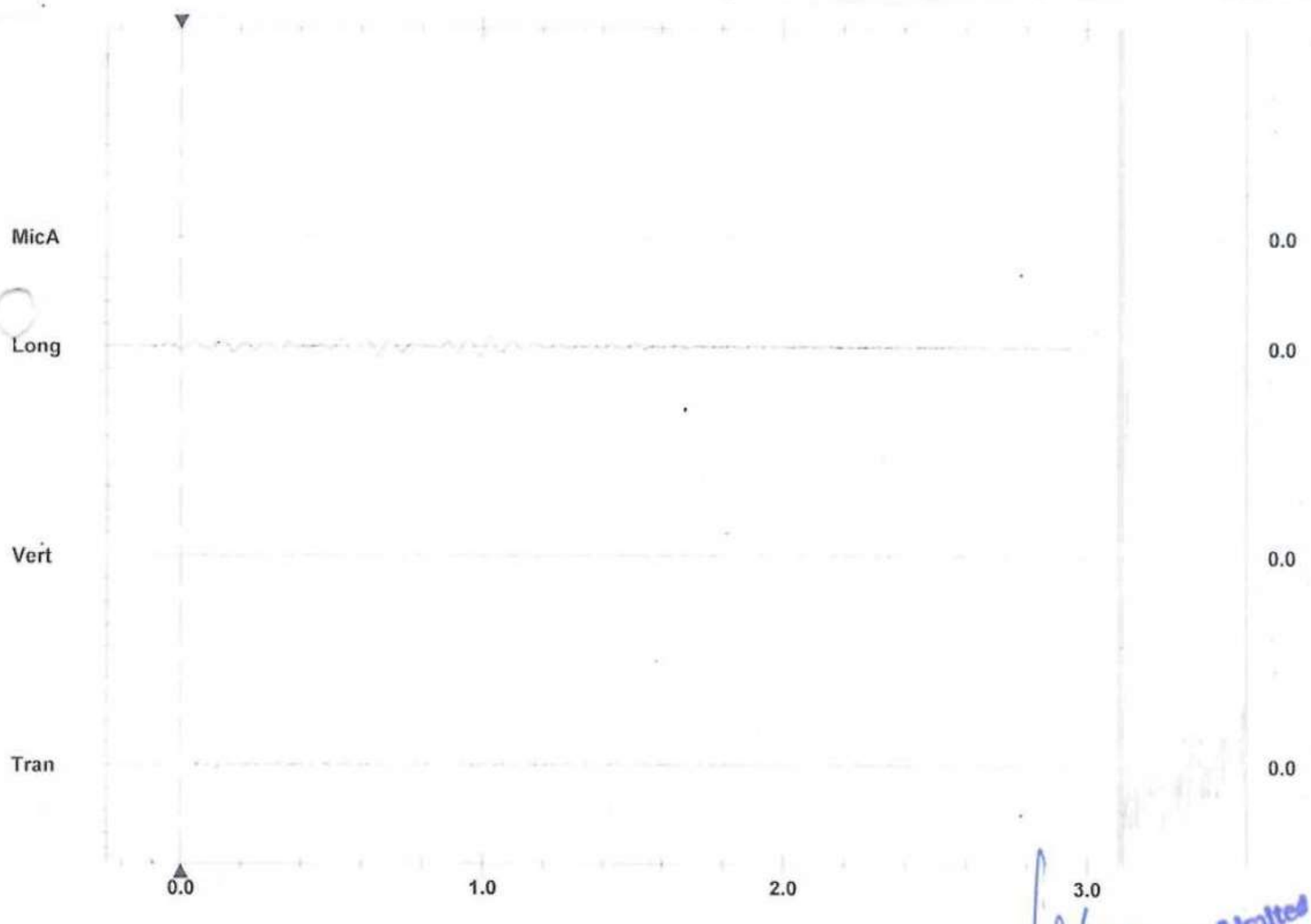
Microphone 'A' Weight - Fast
LMax <30 dB(A)
Sound (dB) **LMin** 1.5 **L10** 29 **L90** 29 **Leq** 1.5
Channel Test Check (Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.765	0.631	0.946	mm/s
ZC Freq	15.5	16.8	14.6	Hz
Time (Rel. to Trig)	0.732	0.690	1.023	sec
Peak Acceleration	0.013	0.013	0.015	g
Peak Displacement	0.008	0.006	0.010	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.3	7.1	Hz
Overswing Ratio	4.1	4.2	4.2	

Peak Vector Sum 1.137 mm/s at 0.658 sec

USBM RI8507 And OSMRE





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 50.00 dB(A)/div
Trigger = ▶ ◀ Sensor Check

For IDL Explosives Limited

Instantel

FFT Report

Date/Time	Long at 13:57:24 July 26, 2024	Serial Number	UM15576 V 10-90FB Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)	Battery Level	3.8 Volts
Range	Geo: 254.0 mm/s	Unit Calibration	June 19, 2024 by UES New Delhi
Record Time	3.0 sec at 2048 sps	File Name	UM15576_20240726135724.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

Instantel Event Report

Date/Time	Long at 13:51:55 August 19, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

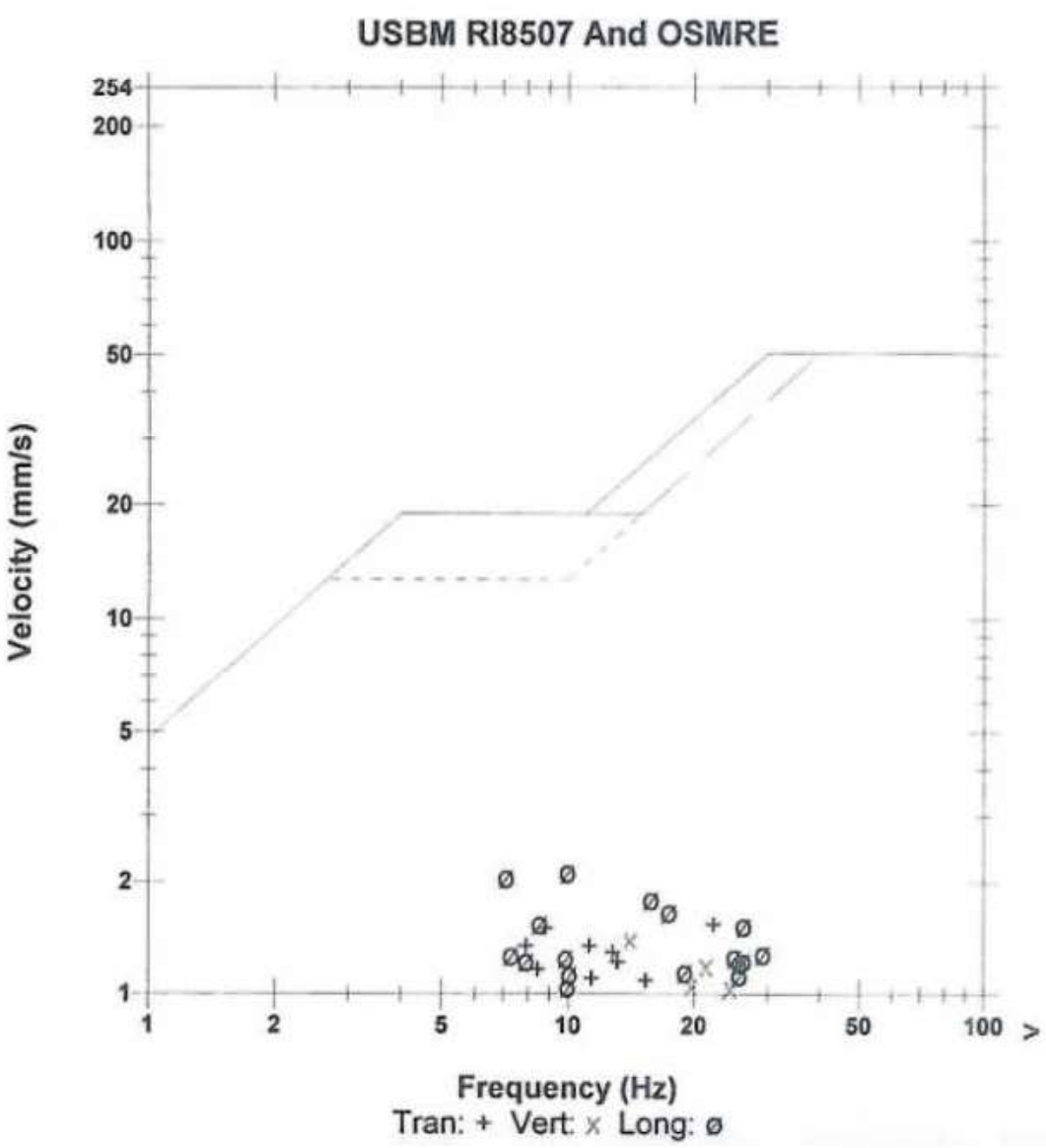
Serial Number	UM15576 V 10-90FB Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	June 19, 2024 by UES New Delhi
File Name	UM15576_20240819135155.IDFW

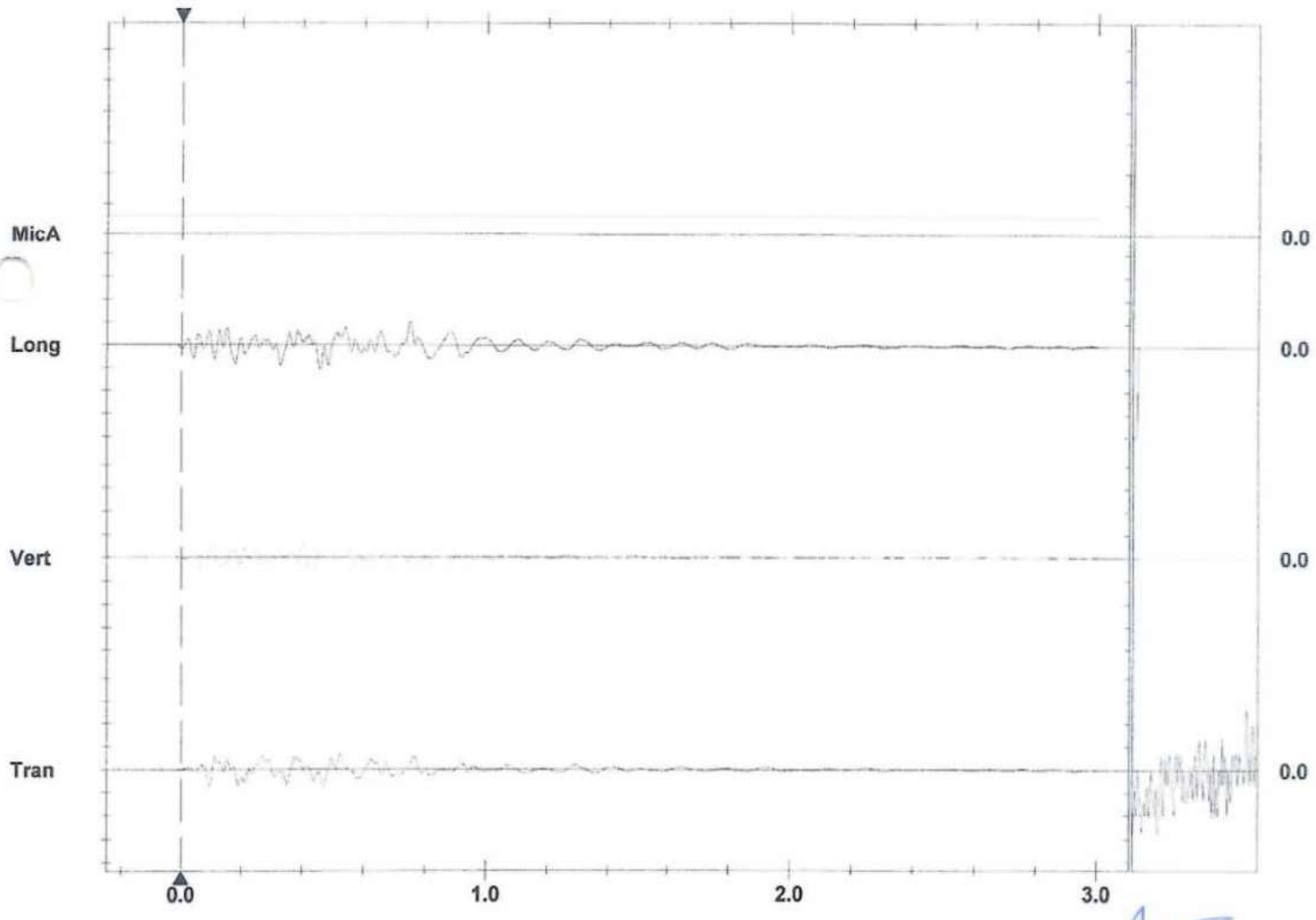
Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

Microphone 'A' Weight - Fast
LMax <30 dB(A)
Sound (dB) **LMin** 1.5 **L10** 29 **L90** 29 **Leq** 1.5
Channel Test Check (Amp = 0 mv)

	Tran	Vert	Long	
PPV	1.537	1.403	2.128	mm/s
ZC Freq	22	14.0	9.9	Hz
Time (Rel. to Trig)	0.095	0.427	0.458	sec
Peak Acceleration	0.033	0.031	0.049	g
Peak Displacement	0.021	0.017	0.029	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.3	7.1	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 2.213 mm/s at 0.458 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 50.00 dB(A)/div
Trigger = ▶ ◀

Sensor Check

for IDL Explosives Limited

Instantel FFT Report

Date/Time	Long at 13:51:55 August 19, 2024	**Serial Number**	UM15576 V 10-90FB Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)	**Battery Level**	3.8 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	June 19, 2024 by UES New Delhi
Record Time	3.0 sec at 2048 sps	**File Name**	UM15576_20240819135155.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

Instantel

Event Report

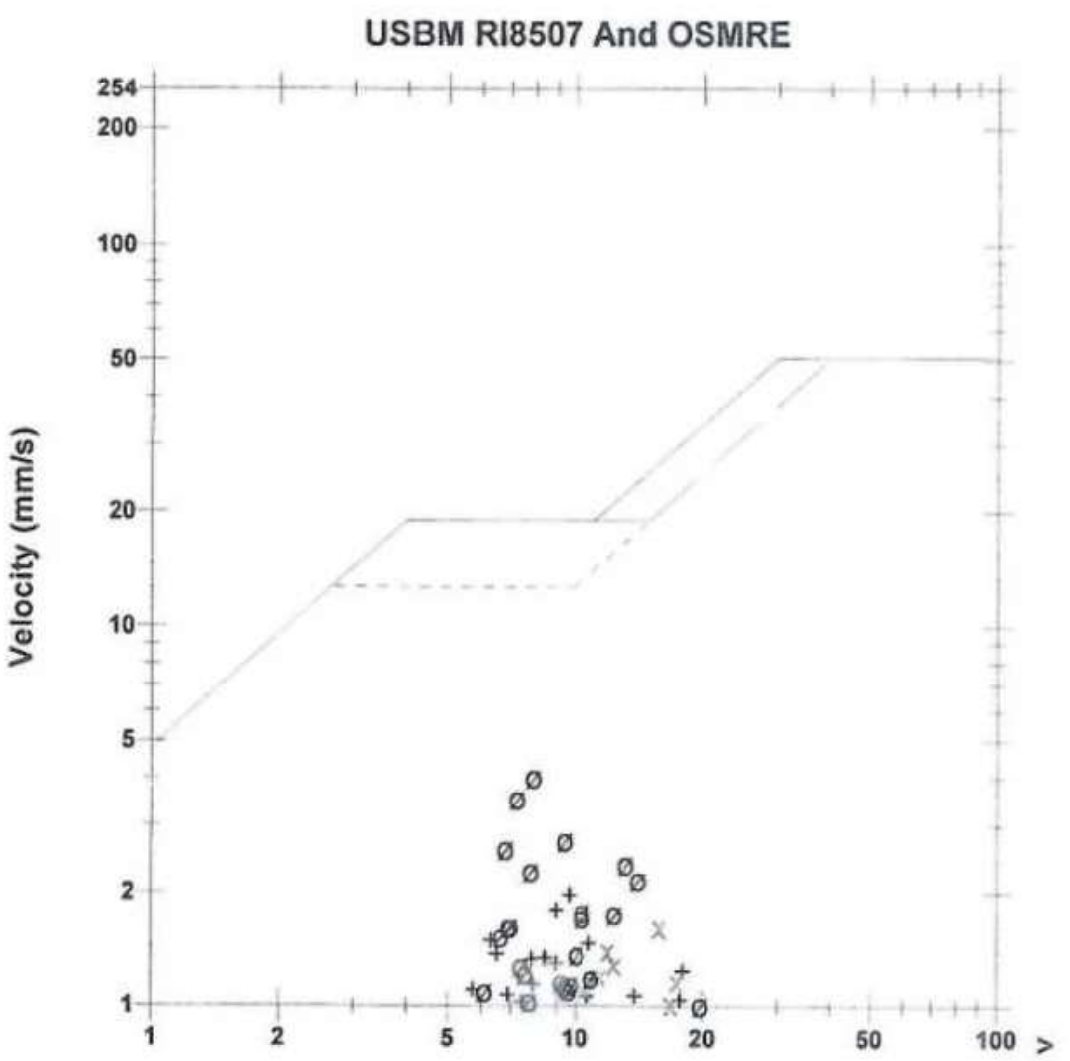
Date/Time	Vert at 13:33:38 September 13, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

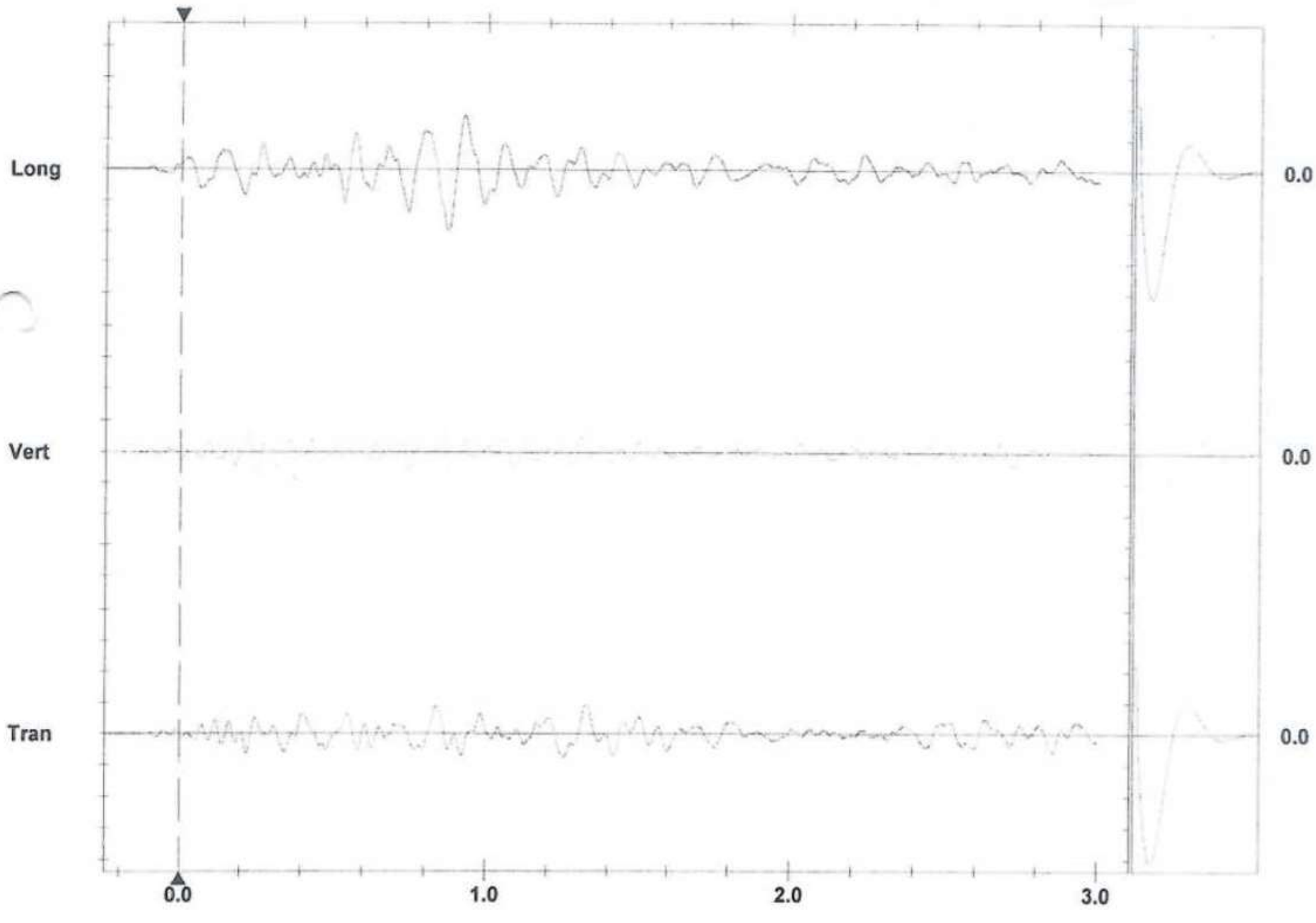
Serial Number	UM20055 V 10-90GC Micromate ISEE
Battery Level	3.6 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM20055_20240913133338.IDFW

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVE LTD
General:

	Tran	Vert	Long	
PPV	1.970	1.616	4.012	mm/s
ZC Freq	9.7	15.8	7.9	Hz
Time (Rel. to Trig)	1.331	0.251	0.873	sec
Peak Acceleration	0.025	0.030	0.035	g
Peak Displacement	0.034	0.016	0.075	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.3	Hz
Overswing Ratio	4.1	4.5	4.5	

Peak Vector Sum 4.161 mm/s at 0.875 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div
Trigger = ▶—— ——◀

Sensor Check

for IDL Explosives Limited

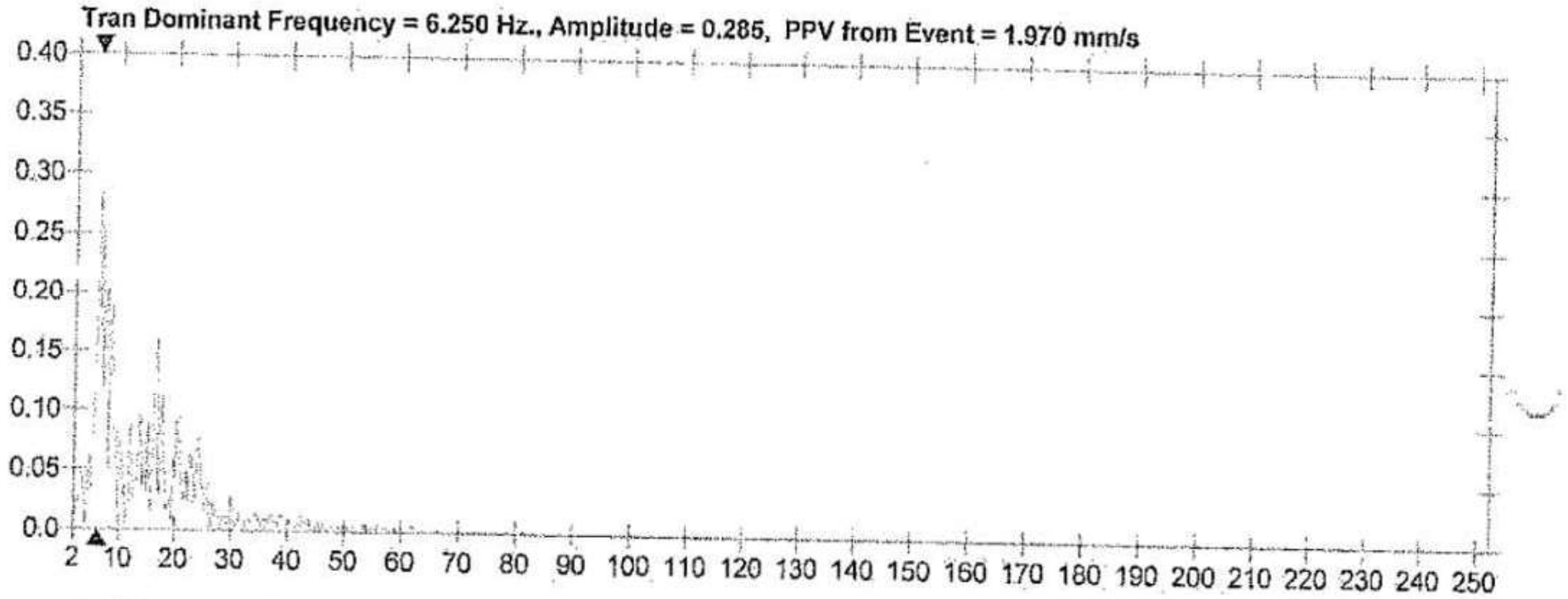
Instantel

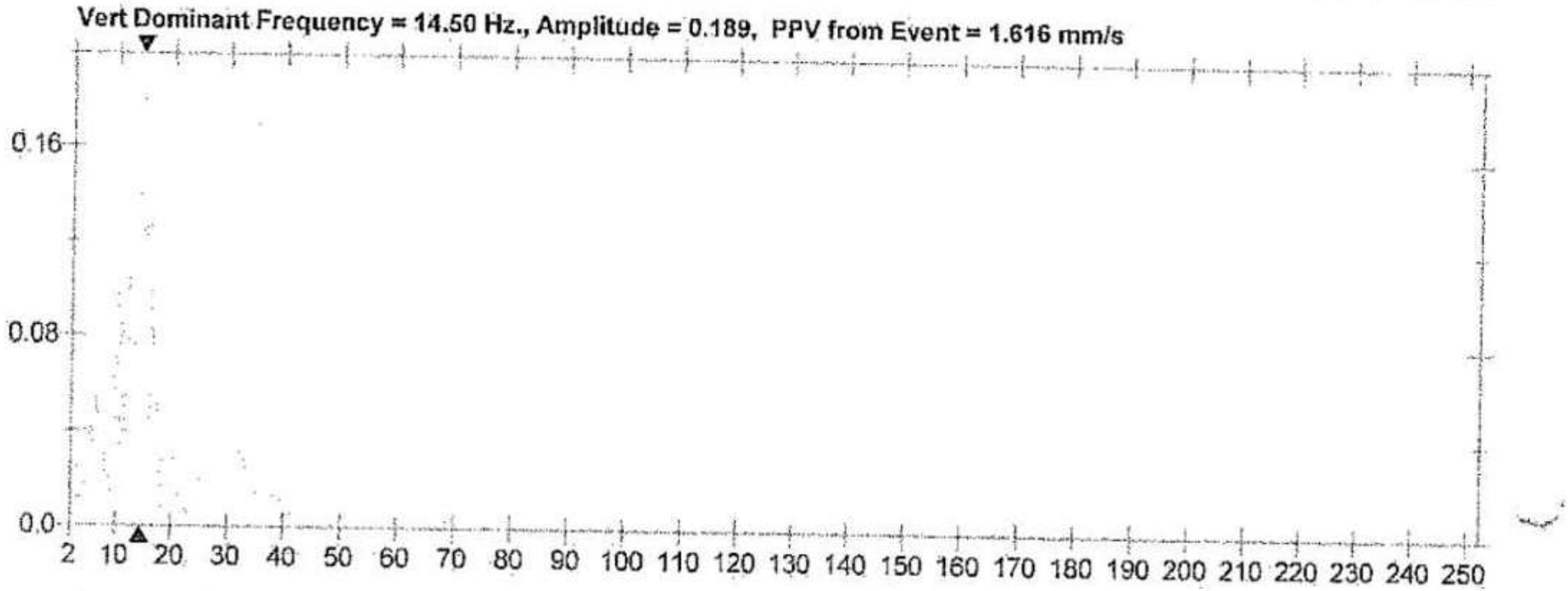
FFT Report

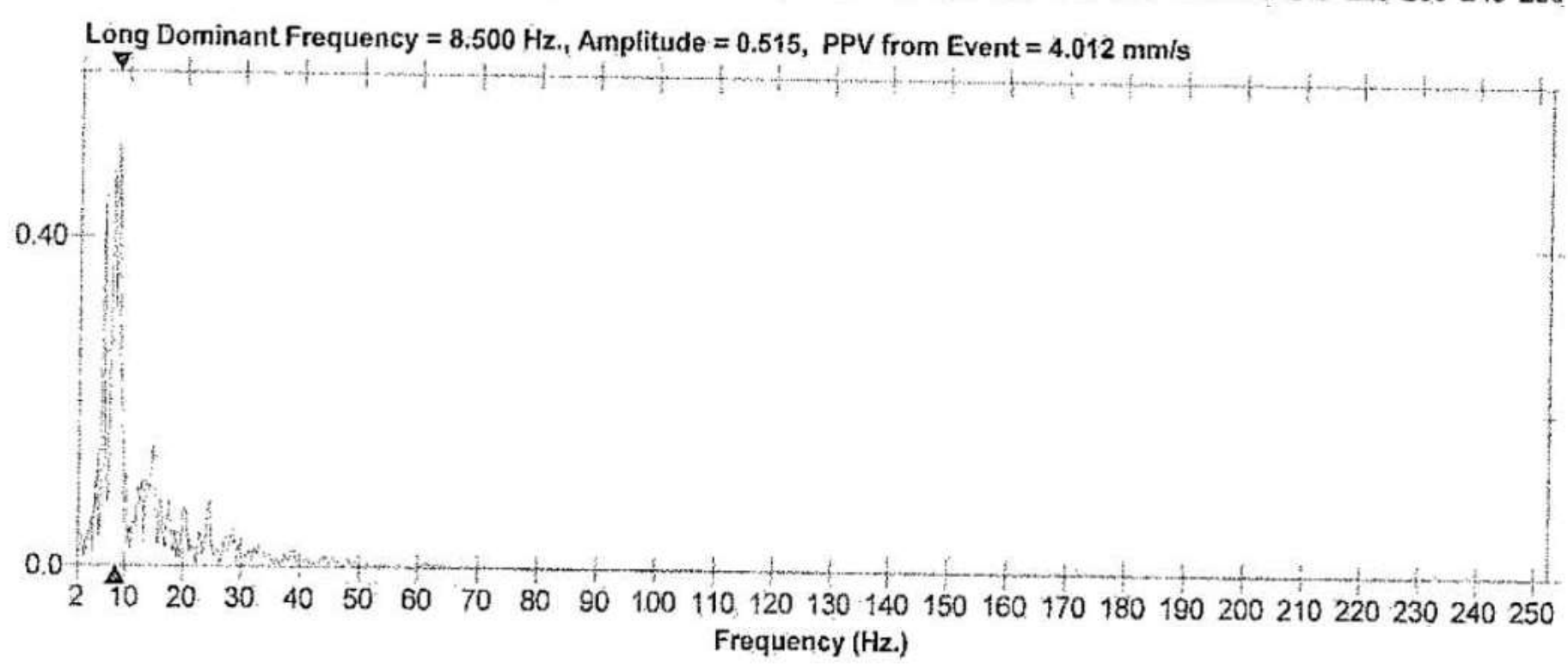
Date/Time	Vert at 13:33:38 September 13, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

Serial Number	UM20055 V 10-90GC Micromate ISEE
Battery Level	3.6 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM20055_20240913133338.IDFW

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVE LTD
General:







Instantel

Event Report

Date/Time	Tran at 13:47:21 September 25, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 2.000 pa.(L)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 4096 sps
Operator/Setup:	Operator/factory.MMB

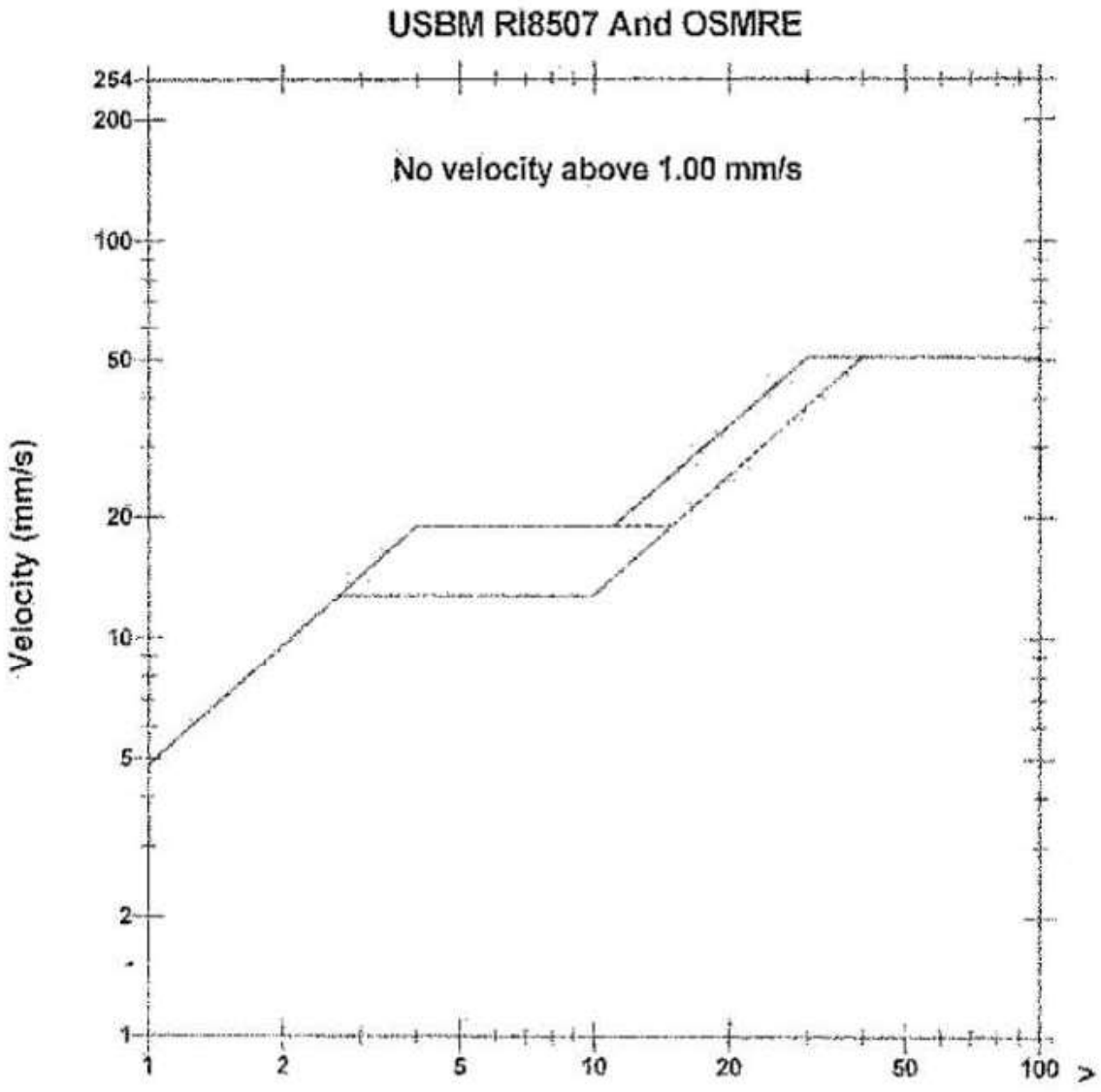
Serial Number	UM21106 V 10-90GC Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	September 7, 2024 by UES New Delhi
File Name	UM21106_20240925134721.IDFW

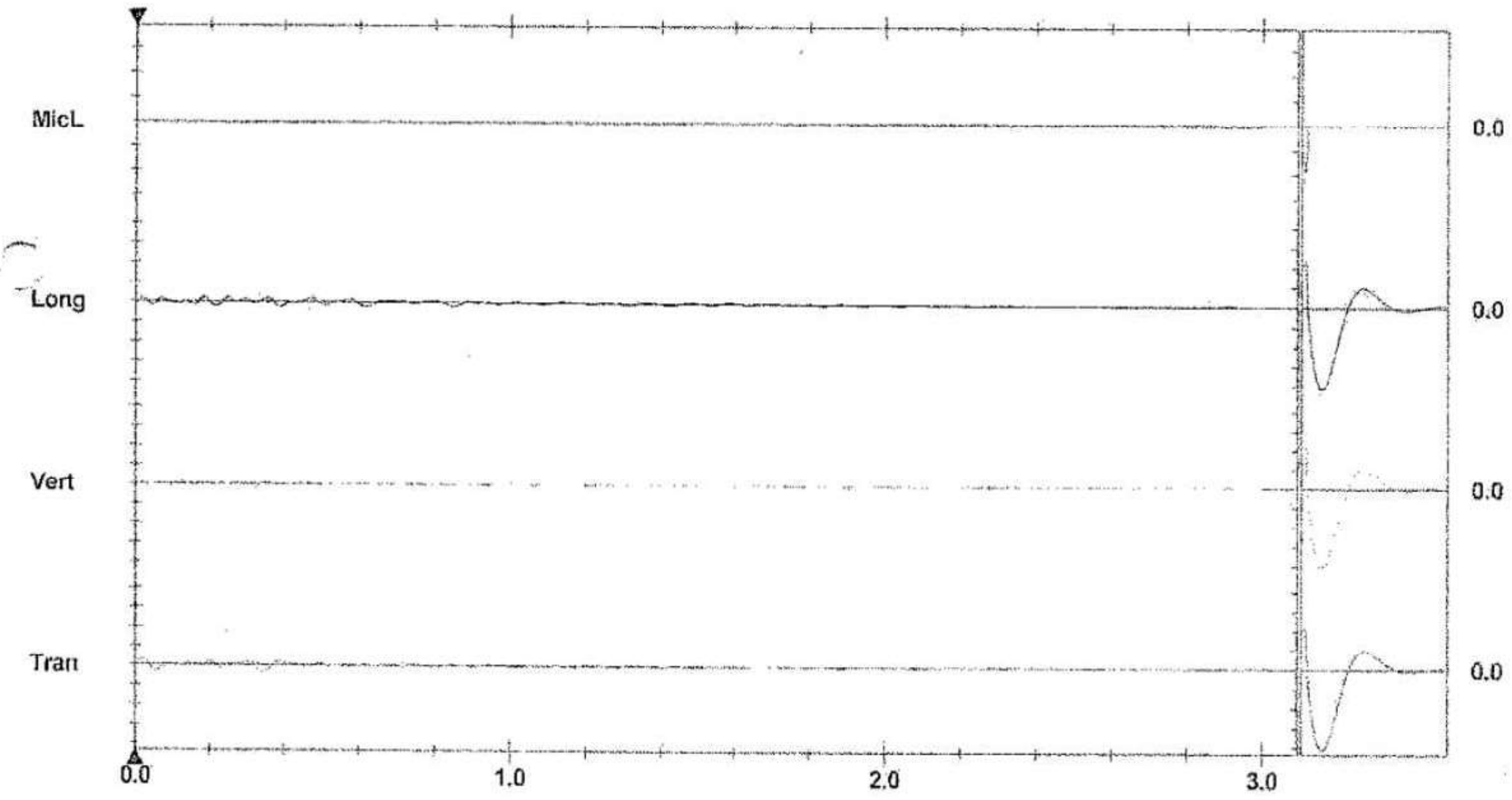
Notes
Location:
Client:
User Name:
General:

Microphone	Linear Weighting
PSPL	<0.500 pa.(L)
ZC Freq	<1.0 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.694	0.418	0.536	mm/s
ZC Freq	N/A	14.9	6.8	Hz
Time (Rel. to Trig)	0.019	0.293	0.388	sec
Peak Acceleration	0.023	0.016	0.020	g
Peak Displacement	0.010	0.004	0.008	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.5	Hz
Overswing Ratio	4.2	4.0	4.0	

Peak Vector Sum 0.755 mm/s at 0.019 sec
N/A: Not Applicable





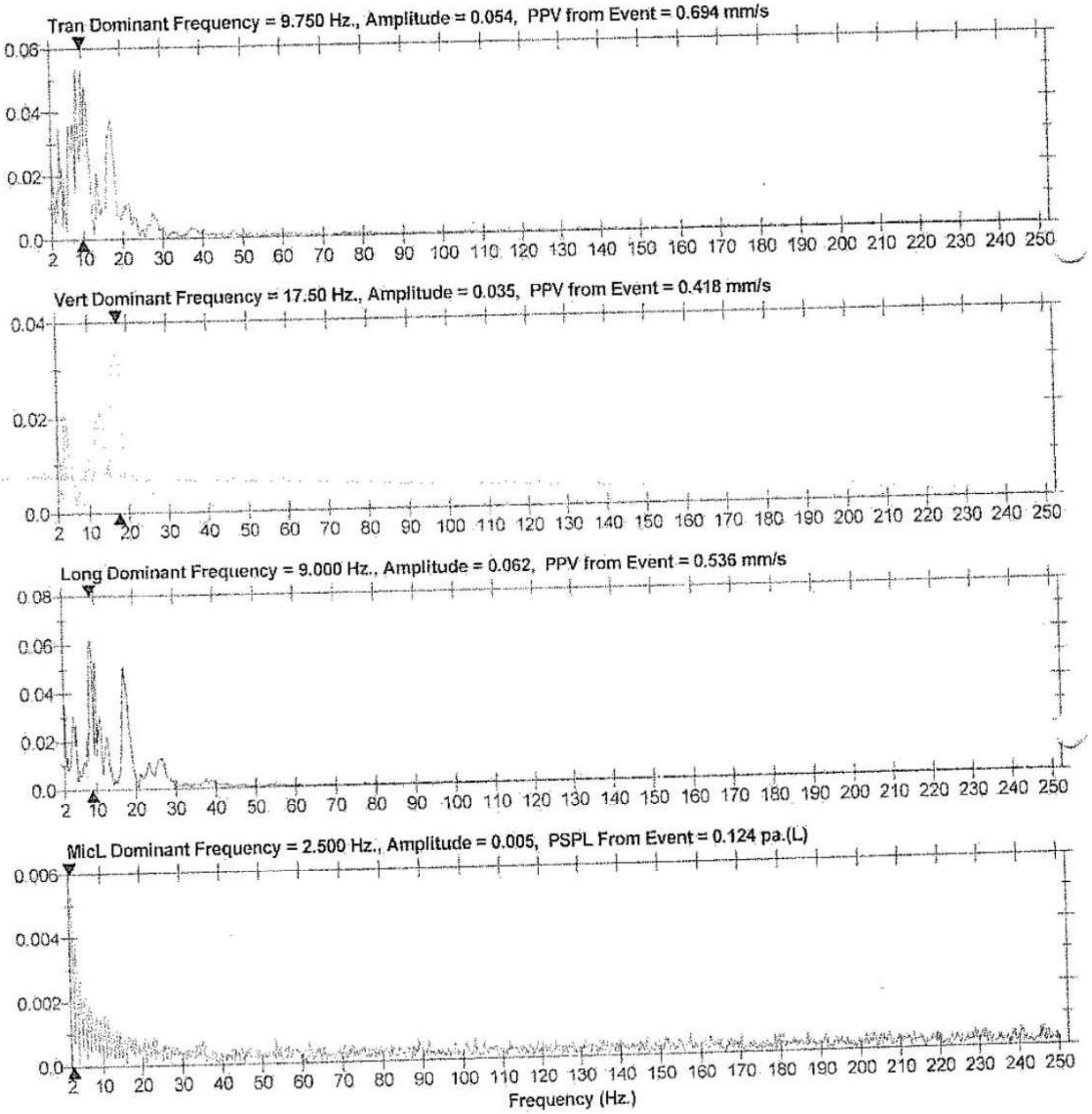
Time Scale: 0.20 sec/div Amplitude Scale: Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div
Trigger =

Sensor Check

FFT Report

Date/Time	Tran at 13:47:21 September 25, 2024	**Serial Number**	UM21106 V 10-90GC Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 2.000 pa.(L)	**Battery Level**	3.8 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	September 7, 2024 by UES New Delhi
Record Time	3.0 sec at 4096 sps	**File Name**	UM21106_20240925134721.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location:
Client:
User Name:
General:



Instantel

Event Report

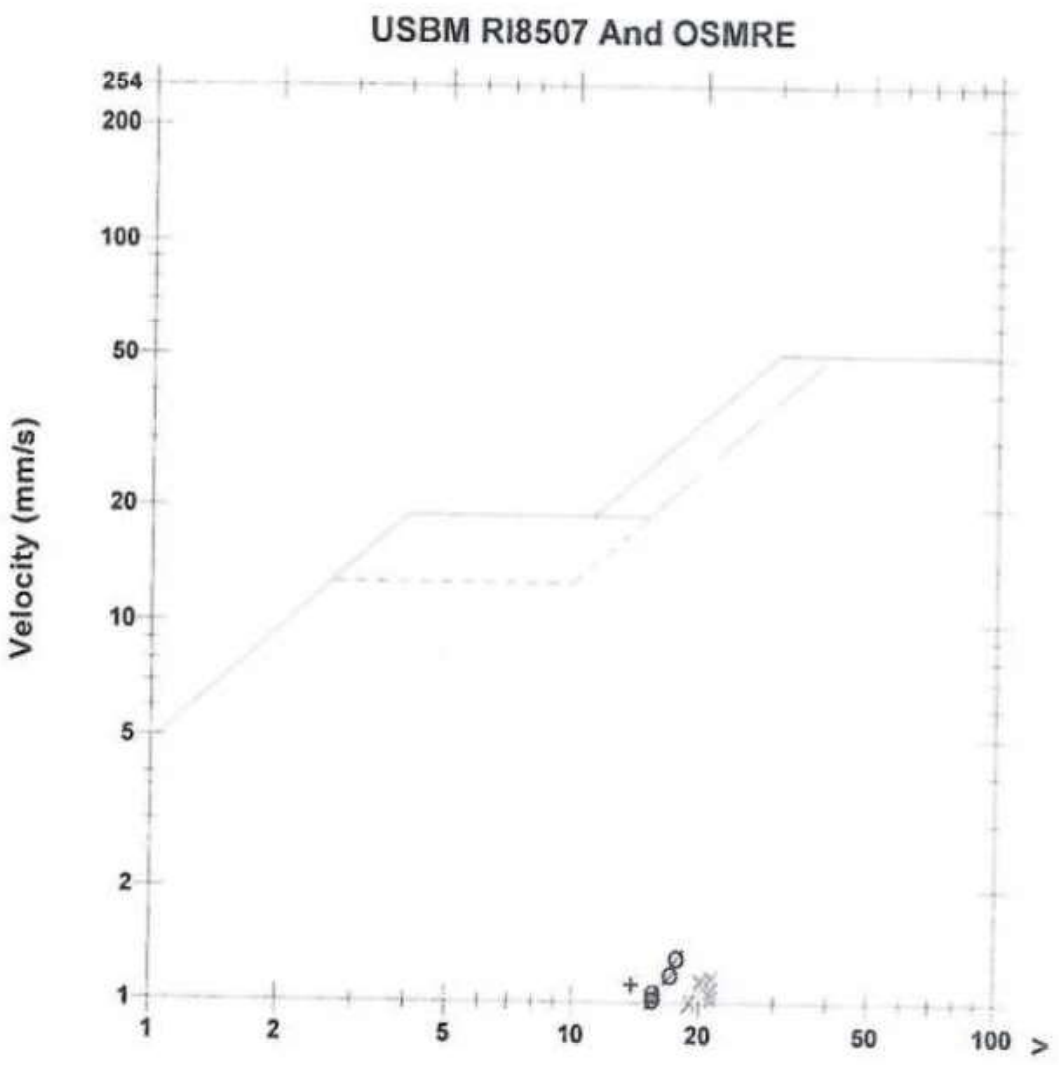
Date/Time	Vert at 13:50:10 October 10, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

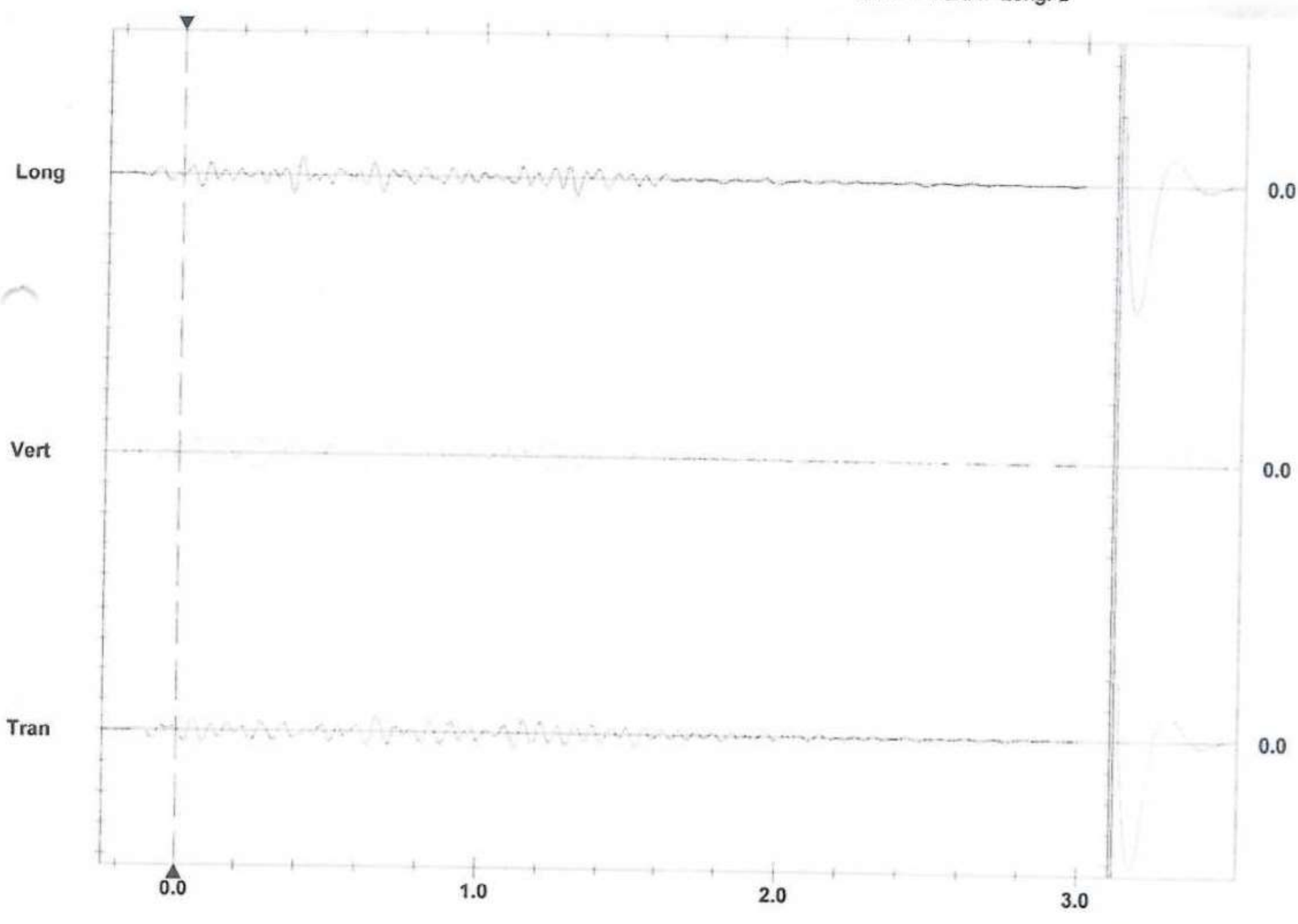
Serial Number	UM20055 V 10-90GC Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	February 26, 2024 by UES New Delhi
File Name	UM20055_20241010135010.IDFW

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVE LTD
General:

	Tran	Vert	Long	
PPV	1.111	1.174	1.324	mm/s
ZC Freq	13.8	21	17.7	Hz
Time (Rel. to Trig)	0.669	0.346	0.397	sec
Peak Acceleration	0.016	0.028	0.026	g
Peak Displacement	0.012	0.009	0.011	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.5	Hz
Overswing Ratio	4.0	4.6	4.4	

Peak Vector Sum 1.705 mm/s at 0.370 sec





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div
Trigger = ▶ ◀

Sensor Check

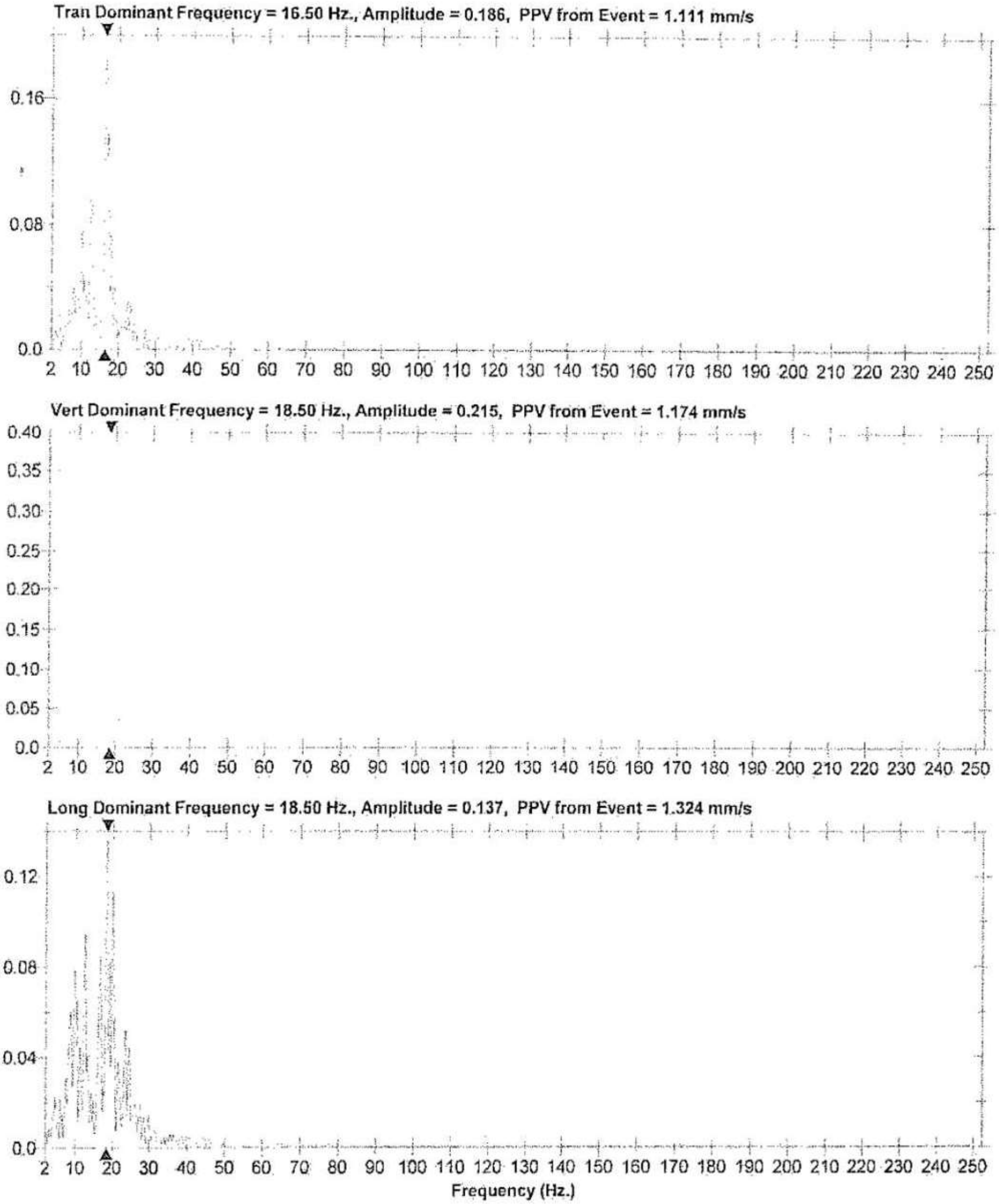
For IDL Explosives Limited

Instantel

FFT Report

Date/Time	Vert at 13:50:10 October 10, 2024	**Serial Number**	UM20055 V 10-90GC Micromate ISEE
Trigger Source	Geo: 0.500 mm/s	**Battery Level**	3.7 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	February 26, 2024 by UES New Delhi
Record Time	3.0 sec at 2048 sps	**File Name**	UM20055_20241010135010.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location:
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVE LTD
General



Instantel

Event Report

Date/Time	Long at 13:44:58 October 21, 2024
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)
Range	Geo: 254.0 mm/s
Record Time	3.0 sec at 2048 sps
Operator/Setup:	Operator/factory.MMB

Serial Number	UM15576 V 10-90FB Micromate ISEE
Battery Level	3.8 Volts
Unit Calibration	June 19, 2024 by UES New Delhi
File Name	UM15576_20241021134458.IDFW

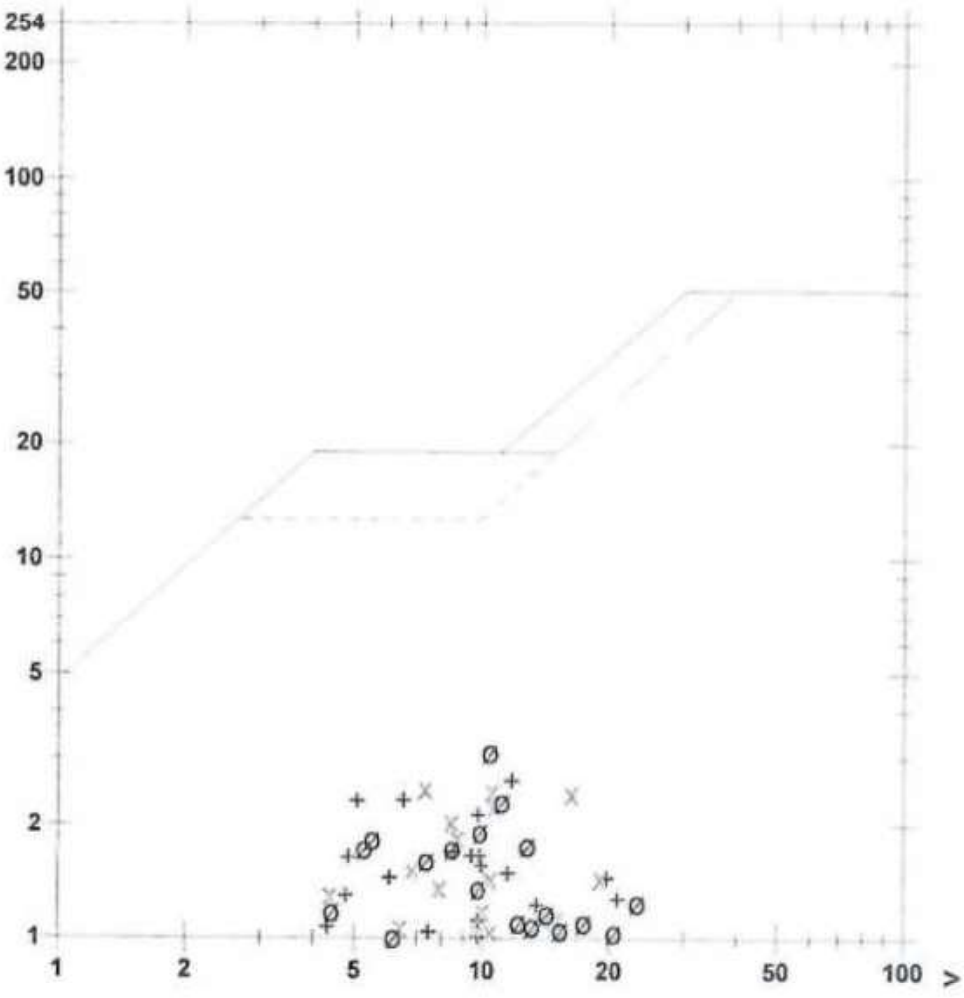
Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:

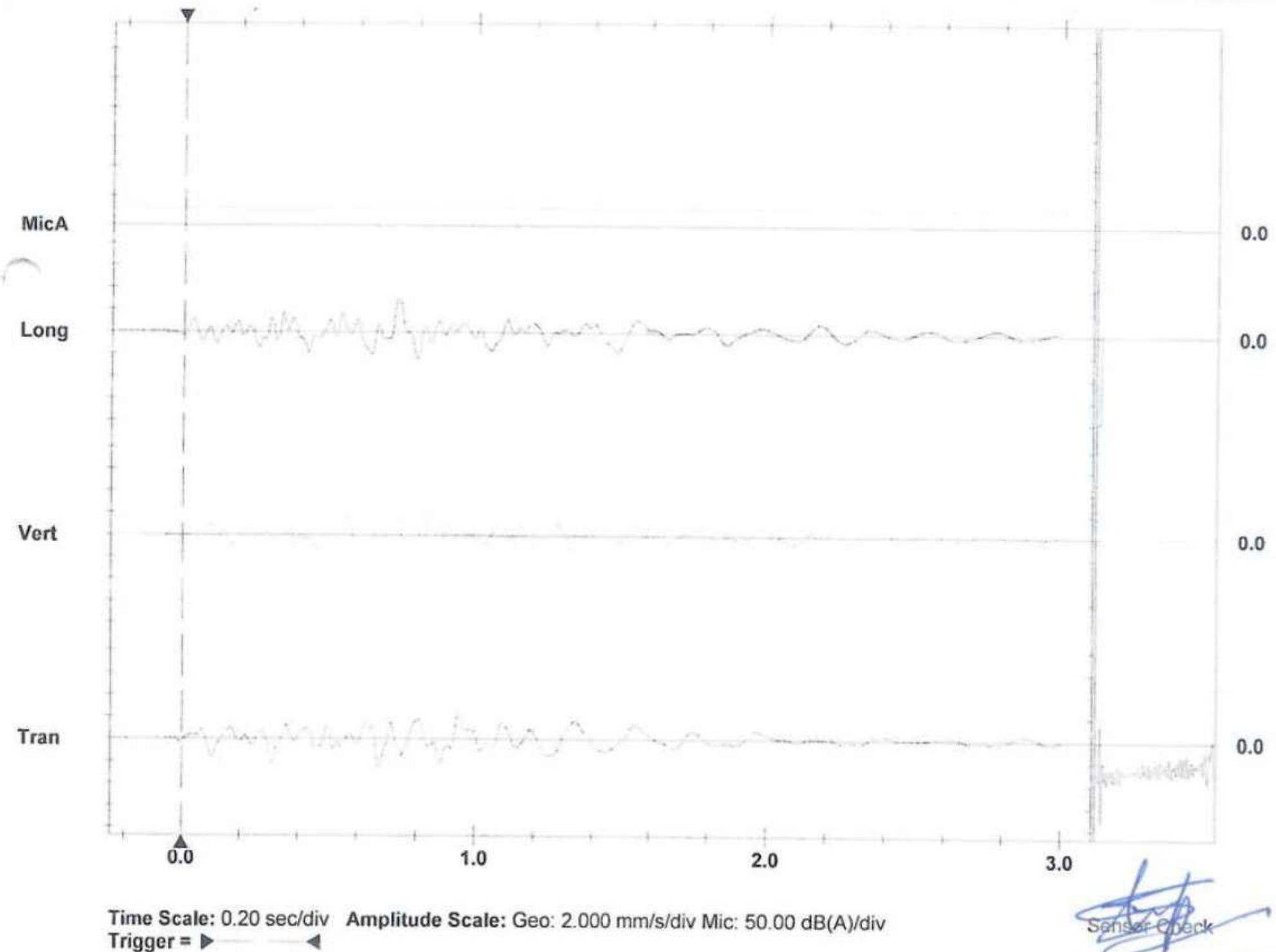
Microphone 'A' Weight - Fast
LMax <30 dB(A)
Sound (dB) **LMin** 1.5 **L10** 29 **L90** 29 **Leq** 1.5
Channel Test Check (Amp = 0 mv)

	Tran	Vert	Long	
PPV	2.617	2.491	3.113	mm/s
ZC Freq	11.8	7.3	10.4	Hz
Time (Rel. to Trig)	0.673	0.600	0.733	sec
Peak Acceleration	0.033	0.043	0.038	g
Peak Displacement	0.048	0.050	0.046	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.3	7.1	Hz
Overswing Ratio	4.0	4.1	4.1	

Peak Vector Sum 3.442 mm/s at 0.731 sec

USBM RI8507 And OSMRE





Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 50.00 dB(A)/div
Trigger = ▶ ◀

Sensor Check

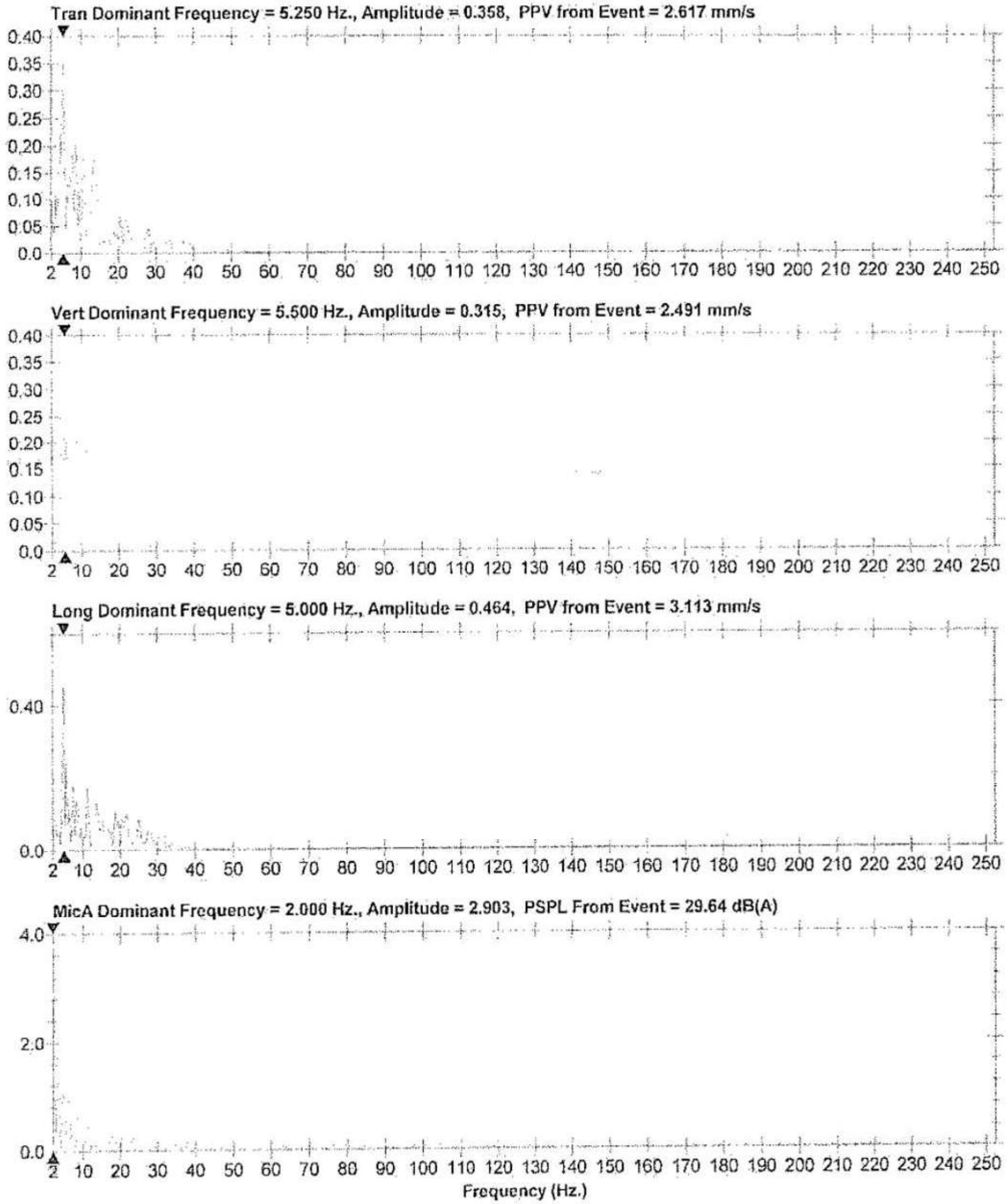
for IDL Explosives Limited

Instantel

FFT Report

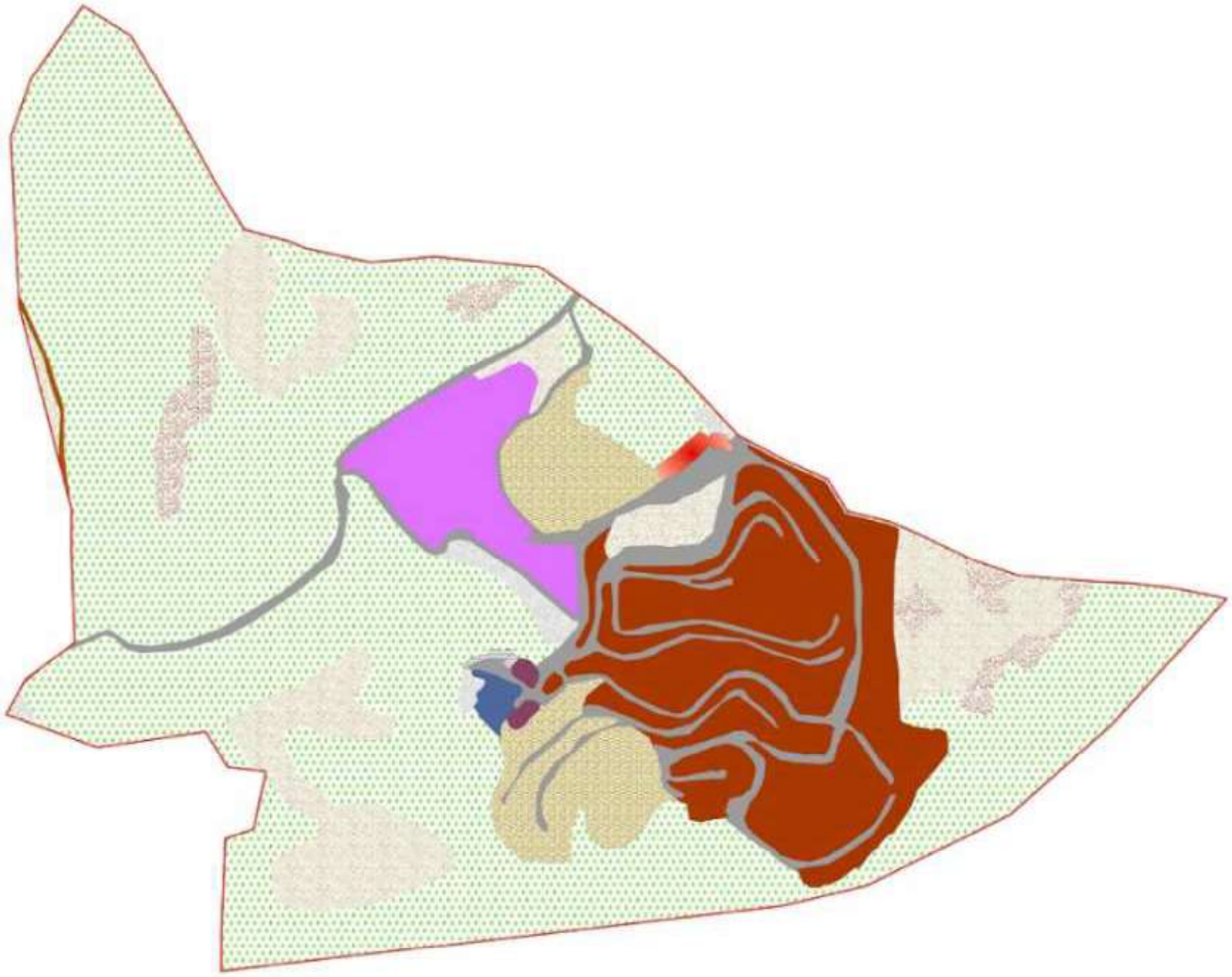
Date/Time	Long at 13:44:58 October 21, 2024	**Serial Number**	UM15576 V 10-90FB Micromate ISEE
Trigger Source	Geo: 0.300 mm/s, Mic: 660.0 dB(A)	**Battery Level**	3.8 Volts
Range	Geo: 254.0 mm/s	**Unit Calibration**	June 19, 2024 by UES New Delhi
Record Time	3.0 sec at 2048 sps	**File Name**	UM15576_20241021134458.IDFW
Operator/Setup:	Operator/factory.MMB		

Notes
Location: KTM / NIM
Client: TATA STEEL LTD
User Name: IDL EXPLOSIVES LTD
General:



ANNEXURE-IX

ANNEXURE 5



KATAMATI IRON MINES
OF M/s TATA STEEL LTD

SCALE – 1:4,000

LEGEND

LAND USE / LAND COVER

LEVEL I	LEVEL II	LEVEL III	LEGEND	AREA IN Ha	AREA IN %
BARE OF LAND					
INDUSTRIAL					
WASTELAND					
VEGETATION COVER					
		TOTAL AREA			

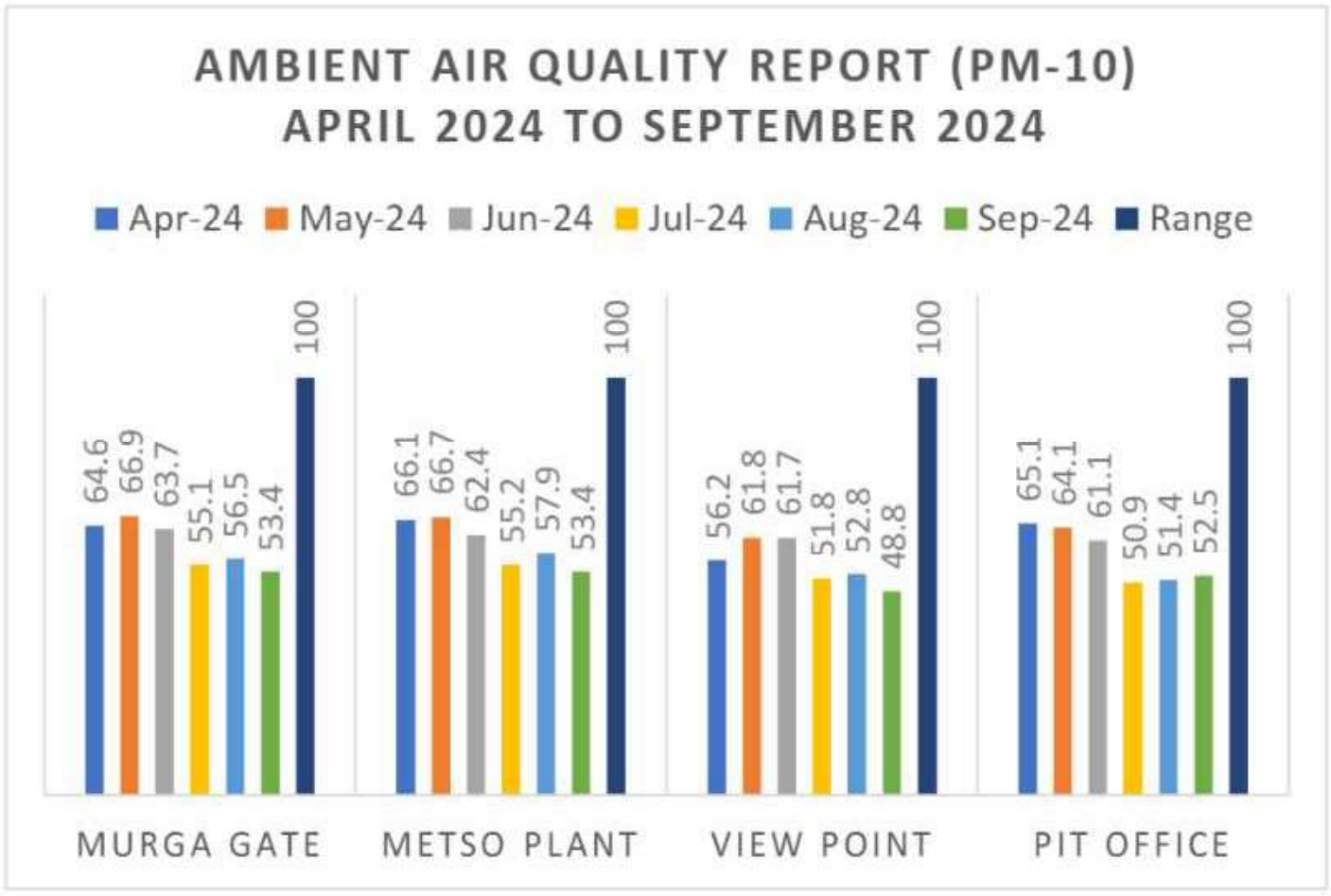
MAP PREPARED FOR THE YEAR ENDING ON 31.03.2021

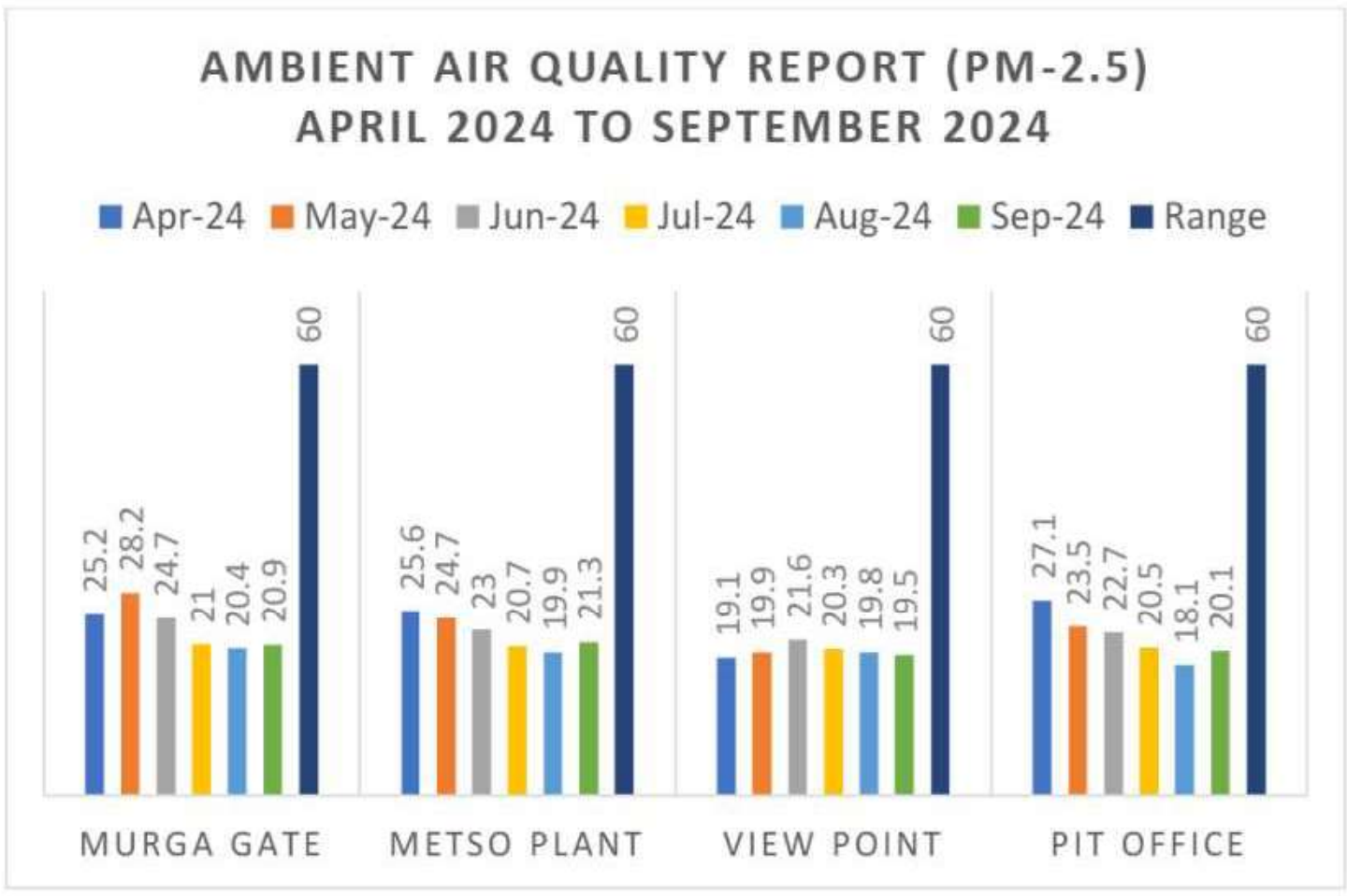
Prepared for:
M/s TATA STEEL LTD. OMQ Division
Sonamati, West Singhbhum
Jharkhand

Prepared by:
Geo Consultants Pvt. Ltd
(Authorised Organization of MoEF&CC)
Plot No.855, Govinda Prasad, Mahavir Nagar (Mediral Lane),
In front of Reliance Fresh (Radhika Complex)
Cuttack Road, Laxmisagar, Bhubaneswar-751006, Odisha

ANNEXURE-XII

Summarised Ambient Air Quality Monitoring Report								
Katamati Iron Ore Mine of M/s Tata Steel Limited								
Period: April 2024 to September 2024								
Mine location	Sampling location	Month	Range	Results in µg/m3				
				PM_{10}	$PM_{2.5}$	SO_2	NOx	CO
Katamati Iron Ore Mine	Murga Gate	Apr 24	Avg.	64.6	25.2	12.2	22.8	BDL (DL-0.5)
		May 24	Avg.	66.9	28.2	11.9	22.6	BDL (DL-0.5)
		Jun 24	Avg.	63.7	24.7	11.8	21.9	BDL (DL-0.5)
		Jul 24	Avg.	55.1	21.0	10.6	19.3	BDL (DL-0.5)
		Aug 24	Avg.	56.5	20.4	10.7	19.9	BLQ (LOQ-0.5)
		Sep 24	Avg.	53.4	20.9	10.6	21.2	BLQ (LOQ-0.5)
	Metso Plant	Apr 24	Avg.	66.1	25.6	11.3	21.9	BDL (DL-0.5)
		May 24	Avg.	66.7	24.7	12.3	21.9	BDL (DL-0.5)
		Jun 24	Avg.	62.4	23.0	11.0	20.1	BDL (DL-0.5)
		Jul 24	Avg.	55.2	20.7	11.1	20.4	BDL (DL-0.5)
		Aug 24	Avg.	57.9	19.9	10.5	21.1	BLQ (LOQ-0.5)
		Sep 24	Avg.	53.4	21.3	10.4	20.9	BLQ (LOQ-0.5)
	Viewpoint	Apr 24	Avg.	56.2	19.1	11.6	20.3	BDL (DL-0.5)
		May 24	Avg.	61.8	19.9	11.4	20.0	BDL (DL-0.5)
		Jun 24	Avg.	61.7	21.6	11.5	23.4	BDL (DL-0.5)
		Jul 24	Avg.	51.8	20.3	10.4	21.7	BDL (DL-0.5)
		Aug 24	Avg.	52.8	19.8	10.5	22.0	BLQ (LOQ-0.5)
		Sep 24	Avg.	48.8	19.5	9.5	20.0	BLQ (LOQ-0.5)
	Pit Office	Apr 24	Avg.	65.1	27.1	11.4	23.0	BDL (DL-0.5)
		May 24	Avg.	64.1	23.5	11.2	22.5	BDL (DL-0.5)
		Jun 24	Avg.	61.1	22.7	11.8	23.3	BDL (DL-0.5)
		Jul 24	Avg.	50.9	20.5	10.8	22.0	BDL (DL-0.5)
		Aug 24	Avg.	51.4	18.1	11.4	21.6	BLQ (LOQ-0.5)
		Sep 24	Avg.	52.5	20.1	11.9	20.4	BLQ (LOQ-0.5)


AMBIENT AIR QUALITY REPORT (PM-10)
APRIL 2024 TO SEPTEMBER 2024
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Range
64.6
66.9
63.7
55.1
56.5
53.4
100
66.1
66.7
62.4
55.2
57.9
53.4
100
56.2
61.8
61.7
51.8
52.8
48.8
100
65.1
64.1
61.1
50.9
51.4
52.5
100
MURGA GATE
METSO PLANT
VIEW POINT
PIT OFFICE


AMBIENT AIR QUALITY REPORT (PM-2.5)
APRIL 2024 TO SEPTEMBER 2024
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Range
25.2
28.2
24.7
21
20.4
20.9
60
25.6
24.7
23
20.7
19.9
21.3
60
19.1
19.9
21.6
20.3
19.8
19.5
60
27.1
23.5
22.7
20.5
18.1
20.1
60
MURGA GATE
METSO PLANT
VIEW POINT
PIT OFFICE

ANNEXURE-XV

Summarised Noise Monitoring Report					
Katamati Iron Ore Mine of M/s Tata Steel Limited					
Period: April 2024 to September 2024					
Mine Location	Sampling Location	Month	Unit	Results	
				Day	Night
Katamati Iron Ore Mine	Hospital Premises	April 2024	dB(A)	46.3	37.9
		May 2024	dB(A)	47.3	38.1
		June 2024	dB(A)	49.1	38.6
		July 2024	dB(A)	47.3	39.1
		August 2024	dB(A)	46.1	37.3
		September 2024	dB(A)	47.2	38.6
	Training Centres	April 2024	dB(A)	48.1	41.6
		May 2024	dB(A)	51.7	42.8
		June 2024	dB(A)	51.9	43.7
		July 2024	dB(A)	54.1	43.9
		August 2024	dB(A)	51.3	41.7
		September 2024	dB(A)	51.9	43.1
	Township	April 2024	dB(A)	53.6	38.1
		May 2024	dB(A)	54.1	42.9
		June 2024	dB(A)	53.6	41.2
		July 2024	dB(A)	51.8	43.1
		August 2024	dB(A)	48.2	39.7
		September 2024	dB(A)	51.3	42.8
	Chief Office	April 2024	dB(A)	67.2	54.9
		May 2024	dB(A)	68.6	54.7
		June 2024	dB(A)	67.3	58.1
		July 2024	dB(A)	52.9	41.6
		August 2024	dB(A)	51.8	43.9
		September 2024	dB(A)	52.7	41.2
	Mining Area	April 2024	dB(A)	71.4	62.8
		May 2024	dB(A)	71.2	61.4
		June 2024	dB(A)	71.4	62.8
		July 2024	dB(A)	71.6	58.3
		August 2024	dB(A)	69.1	57.2
		September 2024	dB(A)	72.1	63.9
	Plant Area	April 2024	dB(A)	69.3	52.1
		May 2024	dB(A)	68.9	54.3
		June 2024	dB(A)	64.3	56.2
		July 2024	dB(A)	67.2	58.6
		August 2024	dB(A)	71.2	56.3
		September 2024	dB(A)	67.3	58.1

ANNEXURE-XII

Sent through courier

The Sarpanch
Ansaikala Gram Panchyat
AT : Ansaikala
Keonjhar, Odisha

MD/ENV/ 415/139/2010
Date: 01/12/2010

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron ore production from 2.0 Million TPA to 8 Million TPA, vide MoEF letter No. J-11015/63/2008-IA.II(M), dated : 26th November, 2010. A copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking you,

Yours faithfully,

Rajesh Patel
Head (planning), OMQ

Encl : As above

Sent through courier

The Sarpanch
Deojhar Gram Panchyat
AT/PO : Deojhar
Keonjhar, Odisha

MD/ENV/ 414 /110/2010
Date: 01/12/2010

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron ore production from 2.0 Million TPA to 8 Million TPA, vide MoEF letter No. J-11015/63/2008-IA.II(M), dated : 26th November, 2010. A copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking you,

Yours faithfully,

Rajesh Patel
Head (planning), OMQ

Encl : As above

The President
Zila Parisad
Keonjhar, Odisha

MD/ENV/ 413 /110/2010
Date: 01/12/2010

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron ore production from 2.0 Million TPA to 8 Million TPA, vide MoEF letter No. J-11015/63/2008-IA.II(M), dated : 26th November, 2010. A copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking you,

Yours faithfully,

Rajesh Patel
Head (planning), OMQ

Encl : As above

ANNEXURE-XIII

TATA STEEL

TATA

NOTICE

Vide MoEF letter No. **J-11015/63/2008 – IA, II (M)** dated 26th November 2010, Katamati Iron Mine of M/S. Tata Steel Ltd. has been granted environmental clearance for its expansion project to increase Iron Ore production from 2.0 Million TPA to 8.0 Million TPA. The copy of the clearance letter is available with the State Pollution Control Board, Odisha and also at website of the MoEF at *http://envfor.nic.in*

NEW INDIA EXPRESS - 02/12/10

TATA STEEL

TATA

ସୂଚନା

ଭାରତ ସରକାରଙ୍କ ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର ଚିଠି ସଂଖ୍ୟା **J-11015/63/2008 - IA. II (M)** ତା: ୨୬/୧୧/୨୦୧୦ ଦ୍ୱାରା ଟାଟା ଷ୍ଟିଲ୍ ଲିମିଟେଡ୍‌ର କାଟାମାଟି ଖଣିରୁ ବାର୍ଷିକ ୨.୦ ନିୟୁତ ଟନରୁ ୮.୦ ନିୟୁତ ଟନ୍‌କୁ ଲୁହାପଥର ଖନନର ଉତ୍ପାଦନ କ୍ଷମତା ବଢ଼ାଇବା ପାଇଁ ପରିବେଶ ମଂଜୁରୀ ପ୍ରଦାନ କରାଯାଇଅଛି । ଏହି ପରିବେଶ ମଂଜୁରୀର ନକଲ ରାଜ୍ୟ ପ୍ରଦୂଷଣ ନିୟନ୍ତ୍ରଣ ବୋର୍ଡ, ଓଡ଼ିଶାଙ୍କ ଅଫିସ୍ ଓ ଜଙ୍ଗଲ ଓ ପରିବେଶ ମନ୍ତ୍ରଣାଳୟର website: http://envfor.nic.in ରେ ଉପଲବ୍ଧ ।

PRAGATIVADI - 02.12/10.

ANNEXURE-XIV

(This Document Contains ..... Pages)

BY REGISTERED POST WITH A.D.

STATE POLLUTION CONTROL BOARD, ORISSA

Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar - 751 012

No 114 APC/

6845

CONSENT ORDER

No. ..... SPCB/BBSR-I-IND (CON) – 185

Dated 30-3-06

Sub : Consent for Existing / New operation of the plan under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

Ref. : Your Application No. ..... – ..... dtd. ..... 23.11.2005 .....

CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act,1983 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made thereunder to M/s ..... Tata Steel Mines, Katamati Iron Ore Mines ..... represented through its occupier Mr/Ms/M/s ..... M. C. Thomas ..... Designation ..... Agent .....
Address ..... Keonjhar .....
(hereinafter referred as "The Applicant") authorising him/her/them to operate his/her/their industrial plant in the Air Pollution Control area as notified by the Government and to continue to make existing discharge of emissions / make new discharge of emissions from the stacks / chimneys.

This Consent is subject to the provision of the Act and the rules and orders made thereunder and is further subject to the product quantity, specified chimney/stack, discharge and quality of emissions as specified below. This Consent is also subject to special condition, ambient air quality (Annexure-I) and General Conditions (Annexure-II)

The CONSENT is valid for the period ~~from~~ ..... up ..... to ..... 31.03.2006 .....

(A) DETAILS OF PRODUCTS MANUFACTURED

Sl.No.	Description	Quantity
1.	Iron Ore.	2.0 Million Tonne/ Annum.
2.	–	
3.	–	
4.	–	
5.	–	

Contd.Pg/2

B. EMISSION IS PERMITTED THROUGH THE FOLLOWING CHIMNEYS / STACKS

Chimney/Stack No.	Description of Chimney / Stack	Point of Discharge (Height)

C. THE DAILY DISCHARGE OF EMISSIONS THROUGH THE FOLLOWING CHIMNEYS/ STACKS SHALL NOT EXCEED THE FIGURES MENTIONED BELOW :

Sl. No.	Chimney/Stack No.	Description of Chimney/Stack	Maximum Discharge M^3/Hour

D. THE EMISSION SHALL NOT CONTAIN CONSTITUENTS IN EXCESS OF THE TOLERANCE LIMITS AS LAID DOWN HERE UNDER.

Sl. No.	Parameters	Unit	Limit Prescribed Chimney / Stack Number					
(1)	(2)	(3)	1	2	3	4	5	6
1.	Co_2							
2.	CO							
3.	Nox							
4.	Particulate matter							
5.	Others.							

Contd.Pg/3

E. SPECIAL CONDITIONS

1. Adequate dust suppression measures like water spraying arrangement shall be provided at transportation road, stack yard of products & other dust generating points to suppress fugitive dust emission.
2. Drilling machine shall be wet operated with dust excavators, and controlled blasting shall be practiced.
3. Wetting of surface of active OB dumps shall be done to prevent dust by wind action.
4. Ambient air quality shall be maintained to conform to the NAAQMs for industrial area prescribed under EP Act, 1986.
5. The OB material before reclamation shall be dumped in such a manner there shall be least damage to the natural forest cover.
6. In no case slope of the OB dump shall exceed the angle of repose.
7. Broad thick leaf indigenous trees shall be planted along the side of haulage road, over & around OB dumps, over reclaimed pits, in residential colony and vacant space where ever available @ 10000 trees per Acre.
8. Iron Ore crusher within the premises shall not be established without the prior permission from the Board.
9. The mine shall abide by EP Act, 1986 & rules framed there under.

To

The Chief Planning (OMQ),
M/s.Tata Steel ~~kkx~~ Mines,
Katamati Iron Ore Mines,
Mine Divn.,Nuamundi - 833 217,
Dist: Singhbhun-West, Jharkhand.

27/03/06

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ORISSA

Contd.Pg/4

Memo No. ..... / Dt. ..... /

i) Secretary, Department of Forest & Environment, Government of Orissa,

ii) Secretary, Industries Department, Government of Orissa

iii) Regional Officer, State Pollution Control Board

iv) Cess Section (Head Office)

v) Guard File (Head Office)

vi) EIA cell / Awareness cell

SR. ENV. ENGINEER / ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ORISSA

ANNEXURE - I

AMBIENT AIR QUALITY STANDARDS

Pollutant	Time Weighted Average	Concentration in Ambient Air			Method of Measurement
		Industrial Area	Residential Rural & Other	Sensitive Area	
1	2	3	4	5	6
Sulphor Dioxide (SO2)	Annual Av.	80 µg/m³	60 µg/m³	15/ µg/m³	1. Improve West and Gaeke method
	24 Hours	120 µg/m³	80 µg/m³	30 µg/m³	2. Ultraviolet flourescence
Oxides of Nitrogen as NO_2	Annual Av.	80 µg/m³	60 µg/m³	15 µg/m³	1. Jacob & Hcchheiser Modified) (Na-Argenite Method)
	24 Hours	120 µg/m³	80 µg/m³	30 µg/m³	2. Gas Phase Chemiluminescene
Suspended Particulate Matter (SPM)	Annual Av.	360 µg/m³	140 µg/³	70 µg/m³	
	24 Hours	500 µg/m³	200 µg/m³	100 µg/m³	Avg. flow rate not less than 1.1 m³/minute
Respirable Particulate Matter (Size less than 10 um) (RPM)	Annual Avg.	120 µg/m³	60 µg/m³	50 µg/m³	
	24 Hours	150 µg/m³	100 µg/m³	75 µg/m³	
Lead (Pb)	Annual Avg.	1.0 µg/m³	0.75 µg/m³	0.50 µg/m³	..ASS Method after sampling using EPM 2000 of equivalent filter paper.
	24 Hours	1.5 µg/m³	1.0 µg/m³	0.75 µg/m³	
Carbon Monoxide (Co)	8 Hours	5.0 µg/m³	2.0 µg/m³	1.0 µg/m³	.. Non dispersive Infrared spectroscopy
	1 Hour	10.0 µg/m³	4.0 µg/m³	2.0 µg/m³	

* Annual Aritmetic mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval.

** 24 hourly / 8 hourly values should be met 98% of the time in a year. However, 2% of the time, it may exceed but not on two consecutive days.

ANNEXURE - II

GENERAL CONDITIONS

1. The applicant shall provide port holes for sampling the emissions and access platform carrying out stack sampling and provide electrical outlet points and other arrangements f chimneys/stacks and other sources of emissions so as to collect samples of emission by th Board or the applicant at any time in accordance with the provision of the Act or Rules mad therein.

2. The applicant shall analyse the emissions every month for the parameters indicated in the No.4(a) and shall furnish in triplicate the report thereof to the Board by the 10th of the succeeding month.

3. This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be ground for review / variation / revocation of the Consent Order under Section 21 of the Act to make such deviations as deemed fit for the purpose of the Act.

4. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and / or quantity of emissions, without the previous written permission of the Board.

5. The applicant shall provide and maintain at his own cost one/two/three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphor Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon-Monixide and monitor the same once in a day/week/fortnight/ month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.

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

7. The applicant shall forward the following information to the Member Secretary State Pollution Control Board, Orissa, Bhubaneswar regularly before 10th of every month.

   (a) Progress on installation of air pollution control equipments.

   (b) Progress on the procurement and installation of equipments for monitoring ambient air quality, stacks/chimneys and meteorological data.

   (c) Monthly extract of daily discharge of emission through each chimney/stack.

Contd.Pg/2

(d) Report of analysis of stack monitoring, ambient air quality monitoring, meteorological data as required under conditions as serial 4 of Consent Order.

(e) Progress on planting of trees and plants as referred to under General Conditions No.4.

8. Any upset condition in any of the plant / plants of the factory which is likely to result in increased emissions and/or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board telegraphically.

9. The applicant shall furnish to the Visiting Officer of the Board any information regarding the stack monitoring system/or operation of the plant or any other particulars as may be pertinent in preventing and controlling of pollution of Air.

10. The applicant shall submit process flow sheet and particulars of proposed control equipments monitoring equipments and time schedule for completing the installation of the same as to reach the Board within 30 days from the date of receipt of this consent.

11. The conditions imposed as above shall continue in force until revoked under Section 21 of the Act.

12. The applicant shall make an application for grant of fresh consent atleast 90 days before the date of expiary of this consent orders.

13. The necessary fee; as prescribed for obtaining consent, shall be paid for by the applicant along with the application for consent.

14. The industry shall immediately submit the revised application for consent to this Board in the event of any change in the quantity/quality of raw material, manufacturing process, rate of emissions, air pollution control equipments etc.

15. The applicant shall :

(a) **Not later than 30 days** from the date of issue of this consent order certify in writing to the Member Secretary that the applicant has installed or provided for an alternate electric power source sufficient to operate all facilities installed by the applicant to maintain compliance with the terms and conditions of the consent.

(b) **Not later than 30 days** from the date of issue of this consent certify in writing to the Member Secretary that upon the reduction, loss or failure of one or more of the primary sources of electric power to any facilities installed by the applicant to maintain compliance with production and/or all emissions in order to maintain compliances with the terms and conditions of this consent.

Contd.Pg/3

16. No, Control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.

17. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as ammended).

18. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as not to cause fugitive emission, dust problems through leaching etc., of any kind.

19. The applicant shall plant a minimum of three varieties of trees at the density of not less than 1000 trees per acre. This plantation is situated over and above the bulk plantation of trees in that area and maintain them.

20. The applicant shall provide all facilities for collection of sample to the Board staff.

21. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.

22. There shall not be any fugitive or episodal discharge from the premises.

23. In case of such episodal discharge / emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in condition.

24. The applicant shall at all times maintain in good working order and operate as efficiently as possible all pollution control facilities to achieve the terms and conditions of the consent.

25. The issue of this consent does not convey any property right in either real or personal property or any exclusive previleges nor does it authorise any injury to private properly or any invasion of personal rights, or any infringment of Central, State laws or regulations.

26. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.

Contd.Pg/4

27. The applicant shall display this consent granted to him in a prominent place for perusal of the inspecting officers of this Board.

28. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.

29. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.

30. The applicant, his heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.

31. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.

32. Any change in occupier shall be informed to the Board forthwith.

Contd Pg/2

(This Document Contains ..... Pages)

BY REGISTERED POST WITH A.D.

STATE POLLUTION CONTROL BOARD, ORISSA

Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar - 751 012

No 114 WPC/

CONSENT ORDER

No. 6847 SPCB/BBSR-I-IND (CON) – 185

Dated 30-3-06

Sub : Consent for discharge of Sewage and / or trade effluent under section 25/26 of water (prevention & control of pollution) Act, 1974

Ref. : Your Application No. – dtd. 23.11.2005

CONSENT is hereby granted under Section 25/26 of the Water (PCP) Act,1974 (Central Act 6 of 1974) hereinafter referred to as the Act and the rules and orders made thereunder to M/s Tata Steel Mines, Katamati Iron Ore Mines represented through its occupier Mr/Ms M. C. Thomas Designation Agent Address Keonjhar (hereinafter referred as "*the applicant*") authorising him/her to continue to or bring into use any new or altered outlet or begin to make any new discharge of sewage and/or trade effluent.

This Consent is subject to the provision of the Act and the rules and orders thereunder and further subject to the product capacity, specified outlet/outlets, discharge quantity and quality and special conditions mentioned therein. This Consent is also subject to the general conditions (Annexure-I) and general standard for discharge of pollutants (Effluents) (Annexure-II)

The CONSENT is valid for the period from ~~one~~ up to 31.03.2006

(A) DETAILS OF PRODUCTS MANUFACTURED

Sl.No.	Description	Quantity
1.	Iron Ore.	2.0 Million Tonne/Annum.
2.	–	
3.	–	
4.	–	
5.	–	

Contd.Pg/2

Contd.Pg/2

B. DISCHARGE OF EFFLUENT PERMITTED FROM THE FOLLOWING OUTLETS

Outlet No.	Description of the Outlet	Point of Discharge
1.		
2.		
3.		
4.		
5.		

C. QUANTITY OF EFFLUENT DISCHARGED NOT TO EXCEED THE FIGURES MENTIONED BELOW.

Outlet No.	Maximum hourly discharge (lit/hr.)	Maximum Daily Discharge (lit/day)
1.		
2.		
3.		
4.		
5.		

D. EFFLUENT DISCHARGED SHALL NOT CONTAIN CONSTITUENT IN EXCESS OF THE FOLLOWING AS LAID DOWN HEREUNDER. (Parameters not mentioned here shall be referred to the General Standards Annexed)

Sl. No.	Parameters	Unit	Limit Prescribed				
			Outlet 1	Outlet 2	Outlet 3	Outlet 4	Outlet 5
1.							
2.							
3.							
4.							
5.							
6.							

Contd.Pg/3

D. SPECIAL CONDITIONS

1. The topsoil shall be stacked properly with proper slope at earmarked site with adequate measures and shall be used for reclamation of mined out area.

2. The mine water (if any) and surface run off from the OB dumps area shall be treated in a settling tank and conform to the prescribed standard before discharge to nearby water body.

3. Catch drains & siltation ponds of appropriate size shall be constructed to arrest silt and sediment flow from soil, OB & mineral dumps. The drains shall be regularly desilted & maintained properly.

4. The sludge excavated from the tailing pond shall be properly disposed off in order to avoid surface water contamination.

5. Garland drain / ~~xxxx~~ check dam shall be constructed around OB dump and run off collected ~~xx~~ shall be treated in settling to conform to the prescribed standard before discharge to inland surface water.

6. Effluent generated from workshop (if any) shall be treated in O&G trap cum sedimentation tank before discharge to inland surface water.

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

8. Pitch / terracing / matting of toe of OB dump shall be done to chek erosion of dumps.

9. The mined out areas shall be technically & biologically reclaimed.

To

The Chief Planning (OMQ)
M/s. Tata Steel Mines,
Katamati Iron Ore Mines,
Mines Division, Nuamundi - 833 217
Dist: Singhbhum-West, Jharkhand.

22/08/06

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ORISSA

Contd.Pg/4

Contd.Pg/2

Memo No. ..... / Dt. .....

i) Secretary, Department of Forest & Environment, Government of Orissa,

ii) Secretary, Industries Department, Government of Orissa

iii) Regional Officer, State Pollution Control Board

iv) Cess Section (Head Office)

v) Guard File (Head Office)

vi) EIA cell / Awareness cell

SR. ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ORISSA

ANNEXURE - I

GENERAL CONDITIONS

1. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilisation for any purposes whatsover.

2. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below :

   (a) Industrial cooling, spraying in mine pits or boiler feed.

   (b) Domestic purpose

   (c) Process

   (d)

   (e)

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

4. The consent given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review / variation / revocation of the consent order under Section 27 of the Act and to make such variations as deemed fit for the purpose of the Act.

5. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.

6. The applicant shall comply with and carry out directives / orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. The applicant shall be liable for such legal action as per provisions of the Law/Act in case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order.

Contd.Pg/2

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

   (a) Performance/progress of the treatment plant.

   (b) Status of the installation of mechanical composite sampling equipment and continuous flow recording and measuring devices.

   (c) Monthly statement of daily discharge of domestic and/or trade effluent.

8. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge and/or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board telegraphically.

9. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system and any other particulars as may be pertient to preventing and controlling pollution of water.

10. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power undeer Section 27(2) of the Water (Prevention and Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.

11. The conditions imposed as above shall continue to be in force until revoked under Section 27(2) of the Act.

12. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the Industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.

13. The applicant shall make an application for grant of fresh consent atleast 90 days before the date of expiry of this consent order.

14. The industry would immediately submit revised application for consent to this Board in the event of any change in the quantity and quality of raw material/and products/manufacturing process or quantity/quality of the effluent etc.

Contd.Pg/3

15. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.

16. The applicant shall either :

(a) **Not later than 30 days** from the date of issue of this consent order certify in writing to the Member Secretary that the applicant has installed or provided for an alternate electric power source sufficient to operate all facilities installed by the applicant to maintain compliance within the terms and conditions of the consent.

(b) **Not later than 30 days** from the date of this consent certify in writing to the Member Secretary that upon the reduction, loss or failure of one or more of the primary sources of electric power to any facilities installed by the applicant to maintain compliance with the terms and conditions of this consent, the applicant shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the terms and conditions of this consent.

17. The applicant shall not allow the discharge from other premises to mix with the discharge from his premises.

18. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.

19. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :

i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.

ii) Controlled incineration, wherever possible in case of combustible organic material.

iii) Composting, in case of bio-degradable material.

20. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing any burying shall be carried out in the presence of Board's authorised persons only. Letter of authorisation shall be obtained for handling and disposal of hazardous wastes.

Contd.Pg/4

21. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.

22. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples.

23. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by him to achieve with the term (s) and conditions of the consent.

24. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorise any injury to private property or any invasion of personal rights, nor any infringment of Central, State laws or regulation.

25. This consent does not authorise or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.

26. **Non-Compliance with effluent limitations**

(a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following informations in writing within 5days of such notification.

i) Causes of non-compliance.

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

iii) Anticipated time of continuance of non-compliane if expected to continue or if such condition has been corrected the duration or period of non-compliance.

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

v) Steps to be taken by the applicant to prevent the condition of non-compliance.

Contd.Pg/3

(b) The applicant shall take all reasonable steps to minimise any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

(c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalities for non-compliance whether or not such-non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

27. The diversion or by-pass of any discharge from facilities utilised by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except;

i) Where it becomes unavoidable to prevent loss of life or severe property damage, or

ii) Where excessive storm drainage or run-off would damage any facilities necessary for compliance with the terms and conditions of this consent, the applicant shall immediately notify the Board in writing of each such diversion or by-pass in accordance with the procedure specified as under Item No.26.

28. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.

29. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or tricking of acids or alkalies arbitrarily and utilising poles for stirring etc. should not be resorted to.

30. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilised as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.

31. The utilisation of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.

Contd.Pg/6

Contd.Pg/2

32. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.

33. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfacotry treatment and disposal measures.

34. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalisation tank.

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

    i) Rotation of crops

    ii) Change of point of application of effluent on land

    iii) A portion of land kept fallow

    The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consulation with the Agriculture Department.

36. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent.

37. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.

38. The fact of commissioning of the industry shall be intimated to this office in time.

39. Any change in the occupier shall be informed to the Board forthwith.

Contd.Pg/7

ANNEXURE - II

General Standards for discharge of environment pollutants Part - A : Effluents

Sl. No.	Parameters	Standards			
		Inland Surface	Public Sewers	Land for Irrigation	Marine Costal Areas
1	2		3		
		(a)	(b)	(c)	(d)
1.	Colour & Odour	Colourless/Odourless as far as practible	....	See 6 of Annex-I	See 6 of Annex-I
2.	Suspened Solids(mg/1)	100	600	200	a.For process waste water - 100 b.For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	....	.....	a.Footable solids max. 3 mm b.Settleable solids, max 850 microns.
4.	.....	.....	.....	.....	.....
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	.....	.....	Shall not exceed 5°C above the receiving water temperature.
7.	Oil & Grease mg/1 max.	10	20	10	20
8.	Total residual chlorine	1.0	.....	.....	1.0
9.	Ammonical nitrogen (as N) mg/1 max.	50	50	.....	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max	100	.....	.....	100
11.	Free ammonia (as NH_3) mg/1 Max.	5.0	.....	.....	5.0
12.	Biochemical Oxygen Demand Demand (5days at 20°C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	.....	.....	250

Contd.Pg/8

Contd.Pg/2

1	2	3			
		(a)	(b)	(c)	(d)
14.	Arsenic (as As) mg/1max.	0.2	0.2	0.2	0.2
15.	Mercury(as Hg)mg/1max.	0.01	0.01	.....	0.01
16.	Lead (as Pb) mg/1max.	0.1	1.0	.....	2.0
17.	Cardmium (as Cd) mg/1 max.	2.0	1.0	.....	2.0
18.	Hexavelent Chromium (as Cr + 6) mg/1 max.	0.1	2.0	.....	1.0
19.	Total Chromium (as Cr) mg/1 max.	2.0	2.0	.....	2.0
20.	Copper (as Cu) mg/1max	3.0	3.0	.....	3.0
21.	Zinc (as Zn) mg/1max.	5.0	15	.....	15
22.	Selenium(as Sc)mg/1max.	0.05	0.05	.....	0.05
23.	Nickel (as Nil) mg/1max.	3.0	3.0	.....	5.0
24.	Cyanide (as CN) mg/1 max.	0.2	2.0	0.2	0.02
25.	Flouride (as F) mg/1max.	2.0	15	.....	15
26.	Dissolved Phosphates (as P) mg/1 max.	5.0	.....	.....	.....
27.	Sulphide (as S) mg/1 max.	2.0	.....	.....	5.0
28.	Phenoile compounds (as C_6H_5OH) mg/1 max.	1.0	5.0	.....	5.0
29.	Radioactive Materials				
	a. Alpha emitter micro curle/ml	10^7	10^7	10^8	10^7
	b. Beta emitter micro curle/ml.	10^6	10^6	10^7	10^6
30.	Bio-assay test	90% Survival of fish after 96 hours in 100% affluent	90% Survival of fish after 96 hours in 100% effluent	90% Survival of fish after 96 hours in 100% effluent	90% Survival of fist after 96 hours in 100% effluent
31.	Manganese (as Mn)	2 mg/1	2 mg/1	.....	2 mg/1
32.	Iron (as Fe)	3 mg/1	3 mg/1	.....	3 mg/1
33.	Vanadium (as V)	0.2 mg/1	0.2 mg/1	.....	0.2 mg/1
34.	Nitrate Nitrogen	10 mg/1	.....	.....	20 mg/1

These general standards are for parameters other than those mentioned in the main consent order.

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BY REGISTERED POST WITH A.D.

STATE POLLUTION CONTROL BOARD, ORISSA

Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar - 751 012

No 114 WPC/

CONSENT ORDER

No. 6847 SPCB/BBSR-I-IND (CON) – 185

Dated 30-3-06

Sub : Consent for discharge of Sewage and / or trade effluent under section 25/26 of water (prevention & control of pollution) Act, 1974

Ref. : Your Application No. – dtd. 23.11.2005

CONSENT is hereby granted under Section 25/26 of the Water (PCP) Act,1974 (Central Act 6 of 1974) hereinafter referred to as the Act and the rules and orders made thereunder to M/s Tata Steel Mines, Katamati Iron Ore Mines represented through its occupier Mr/Ms M. C. Thomas Designation Agent Address Keonjhar (hereinafter referred as "*the applicant*") authorising him/her to continue to or bring into use any new or altered outlet or begin to make any new discharge of sewage and/or trade effluent.

This Consent is subject to the provision of the Act and the rules and orders thereunder and further subject to the product capacity, specified outlet/outlets, discharge quantity and quality and special conditions mentioned therein. This Consent is also subject to the general conditions (Annexure-I) and general standard for discharge of pollutants (Effluents) (Annexure-II)

The CONSENT is valid for the period from ~~one~~ up to 31.03.2006

(A) DETAILS OF PRODUCTS MANUFACTURED

Sl.No.	Description	Quantity
1.	Iron Ore.	2.0 Million Tonne/Annum.
2.	–	
3.	–	
4.	–	
5.	–	

Contd.Pg/2

B. **DISCHARGE OF EFFLUENT PERMITTED FROM THE FOLLOWING OUTLETS**

Outlet No.	Description of the Outlet	Point of Discharge
1.		
2.		
3.		
4.		
5.		

C. **QUANTITY OF EFFLUENT DISCHARGED NOT TO EXCEED THE FIGURES MENTIONED BELOW.**

Outlet No.	Maximum hourly discharge (lit/hr.)	Maximum Daily Discharge (lit/day)
1.		
2.		
3.		
4.		
5.		

D. **EFFLUENT DISCHARGED SHALL NOT CONTAIN CONSTITUENT IN EXCESS OF THE FOLLOWING AS LAID DOWN HEREUNDER. (Parameters not mentioned here shall be referred to the General Standards Annexed)**

Sl. No.	Parameters	Unit	Limit Prescribed				
			Outlet 1	Outlet 2	Outlet 3	Outlet 4	Outlet 5
1.							
2.							
3.							
4.							
5.							
6.							

Contd.Pg/3

D. SPECIAL CONDITIONS

1. The topsoil shall be stacked properly with proper slope at earmarked site with adequate measures and shall be used for reclamation of mined out area.

2. The mine water (if any) and surface run off from the OB dumps area shall be treated in a settling tank and conform to the prescribed standard before discharge to nearby water body.

3. Catch drains & siltation ponds of appropriate size shall be constructed to arrest silt and sediment flow from soil, OB & mineral dumps. The drains shall be regularly desilted & maintained properly.

4. The sludge excavated from the tailing pond shall be properly disposed off in order to avoid surface water contamination.

5. Garland drain / check dam shall be constructed around OB dump and run off collected be shall be treated in settling to conform to the prescribed standard before discharge to inland surface water.

6. Effluent generated from workshop (if any) shall be treated in O&G trap cum sedimentation tank before discharge to inland surface water.

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

8. Pitch / terracing / matting of toe of OB dump shall be done to chek erosion of dumps.

9. The mined out areas shall be technically & biologically reclaimed.

To

The Chief Planning (OMQ)
M/s. Tata Steel Mines,
Katamati Iron Ore Mines,
Mines Division, Nuamundi - 833 217
Dist: Singhbhum-West, Jharkhand.

27/03/06

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ORISSA

Contd.Pg/4

Memo No. ..... / Dt. ..... /

i) Secretary, Department of Forest & Environment, Government of Orissa,

ii) Secretary, Industries Department, Government of Orissa

iii) Regional Officer, State Pollution Control Board Keonjhar

iv) Cess Section (Head Office)

v) Guard File (Head Office)

vi) EIA cell / Awareness cell

SR. ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ORISSA

ANNEXURE - I

GENERAL CONDITIONS

1. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilisation for any purposes whatsover.

2. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below :

   (a) Industrial cooling, spraying in mine pits or boiler feed.

   (b) Domestic purpose

   (c) Process

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

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5. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.

6. The applicant shall comply with and carry out directives / orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. The applicant shall be liable for such legal action as per provisions of the Law/Act in case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order.

Contd.Pg/2

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

   (a) Performance/progress of the treatment plant.

   (b) Status of the installation of mechanical composite sampling equipment and continuous flow recording and measuring devices.

   (c) Monthly statement of daily discharge of domestic and/or trade effluent.

8. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge and/or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board telegraphically.

9. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system and any other particulars as may be pertient to preventing and controlling pollution of water.

10. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power undeer Section 27(2) of the Water (Prevention and Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.

11. The conditions imposed as above shall continue to be in force until revoked under Section 27(2) of the Act.

12. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the Industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.

13. The applicant shall make an application for grant of fresh consent atleast 90 days before the date of expiry of this consent order.

14. The industry would immediately submit revised application for consent to this Board in the event of any change in the quantity and quality of raw material/and products/manufacturing process or quantity/quality of the effluent etc.

Contd.Pg/3

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18. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.

19. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :

i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.

ii) Controlled incinera[illegible]

21. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.

22. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples.

23. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by him to achieve with the term (s) and conditions of the consent.

24. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorise any injury to private property or any invasion of personal rights, nor any infringment of Central, State laws or regulation.

25. This consent does not authorise or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.

26. **Non-Compliance with effluent limitations**

(a) If for any reason the applicant does not comply with or is unable to comply with an effluent limitations specified in this consent, the applicant shall immediately notify th consent issuing authority by telephone and provide the consent issuing authority wit the following informations in writing within 5days of such notification.

i) Causes of non-compliance.

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

iii) Anticipated time of continuance of non-compliane if expected to continue or if s condition has been corrected the duration or period of non-compliance.

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

v) Steps to be taken by the applicant to prevent the condition of non-compliance.

Cont

(b) The applicant shall take all reasonable steps to minimise any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

(c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalities for non-compliance whether or not such-non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

27. The diversion or by-pass of any discharge from facilities utilised by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except;

i) Where it becomes unavoidable to prevent loss of life or severe property damage, or

ii) Where excessive storm drainage or run-off would damage any facilities necessary for compliance with the terms and conditions of this consent, the applicant shall immediately notify the Board in writing of each such diversion or by-pass in accordance with the procedure specified as under Item No.26.

28. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approval laboratory every month for the parameters indicated in Part-D and shall submit in duplicate the report thereof to the Board.

29. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or tricking of acids or alkalies arbitrarily and utilising poles for stirring etc. should not be resorted to.

30. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilised as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.

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find their way in storm drains or

assistance to the Board staff for

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on of any physical structure or
course.

r is unable to comply with any
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consent issuing authority with
notification.

ling its impact on the receiving

expected to continue or if such

32. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.

33. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfacotry treatment and disposal measures.

34. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalisation tank.

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

    i) Rotation of crops

    ii) Change of point of application of effluent on land

    iii) A portion of land kept fallow

    The adoption of these would avoid soil becoming sick or slate, the industry may ensure this in consulation with the Agriculture Department.

36. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the royats in the surrounding areas as a result of discharge of sewage or trade effluent.

37. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.

38. The fact of commissioning of the industry shall be intimated to this office in time.

39. Any change in the occupier shall be informed to the Board forthwith.

Contd.Pg/7

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ANNEXURE - II

General Standards for discharge of environment pollutants Part - A : Effluents

Sl. No.	Parameters	Standards			
		Inland Surface	Public Sewers	Land for Irrigation	Marine Costal Areas
1	2		3		
		(a)	(b)	(c)	(d)
1.	Colour & Odour	Colourless/Odourless as far as practible	....	See 6 of Annex-I	See 6 of Annex-I
2.	Suspened Solids(mg/1)	100	600	200	a. For process waste water - 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	....	.....	a. Footable solids max. 3 mm b. Settleable solids, max 850 microns.
4.	.....	.....	.....	.....	.....
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	.....	.....	Shall not exceed 5°C above the receiving water temperature.
7.	Oil & Grease mg/1 max.	10	20	10	20
8.	Total residual chlorine	1.0	.....	.....	1.0
9.	Ammonical nitrogen (as N) mg/1 max.	50	50	.....	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max	100	.....	.....	100
11.	Free ammonia (as NH_3)	5.0			

1	2	3			
		(a)	(b)	(c)	(d)
14.	Arsenic (as As) mg/1max.	0.2	0.2	0.2	0.2
15.	Mercury(as Hg)mg/1max.	0.01	0.01	.....	0.01
16.	Lead (as Pb) mg/1max.	0.1	1.0	.....	2.0
17.	Cardmium (as Cd) mg/1 max.	2.0	1.0	.....	2.0
18.	Hexavelent Chromium (as Cr + 6) mg/1 max.	0.1	2.0	.....	1.0
19.	Total Chromium (as Cr) mg/1 max.	2.0	2.0	.....	2.0
20.	Copper (as Cu) mg/1max	3.0	3.0	.....	3.0
21.	Zinc (as Zn) mg/1max.	5.0	15	.....	15
22.	Selenium(as Sc)mg/1max.	0.05	0.05	.....	0.05
23.	Nickel (as Nil) mg/1max.	3.0	3.0	.....	5.0
24.	Cyanide (as CN) mg/1 max.	0.2	2.0	0.2	0.02
25.	Flouride (as F) mg/1max.	2.0	15	.....	15
26.	Dissolved Phosphates (as P) mg/1 max.	5.0	.....	.....	.....
27.	Sulphide (as S) mg/1 max.	2.0	.....	.....	5.0
28.	Phenoile compounds (as C_6H_5OH) mg/1 max.	1.0	5.0	.....	5.0
29.	Radioactive Materials a. Alpha emitter micro curle/ml b. Beta emitter micro curle/ml.	 10^{7} 10^{6}	 10^{7} 10^{6}	 10^{8} 10^{7}	 10^{7} 10^{6}
30.	Bio-assay test	90% Survival of fish after 96 hours in 100% affluent	90% Survival of fish after 96 hours in 100% effluent	90% Survival of fish after 96 hours in 100% effluent	90% Survival of fist after 96 hours in 100% effluent
31.	Manganese (as Mn)	2 mg/1	2 mg/1	.....	2 mg/1
32.	Iron (as Fe)	3 mg/1	3 mg/1	.....	3 mg/1
33.	Vanadium (as V)	0.2 mg/1	0.2 mg/1	.....	0.2 mg/1
34.	Nitrate Nitrogen	10 mg/1	.....	.....	20 mg/1

These general standards are for parameters other than those mentioned in the main consent order.

ANNEXURE-XV

Sent through courier

The President
Zila Parisad
Keonjhar, Odisha

MD/S&EM/ 667-C /139/2005
Date : 07.07.2005

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine.

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron Ore production from 2477 TPA to 2.0 Million TPA, vide MoEF Letter No. J-11015/120/2003-IA.II(M), dated : 06th May 2005. A Copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking You

Yours faithfully,

Tarapada

(Tarapada Mohapatra)
Chief (Planning)

Encl: As above

Sent through courier

The Sarpanch
Ansaikala Gram Panchayat
AT : Ansaikala
Keonjhar, Odisha

MD/S&EM/ 667-A /139/2005
Date : 07.07.2005

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine.

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron Ore production from 2477 TPA to 2.0 Million TPA, vide MoEF Letter No. J-11015/120/2003-IA.II(M), dated : 06th May 2005. A Copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking You

Yours faithfully,

Tarapada

(Tarapada Mohapatra)
Chief (Planning)

Encl: As above

Sent through courier

The Sarpanch
Deojhar Gram Panchayat
AT : Deojhar
Keonjhar, Odisha

MD/S&EM/ 667-B /139/2005
Date : 07.07.2005

Dear Sir

Sub : Submission of copy of EC for expansion project of Katamati Iron Mine.

Katamati Iron Mine has been accorded Environmental Clearance for enhancement of Iron Ore production from 2477 TPA to 2.0 Million TPA, vide MoEF Letter No. J-11015/120/2003-IA.II(M), dated : 06th May 2005. A Copy of this letter is attached herewith for your kind perusal and necessary action.

Thanking You

Yours faithfully.

Tarapada

(Tarapada Mohapatra)
Chief (Planning)

Encl: As above

ANNEXURE-XVI

TATA

Chief Conservator of Forests,
Regional Office (Eastern Zone)
Ministry of Environment and Forests,
Government of India
A/3, Chandrasekharpur,
Bhubaneswar – 751 023

G2.83/02877/05
14th May 2005

Dear Sir,

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Sub: Compliance of Public Notice in the News Paper for Environmental Clearance of Katamati Iron Mine.

Kindly refer to the letter no. J-11015/120/2003.IA.II(M) dated 6.05.2005 from Additional Director, Ministry of Environment and Forests, Government of India, New Delhi granting Environmental Clearance to the Katamati Iron Mine of Tata Steel.

In compliance with the general condition stipulated in the part B (xv) of the above referred clearance letter dated 6.05.2005, we have published the Public Notice in the local newspapers on 12.05.2005 as per details given below:

In English - Sambad dated 12.05.2005
In Oriya - Pragatibadi dated 12.05.2005

We enclose the copies of newspaper clippings of the above notices for your kind perusal.

Thanking you,

Yours faithfully,

S.C.Sahoo
Resident Executive.

Encl:- As above
Copy to:Member-Secretary, State Pollution Control Board, Bhubaneswar for kind information.
copy to: GM(CO&A) with enclosure for information & record.
This is as per your mail dt. 9th May, 2005.

Sri. SNM
Pl. photocopy
& file in 110

TATA STEEL
The Tata Iron and Steel Company Limited
Office of the Chief Resident Executive 273 Bhouma Nagar Unit IV Bhubaneswar 751 001 India
Tel 91 674 2410425 2513104 Fax 91 674 2513169

ଜଣାଶୁଣା

କେଉଁଝର ଜିଲ୍ଲା (ଓଡ଼ିଶା) ତନ୍ତମିଲ- ବଡବିଲ, ଗ୍ରାମ- ଦେଓଝରରେ ଥିବା ଟାଟା ଷ୍ଟିଲର ଜଏଣ୍ଟ ଆଣ୍ଡରଟେକିଙ୍ଗ୍ ଟାଇଟାନିୟମ୍ ମାଇନ୍ସ୍ ଉପରେ ଭାରତ ସରକାର, ନୂଆଦିଲ୍ଲୀସ୍ଥ ପରିବେଶ ଓ ଜଙ୍ଗଲ ମନ୍ତ୍ରଣାଳୟ ପକ୍ଷରୁ ବାର୍ଷିକ ୪.୫ ନିୟୁତ ଟନ୍ (ଏମ୍‌ଟିପିଏ) ଲୁହାପଥର ଉତ୍ପାଦନ ପାଇଁ ଚିଠି ନଂ-ଜେ-୧୧୦୧୫/୧୨୦/୨୦୦୩-ଆଇ.ଏ.-II (ଏମ୍) ତା୬.୫.୨୦୦୫ ମାଧ୍ୟମରେ ପରିବେଶ ମଞ୍ଜୁରୀ ପ୍ରଦାନ କରାଯାଇଛି ।

ପରିବେଶ ମଞ୍ଜୁରୀ ସଂକ୍ରାନ୍ତ ପତ୍ରର ଏକ ନକଲ ରାଜ୍ୟ ପରିଷଣ ନିୟନ୍ତ୍ରଣ ବୋର୍ଡ଼, ଏ/୧୧୮, ନୀଳଜଣ୍ଡି ନଗର, ୟୁନିଟ୍-୮, ଭୁବନେଶ୍ୱର- ୭୫୧୦୧୨ (ଓଡ଼ିଶା) ନିକଟରେ ରହିଛି । ଏହାକୁ ମଧ୍ୟ ପରିବେଶ ଓ ଜଙ୍ଗଲ ମନ୍ତ୍ରଣାଳୟର ୱେବ୍‌ସାଇଟ୍ http://envfor.nic.in ଜରିଆରେ ଦେଖାଯାଇପାରିବ ।

ପରିବେଶ ଓ ଜଙ୍ଗଲ ବିଭାଗ, ଭାରତ ସରକାର, ନୂଆଦିଲ୍ଲୀସ୍ଥ ଉପରୋକ୍ତ ଚିଠିର ନିର୍ଦ୍ଦେଶନାମା ଅନୁସାରେ ଏହି ବିଜ୍ଞାପନ ପ୍ରକାଶ କରାଗଲା ।

ପ୍ରକଳ୍ପ କର୍ତ୍ତୃପକ୍ଷ,
କଟାମାଟି ଥାଇରନ୍ ମାଇନ୍ସ, ଟାଟା ଷ୍ଟିଲ

ପୁନଶ୍ଚ ଜାହିଁ - ୧୨/୫/୨୦୦୫

NOTICE

Katamati Iron Mine of Tata Steel in Village Deojhar, Tehsil Barbil, Keonjhar District (Orissa) has been accorded Enviomment Clearance by the Ministry of Environment & Forests, Government of India, New Delhi vide their Letter No.J-11015/120/2003-IA, II(M) dated 06.05.2005 for production of 4.5 million tonnes per annum (MTPA).

A copy of the clearance letter is available with the Orissa Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012 (Orissa) and can also be seen at Website of Ministry of Environment & Forests at http://envfor.nic.in

This advertisement is published as directed by the Ministry of Environment & Forests, Government of India, New Delhi in the above referred letter.

Project Authority,
Katamati Iron Mine,
Tata Steel

Sambad - 12/5/05