Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, 2nd Floor, Headquarter- Jharkhand State Housing Board,
Harmu Chowk, Ranchi, Jharkhand – 834002, Ranchi - 834002
Email: ro.ranchi-mef@gov.in

MD/ENV/ 1298 / 103 / 2024
Date: 27.11.2024

Ref: I. Environmental Clearance letter no. J-11015/104/2011-IA.II (M) DATED 06.09.2021.
II. Environmental Clearance letter no. J-11015/104/2011. IA. II (M) dated: 29.10.2021.

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

Dear Sir,

Kindly find attached herewith the half-yearly compliance status report in respect of the stipulated Environmental Clearance conditions of Noamundi 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

Chief (Mine planning & Projects), OMQ

Encl. : As above

Copy to : The Chairman, Central Pollution Control Board, Southern end Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700107 (W. B.)
: The Member Secretary, Jharkhand State Pollution Control Board, T A Division (Ground Floor), Dhurwa, Ranchi – 834004.
: The Regional Officer, JSPCB, MB/12 New Housing Colony, Adityapur, Jamshedpur

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Your (Half Yearly Compliance Report) has been Submitted with following details	
Proposal No	IA/JH/MIN/190924/2019
Compliance ID	113030453
Compliance Number(For Tracking)	EC/M/COMPLIANCE/113030453/2024
Reporting Year	2024
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	29-11-2024
RO/SRO Name	ARTATRANA MISHRA
RO/SRO Email	jhk109@ifs.nic.in
State	JHARKHAND
RO/SRO Office Address	Integrated Regional Offices, Ranchi
Note:- SMS and E-Mail has been sent to ARTATRANA MISHRA, JHARKHAND with Notification to Project Proponent.	

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

ENVIRONMENTAL CLEARANCE NO. J-11015/104/2011-IA.II (M) DATED 06.09.2021

(Period of Compliance: April 2024 to September 2024)

Sl. No.	Conditions	Compliance
A. Specific conditions		
1.	Implementation of the revised remediation plan, natural resource augmentation plan (NRAP) and community resource augmentation plan (CRAP) which was submitted by PP after the EAC meeting.	Being Complied Implementation of the revised remediation plan, implementation status of natural resource augmentation plan (NRAP) and community resource augmentation plan (CRAP) has been initiated. Various activities such as development of safety zone plantation, Miyawaki plot, fruit bearing plots in village area and rainwater harvesting ponds are completed. Detailed status of the same is attached as **Annexure-I, II & III respectively.**
2.	Implementation of the environmental monitoring plan with emphasis on air quality, noise and vibration, water quality as well as soil degradation to be submitted.	Being Complied The implementation of the environmental monitoring plan with emphasis on air quality, noise and vibration, water quality as well as soil degradation is being carried out as per the proposal. The copy of the implementation status is enclosed as **Annexure-IV.**
3.	Wildlife conservation plan be augmented with additional points revised in the light of guidance given by EAC during the meeting with more emphasis on wildlife conservation rather than creating infrastructure which cannot be controlled by project proponent.	Complied As guided by the EAC committee a revised Site-Specific Wildlife Conservation Plan is prepared in consultation with forest department officials and is approved by PCCF, WL & CWLW, Jharkhand vide Office order No. 33, dated: 15.05.2024
4.	Public hearing concerns must be addressed as committed.	Complied All the concerns raised in Public Hearing are addressed. Detailed status is enclosed as **Annexure-V.**
5.	The EMP cost should include plantation within the mine lease area whereas plantation outside the mine lease area will be given to NRAP cost.	Noted. Being Complied All the cost involved for plantation within mine lease area has been included in EMP cost and plantation outside the mine lease area has already been included in NRAP cost.
6.	No mining activities will be allowed in the forest area for which forest clearance is not available.	Noted. Complied Noamundi Iron Mine of TATA Steel has restricted its operations in diverted forest and non-forest area as per approvals obtained. The mine has 1160.06 ha lease area, out of which 762.42 ha is forest land & rest is non-forest land. Out of 762.42 ha, forest land diverted for mining is 370.92 ha vide letter no. 8-279, 1985 FC (Pt) dated 4th Sept., 2014.
7.	As the public hearing has been carried out for the entire project area and PP has paid the NPV for entire forest land involved in the project area, PP after taking stage• II Forest Clearance for remaining area i.e. 391.51 Ha; may again approach the Ministry for undertaking mining in the remaining area with the proper mining plan.	Being Complied MoEF&CC, New Delhi has accorded "In-Principle" Stage-I Forest clearance under section 2 of the Forest (Conservation) Act, 1980 for non-forestry use of the remaining area i.e. 391.51 ha including 8.14 ha of safety zone area and the Stage-II Forest clearance is under process.

		After the grant of stage II FC for remaining area of 391.51 Ha. we shall approach the Ministry with proper mining plan for undertaking mining in the remaining area.
B. Standard conditions		
I. Statutory Compliance		
(1)	This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.	Noted.
(2)	The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.	Complied A payment of Rs 56,96,51,093.00/- is made as per demand notice no. 1986/M dated 12.09.2017. The Project Proponent is complying with all the statutory requirements and judgements of Hon. Supreme Court dated the 2nd August 2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause vs union of India and Ors.
(3)	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors.	Complied A payment of Rs 56,96,51,093.00/- is made as per demand notice no. 1986/M dated 12.09.2017. The Project Proponent is complying with all the statutory requirements and judgements of Hon. Supreme Court dated the 2nd August 2017 in writ petition (civil) no. 114 of 2014 in the matter of common cause vs union of India and Ors.
(4)	This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.	Not applicable. There are no protected areas/ eco-sensitive zones within 10 km of the mine lease area.
(5)	This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.	Being Complied Noamundi Iron Mine of TATA Steel has restricted its operations in diverted forest and non-forest area as per approvals obtained. The mine has 1160.06 ha lease area, out of which 762.42 ha is forest land & rest is non-forest land. Out of 762.42 ha, forest land diverted for mining is 370.92 ha vide letter no. 8-279, 1985 FC (Pt) dated 4th Sept., 2014 & Stage-I "in-principle" approval for remaining 391.51 ha (including safety zone), has been granted vide File No. 8-65/2018FC, dated 08.12.2022.
(6)	Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution	Complied Consent to Establish (CTE) has been granted by JSPCB vide letter no: JSPCB/HO/RNC/CTE-10765772/2021/ 354 dated 17.12.2021. Consent to Operate (CTO) has been granted by JSPCB vide letter no: JSPCB/HO/RNC/CTO-13904751/2022/

	Control Board/Committee.	1713 dated 06.12.2022 which is valid till 31.12.2026. All the conditions stipulated in CTE & CTO are being implemented effectively.
(7)	The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.	Noted and shall be abided.
(8)	The Project Proponent shall obtain consents from all the concerned landowners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.	Since it is an old mine, this is not applicable. Further the expansion is proposed within the mine lease area.
(9)	The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57 /2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".	Being Complied All the conditions mentioned in the MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014 are being followed. The compliance status of condition is enclosed as **Annexure-VI**.
(10)	The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.	Being Complied Only Surface water from Baitarani river is being used for mining and allied activities. No ground water withdrawal is required for this project. Approval for drawing 10.6 MCM water on annual basis (~29000 KLD) from Baitarini river vide letter no: -1/PMC/VIVIDH/975/2020-514 dated 24.08.2021 has been granted by Water Resources Department, GoJ. Subsequently an agreement was signed on 20.10.2021 with the Executive Engineer, Water ways Division Chaibasa. The copy of the same is attached as **Annexure-VII.**
(11)	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.	Complied A copy of EC letter was submitted to local panchayats i.e Noamundi, Balijore, Diriburu, Kadajamda and Mahudi panchayat. Copy of submitted letters is attached as **Annexure-VIII.**
(12)	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar'sOffice for 30 days	Noted.
(13)	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter	Complied Details of Environment Clearance with respect to Noamundi Iron Mine were published both in English (Avenue Mail) and Hindi (Prabhat Khabar) in local newspapers on 12.09.2021. The copy of the newspaper advertisement was sent to the Regional Office,

	mentioning that the instant project has been accorded ECand copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.	MoEF&CC, Ranchi with letter no: MD/ENV/210/97/2021 dated 13.09.2021. The copy of advertisement is attached as **Annexure-IX.**
(14)	The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.	Noted.
II. Air quality monitoring and preservation		
(1)	The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site	Being Complied Three continuous ambient air quality monitoring stations are installed in the core zone (two nos.) and buffer zone (one no.) of mine lease area. Various parameters such as PM_{10}, $PM_{2.5}$, SOx, NOx & CO are being monitored as per guidelines. Photograph of same is attached as **Annexure X**. Manual ambient air quality stations are installed at prominent places such as Hospital, Mega Centre, Bottom bin, etc. and monitoring of the NAAQS parameters are being carried out on regular basis. The Average air quality data for the period April 2024 to September 2024 is enclosed as **Annexure XI.** Monitored data is being displayed using electronic display board in front of the main gate of mines site as well as public domain. Photograph of display Board is attached as **Annexure-XII.**
(2)	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water• soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It	Being Complied Fugitive dust emissions from all the sources are being controlled regularly on daily basis. A network of fixed water sprinklers has been laid on permanent haul roads. Two mobile water tankers of large capacity namely 50 KL which can cover 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 been placed at strategic points to prevent and control fugitive dust emission. Ambient air quality conforms to the CPCB norms.

	shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board	The copy of Fugitive Dust Monitoring report is attached as **Annexure-XIII**. Photographs of fixed water sprinkler, mobile water tankers, mist cannons & dry-fog systems are attached as **Annexure-XIV.**
III. Water quality monitoring and preservation		
(1)	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area	Being Complied As per approved mining plan, the mining operations are restricted above the ground water table. The ultimate working depth is 480 mRL while the Ground water table is at 478 mRL. Hence, the mine workings will never intersect ground water during the entire life of the mine. However, in case of working below ground water table prior approval for CGWA shall be taken.
(2)	Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre• mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.	Being Complied Regular monitoring of flow rate of springs and nallahs are being carried out and records are maintained. The copy of flow rate monitoring report is attached as **Annexure-XV.** Streams (Balijhore nallah and Jojo nallah) which are present in and around the mine lease area shall not be disturbed. Ground water quality and Ground water level are being monitored periodically in and around the lease area through a network of dugwells and piezometric borewells. Dugwells are located in villages adjacent to the mine lease area while piezometric borewells are located within the mine lease area. All the monitored data is being submitted to various agencies on six monthly basis along with half yearly EC compliance reports. The copy of Ground Water Quality Report is attached as **Annexure-XVI**. The copy of ground water level report is attached as **Annexure-XVII**.
(3)	Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six• monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.	Being Complied Ground water quality and Ground water level are being monitored periodically in and around the lease area through a network of dugwells and piezometric borewells. The photograph of Piezometers is attached as **Annexure XVIII.** All the monitored data is being submitted on six monthly basis along with Half yearly EC compliance reports to the Regional Office of the Ministry, CGWA/CGWB and Jharkhand State Pollution Control Board.

(4)	The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a• vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.	Being Complied Water quality monitoring of perennial nallahs (upstream and downstream) present inside and outside the mine lease area is done regularly. The copy of surface water quality monitoring report is attached as **Annexure XIX.** All the water quality parameters are within the stipulated limits. No obstruction or alteration is being/will be made to water bodies during mining operations. The monitoring is carried out four times in a year and monitoring reports are submitted to Regional Office of Ministry of Environment, Forest and Climate Change, Central Ground Water Authority and Regional Director, Central Ground Water Board, Jharkhand State Pollution Control Board and Central Pollution Control Board as part of EC compliance reports.
(5)	Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.	Being Complied There is no wastewater discharge from the mine and mineral processing plant, i.e entire unit is "Zero Discharge Unit". After mineral processing in wet plant, the slime slurry is thickened in the thickener and pumped to the slime pond, where slime settles down and decanted water is recycled back to circuit. All the slime slurry is sent only to mined-out voids which have been converted into in-pit slime ponds. The decanted water from the slime pond is completely recycled & reused in the beneficiation plant and generated slime is stored for future use like briquette making. Thus, no water is being discharged to outside mining lease area. The environmental monitoring data is regularly uploaded on the company website as a part of six-monthly EC compliance reports. The link for the same is attached here (https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-

		reports/). In addition to this all the monitored data is shown in display board present at the entrance gate. Photograph of display Board attached as **Annexure-XII.**
(6)	Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.	Being Complied Rainwater harvesting (RWH) ponds and ground water recharge structures have been constructed and approved by the Ground Water Directorate, Jharkhand, Ranchi. The capacity of RWH ponds is 19,785 cum. The catchment area of the RWH pond complex is approx. 117 Ha hence it has been calculated that the rainwater harvesting potential of the RWH pond structure is approx. 12,50,000 cum/annum. Photographs of RWH structures are attached as **Annexure-XX**. Approval from Ground Water Directorate, Water Resources Dept. Jharkhand for RWH pond structure was received vide letter no. GWD 317/Ranchi, dated 14th June, 2012. Further, the rainwater collected in the mine pits are allowed to be collected in the lowest level sumps to augment the ground water resources gradually. Various RWH structures in the form of Check Dams, Saucer ponds, Gabion Structures, Trenches and contour are also made based on recommendation in available area. To augment the ground water level of surrounding village areas new additional ponds are constructed in buffer zone of Noamundi mine leases.
(7)	Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.	Being Complied A 30 KLD CETP along with Oil & grease pit with collection system has been installed at HEMM maintenance area. Oil is separated by gravitational technique and solids settle by sedimentation. Clear water flows to next chamber after passing through baffle wall. Clear water is again re-used. Water quality analysis is done on regular basis and the ETP quality analysis is attached as **Annexure-XXI**. The copy of logbook of ETP operation is attached as **Annexure-XXII**. Two Sewage Treatment Plant (STP) of 50 KLD each and two Effluent Treatment Plant (ETP) of 10 KLD each are also installed & working smoothly in mine lease area of Noamundi. Copy of STP quality analysis is enclosed as **Annexure-XXIII.**
(8)	The water balance/ water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.	Noted. Evaluation of water consumption is being carried out and suitable measures for reducing water consumption have been identified such as commissioning of paste thickener etc.

		There is zero waste-water discharge by the mine and it will be maintained in the future as well. Optimization of the water consumption will be done to reduce the specific water consumption year-on-year.
IV. Noise and vibration monitoring and prevention		
(1)	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	Being Complied Monitoring of peak particle velocity (ppv) is done after every blast as per DGMS guidelines and the copy of sample reports are attached as **Annexure XXIV**.
(2)	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours	Being Complied The illumination & sound has been done in such a way that the villagers are not disturbed. Additionally developed green belt all along the boundary of railway siding area to reduce the propagation of sound & light to the surrounding area. we are also planning to install noise barriers around the railway siding boundary to significantly reduce the noise propagation outside the mine premises.
(3)	The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.	Being Complied 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. All persons working in dusty areas are provided with protective dust masks. Adequate training, awareness and information on safety and health aspects are provided on regular basis. Noise Monitoring reports is attached as **Annexure-XXV.**
V. Mining plan		
(1)	The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by	Being Complied All mining activities are being carried out in accordance with approved mining plan by IBM. O.B generated during April to September 2024: 713427.8 Tonnes. ROM produced during April to September 2024: 4003532.7 Tonnes.

	State Govt. in the form to Short Term Permit (STP), Query license or any other name.	
(2)	The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.	This is not applicable in this financial year as it is an operational mine.
(3)	The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis• a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.	Noted. Being Complied Land-use of the mine lease area shall be governed as per the approved mining plan. Excavation, backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area are governed as per approved mining plan. Report on plantation activities is being submitted regularly to the Board along with monthly reports. During the period April to September 2024 around 17787 saplings have planted in the mine lease area.
VI. Land reclamation		
(1)	The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.	Being Complied Over burden is stacked at earmarked places only. The slopes of the OB dumps are terraced, and the overall height width and slope angle is maintained as per approved Mining Plan. Generation of topsoil is very minimal because no fresh area is being broken for mining and the topsoil generated, is being kept at the earmarked site(s) only inside the mining lease area and is being subsequently used for plantation & other vegetation & grassing activities. The inactive dump slopes are vegetated with native species, vetiver grass and coir matting is done for better slope stabilization. The photograph of stabilized OB dump is attached as **Annexure XXVI**.
(2)	The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.	Being Complied Reject/waste is stacked at the earmarked places only. The slopes of the dumps are terraced, and the overall height width and slope angle is maintained as per approved Mining Plan.

(3)	The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.	Being Complied Currently two Over Burden (OB) dumps are made as per plan at earmarked area which are progressively stabilized by native species plantation and grass vegetation as per direction of MoEF&CC. During the period April to September 2024 around 17787 saplings have been planted in themine lease area. Grassing on bunds of haul roads to control wind pollution also been practiced as per kind suggestion from MoEF&CC office at mine.
(4)	The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners/ Bentonite etc. shall be undertaken for stabilization of the dump.	Being Complied The inactive dump slopes are vegetated with native species, vetiver grass and coir matting are done for better slope stabilization. The dump mass is consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, laying of coir mat along with grass seeding is practiced. The details & photographs of retaining wall, garland drains, coir-mat, Settling ponds, gully plugs is attached as **Annexure-XXVII.**
(5)	The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.	Being Complied Slope stability study has been done for dumps at Noamundi Iron Mine by CSIR-Central Institute of Mining and Fuel Research, Dhanbad. The report has been submitted to Regional Office of MoEF&CC vide letter no: MD/ENV/303/103/2021 dated 19.11.2021.
(6)	Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de• silted regularly, particularly after monsoon season, and maintained properly	Being Complied Garland drains with settling pits have been constructed all along the OB dumps. Settling pits have also been provided to arrest the silt flow from mines area. The de-siltation of these check dams, settling pits are done regularly and properly maintained. Sedimentation pits have been constructed at the corners of the garland drains to take care of run-off of water even during peak rain fall and they are being de-silted regularly before and after the monsoon. Garland drains, settling tanks and Check dams had been constructed both around the mine pit and over burden dump(s).
(7)	Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing	Being Complied Check dams of appropriate size, gradient and length are constructed along with sedimentation pits as per progressive mine closure plan.

	adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.	
(8)	The top soil, if any, shall temporarily be stored at earmarked sile(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose	Being Complied Generation of topsoil is very minimal because no fresh area is being broken for mining and the topsoil generated, is being kept at the earmarked site(s) only inside the mining lease area and is being subsequently used for plantation & other vegetation & grassing activities.
VII. Transportation		
(1)	No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.	Being Complied All the finished iron ore product is transported to end-users through Noamundi captive railway siding. As an interim arrangement, it is proposed to additionally use the public railway sidings (Bokaro siding and Line no.5 Siding) for dispatch to end users. Therefore the road between Bottom bin and public railway sidings will be used for transporting the material through trucks. This is as per approval granted by MoEFCC. Pollution Under Control (PUC) certificate has been obtained for all the vehicles from authorized pollution testing centers. Sample PUC certificate is attached as **Annexure XXVIII**.
(2)	The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment's like bag filters, vacuum	Being Complied 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

	suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions	and control of fugitive dust emission. Photographs attached as **Annexure-XIV**. The beneficiated ore from processing plant to railway sidings being transported through covered conveyors only. Dust Extraction system is present at Primary crusher.
VIII. Green Belt		
(1)	The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.	Complied Safety zone of 7.5 meters all along the mine lease boundary is maintained with plantation of saplings. Photographs of SZ plantation is attached as **Annexure XXIX.**
(2)	The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.	Being Complied Plantation of saplings on waste dumps, backfilled area is done as per approved mine plan. In this period April to September 2024 a plantation of about 17787 saplings is done on Waste dump D2, Kurtha dump. In addition to this Avenue plantation outside the mine lease is also carried out.
(3)	The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.	No grazing land has been acquired.
(4)	The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A	Being Complied The site specific wildlife conservation plan (SSWLCP) has been approved by Chief Wildlife Warden on 28.08.2020. The impact of mining project on wildlife of

	Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt. and implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.	the study area and detailed mitigative measures are part of this plan. The total approved cost for implementation of SSWLCP is Rs.25.26 crores (to be spent over a 10-year period). Site specific wild life conservation plan and its approval has been submitted to the Ministry and its Regional Office. A Modified SSWLCP was approved vide. Order No. 33, dated: 15.05.2024. The annual implementation status of the plan (for FY24) is provided as **Annexure-XXX**.
IX. Public hearing and human health issues		
(1)	The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.	Being Complied Noamundi hospital is well-equipped with an Occupational Health Center OHS center employs a full-time occupational health specialist. Health of the employees through audiometry, x-ray, pathology, ophthalmology, lung-function test, etc monitored. During the period April to September 2024: 1360 nos. of IME & 148 nos. of PME. Some of the best practices related to occupational health adopted in mine are: • Employees' health check-up under Wellness @ workplace program • Health awareness classes on weekly basis for shop floor employees • Officers' health check-up on yearly basis for lifestyle disease • Counseling to high blood pressure, sugar cholesterol, hypertension employees through medical board.
(2)	The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.	Being Complied The company's commitment in the area of Health & Safety is well supported by implementation of: Safety Principles & Occupational Health Policy Occupational Health & Safety Management System (ISO 45001:2018). Hazards in work place are identified as a part of occupational health policy and appropriate control measures are in place to protect the health and well-being of workers. Various awareness programs regarding health, sanitation etc. have been conducted with the help of Tata Steel Foundation (TSF). The health-related initiatives in place are- ▪ Mega health camps, Malaria parasite control programme, Cataract surgery camp, Prenatal care ▪ MANSI project: Reducing infant and maternal mortality ▪ Providing financial assistance and waivers for needy patients, on a case-to-case basis ▪ Preventing and treating communicable diseases like

		malaria, tuberculosis and HIV / AIDS ▪ Treating and rehabilitating persons with disabilities ▪ RISHTA project: working on adolescent and reproductive sexual health issues Details of health camps & awareness sessions along with
(3)	The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminum, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).	Being Complied Noamundi hospital is well-equipped with an Occupational Health Center OHS center employs a full-time occupational health specialist. Health of the employees through audiometry, x-ray, pathology, ophthalmology, lung-function test, etc. monitored. Pre-placement medical examination and periodical examination of the workers engaged is being conducted & record maintained. The schedule of Periodical Medical Examination is once in every 3 years for the employees of age more than 45 years and once in 5 years for the employees of age less than 45 years. Some of the best practices related to occupational health adopted in mine are: • Employees' health check-up under Wellness @ workplace program • Health awareness classes on weekly basis for shop floor employees • Officers' health check-up on yearly basis for lifestyle disease • Counseling to high blood pressure, sugar cholesterol, hypertension employees through medical board • Observation of important health days like World No Tobacco day, AIDS day, Heart day, Diabetic day etc • Display of calorie chart in canteens alongside the menu No adverse cases have been found till date.
(4)	The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 - 24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,{c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented}, (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other	Being Complied All the performance indicators for workers during IME and PME are maintained. In addition to health check-ups, health awareness classes on weekly basis for shop floor employees, counselling to high blood pressure, sugar, cholesterol etc is done. No adverse cases have been found till date.

	joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.	
(5)	The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.	Being Complied All the personnel working in dusty areas are provided with protective respiratory devices such as masks and also provided adequate training and information on safety and health aspects. Photograph of workers using PPEs is attached as **Annexure-XXXI**.
(6)	Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.	Being Complied Township has been developed for workers with all the adequate facilities such as hospital, schools, STP etc.
(7)	The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status report on implementation of action plan shall be submitted to the concerned Regional office of the Ministry along with District Administration.	Shall be complied.
X. Corporate Environment Responsibility (CER)		
(1)	The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEFCC annually along with audited statement.	Being Complied All the activities proposed during Public Consultation are being implemented. The detailed status is attached as **Annexure-V**.
(2)	Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the	Being Complied Funds allocated for environmental management are spent only for environment related purposes and not diverted to

	same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.	any other purpose. Expenditure details of environmental protection measures are reported to MoEF&CC and its Regional Office every year during half yearly compliance submission. Expenditure details for the period April to September 2024 is enclosed as **Annexure XXXII**.
XI. Miscellaneous		
(1)	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.	Being Complied 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. The land use land cover change map is enclosed as **Annexure XXXIII**.
(2)	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Not applicable. Noamundi is an operational Iron mine of Tata Steel Ltd from last several decades. Thus, financial closure & it's approval is not applicable.
(3)	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	Being Complied Six monthly compliance reports are being submitted regularly on the status of implementation of the stipulated environmental safeguards to the MoEF&CC, its Regional Office, Central Pollution Control Board and Jharkhand State Pollution Control Board.
(4)	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.	Being Complied 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. Copy of Environment Management Cell is attached as **Annexure-XXXIV**
(5)	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data/ information/ monitoring reports.	Full cooperation shall be extended to the officers in furnishing the requisite data/ information/ monitoring reports.

ENVIRONMENTAL CLEARANCE NO. J-11015/104/2011-IA.II (M) DATED 29.10.2021
(Period of Compliance: April 2024 to September 2024)

S.No	Specific Condition	Compliance
1	After this road is brought into utilization for transport, 6 monthly monitoring report as well as videography of the transportation undertaken to be submitted to Ministry.	It shall be complied after the road is brought into utilization. Currently all the finished iron ore product is transported to end-users through Noamundi captive railway siding.
2	The project proponent is advised to undertake a videography of 10.5 km road for those who are	Videography of the 10.5 km road has been completed. It is being shared herewith through One-drive link.

	already using this road for transportation of the mineral other than M/s Tata Steel Limited from their respective mines to Jamda site and submit to the Ministry for information.	It is requested to click on the link below to view the video. Access has been provided to- ro.ranchi-mef@gov.in Video Noamundi Jamda.mp4

ANNEXURE-I

Status of Remediation Plan: Noamundi Iron Mine

Sl No.	Component	Proposed Activity	Description	Location	Qty	Compliance Status
1	Remediation Plan- Air & Noise Environment	Fugitive Dust control & Noise attenuation	Installation of Wind-shield cum Noise barrier	Within lease (Bottom Bin Railway siding)	1500m boundary	Purchase Order placement is in progress
2	Remediation Plan- Air Environment	Fugitive dust control	Develop green zone along prominent wind direction	Within project area	16 ha.	Continuous work and plantation is in progress. Nearly 11276 saplings were planted in FY:2023-24
3	Remediation Plan-Biological Environment	Increase green cover	Rapid forest development (Miyawaki plots)	Within lease	1 ha.	This is a continuous job. Plantation is done over an area of 0.48 ha till FY'24.
4	Remediation Plan- Air & Noise Environment	Surface water run-off management	Construction of check dams, gully plugs & garland drains	Within lease	2 check dams; 10 gully plugs; 1000m garland drain	2 Nos of Check dams constructed. 1200m length garland drain constructed. Other gully plug work in progress.

ANNEXURE-II

Status of Natural Resource Augmentation Plan: Noamundi Iron Mine

SL No.	Proposed Activity	Description	Location	Total Quantity	Compliance Status
1	Tree Plantation	Development of fruit-bearing trees plot at village	Hesapi Dwarsahi	40 acres	Work completed
2	Avenue plantation	Development of Greenbelt by road-side plantation	Mahudi to Bhangaon, Noamundi to Kutingta, Noamundi to Jamda	15000 meters	Plantation over 15000 meters completed routine maintenance work is in progress
3	Rain- water harvesting	Construction and maintenance of Rain-water harvesting pond structure in villages	Noamundi Basti, Mahudi, Meralgara, Deogaon	8 nos. of ponds	Work completed Noamundi basti- 02, Meralagara- 02, Deogaon- 02, Mahudi-02

ANNEXURE-III

Status of Community Resource Augmentation Plan: Noamundi Iron Mine

SL No.	Proposed Activity	Description	Location	Total Quantity	Compliance Status
1	Provision of solar light	Installation of solar lights in village areas	Mahudi, Sialjoda, Meralghra, Balijodi	23 nos.	Work completed & Installed Solar Lights.
2	Provision of solar powered borewell	Installation of solar-powered bore-well in schools	Mahudi, Sialjoda, Meralghra	3 nos.	Work completed
3	Drinking water	Installation of RO plants in surrounding school	Mahudi, Noamundi Basti, Sarbil, Bhangaon, Legaon, Lepang, Jampani.	7 nos.	Work completed
4	Health facility	Sponsoring Eye-camps in collaboration with Shankar Netralaya	Jaganathpur, Sarbil	2 camps	Eye camp organized.
5	Agriculture	Installation of lift irrigation	Kumirta	1 no.	Work completed.
6	Agriculture	Construction of check dams along with feeder canals	Kutinga, Kotgarh	2 nos.	Work completed.
7	Infrastructure development	Construction of Munda/Manki Bhavan	Dukasai, Baljora, Gundijoda, Meralgara	4 structures	Work completed.

ANNEXURE-IV

Sl.No.	Particulars	Frequency	Yearly PROPOSED Sample	Yearly ACHIEVED Sample
Air Quality				
1	AAQ-4 locations	Twice in a week	416	406
2	Continuous ambient air quality monitoring system-2 stations	Located in 02 locations		02 nos. of CAAQMS installed.
3	Stack monitoring (DG Set)	Once in a quarter	20	20
4	Fugitive dust emission monitoring	Once in a fortnight	120	120
Meteorology				
1	Meteorological data	Daily	365	365
Water and Wastewater Quality				
A	Industrial/Domestic wastewater			
1	ETP/STP inlet and outlet	Monthly	144	144
B	Water quality in the study area			
1	Ground water quality	4 times in a year	16	16
2	Ground water level (well water)	Monthly	48	48
3	Surface water quality	Once in quarter	08	08
4	Water flows in nearby streams	Once in a season	08	08
Noise Levels				
A	Industrial Noise Levels/Ground Vibrations			
1	Noise quality-mine workings, plant	Fortnight	48	48
B	Ambient Noise Levels			
1	Ambient noise at **6** locations around the mine lease area	Fortnight	144	144
Soil Characteristics				
1	Soil quality-core & buffer zone (6 locations)	Half-yearly	12	12

ANNEXURE-V

Naomundi Iron Mine PH Implementation Status

SL.No	Particulars/ PH Requirements	Quantity	Status
1	Road Maintenance in village area- (Road from Mohudi village to Sarbil Road from Bobonga petrol pump to Dondiya sahi)	8 Km	Work Completed
2	Provision of drinking water with pipeline (Noamundi, Mahudi)	2 Areas	Work Completed
3	Providing toilets in schools (5 schools in surrounding villages)	5 Nos.	Work completed
4	Solar-powered micro lift irrigation (Surrounding villages)	5 Nos.	Work in progress
5	Provision of toilet facility (Noamundi Bazaar, DVC Gate Bus Stand)	2 Nos.	Work Completed. Toilet facility provided at two locations
6	Provision of critical care ambulance (Surrounding villages)	2 Nos.	Work completed. 2 numbers of critical care ambulances provided
7	Provision of community toilet and bathing complex (Azad Basti, Lakhansaahi)	2 Nos.	Work completed.
8	Augmentation of solid waste management facility (Noamundi Bazar, Kotgarh)	2 Units	Work completed.
9	Installation of electric crematorium for ensuring cleaner ghats (Dukasai)		Location identification under grogress.
10	Provision of school bus (Baitarini route)	1 Bus	Work Completed. School bus provided.
11	Provision of lab-on-wheels (Noamundi Block)	1 No.	Work Completed. Modification done in existing vehicle. Handed over to Jagannathpur ITI Principal.
12	Construction of Science Lab (Kothghar, Sialjoda)	2 No.	Work completed.
13	Construction of rooms, hostel, computer lab and auditorium (Noamundi)	1 Unit	Work completed.
14	Increase in capacity of ITI College, construction & equipping of related infrastructure (Jagannath)	1 Unit	Work completed.
15	Development of playgrounds for promoting sport activities (Mahudi, Sarbil, Bhangaon)	3 Nos.	Work Completed
16	Construction of haat (market sheds) (Bhangaon, Kotgarh, Jetia)	3 Nos.	Work Completed
17	Infrastructure support for Mushroom cultivation (Surrounding villages)	100 Nos.	Work Completed
18	Provision of Goatery sheds (Surrounding villages)	100 Nos.	Work Completed

Compliance Report of MoEFCC's Office Memorandum No. Z-11013/57 /2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".		
SL No.	**Condition**	**Compliance**
A	the project authority shall adopt best mining practice for the given mining conditions. In the mining area, adequate number of check dams, retaining walls/structures, garland drains and settling ponds should be provided to arrest the wash-off with rain water in catchment area.	Complied. Mining is strictly being carriedout as per the Approved Mining Plan by IBM. We have constructed retaining walls, garland drains, settling ponds at appropriate locations inside mines area to arrest the run-off with rainwater in catchment area.
B	the natural water bodies and or streams which are flowing in and around the village should not be disturbed. The water table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the project authorities have to provide water to villagers for their use. a provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table.	Being complied. No natural water bodies or strams are flowing within the mining lease area. For augmentation of ground water table, we have constructed water harvesting ponds. Water level is monitored on regular basis by installation of automatic piezometers in core zone area & manual water level meter in buffer zone area.
C	the illumination and sound at night at project sites distribute the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. the project proponents (PPs) must ensure that the biological clock of the villagers is not disturbed by orienting the floodlights/masks away from the villages and keeping the noise levels well within the prescribed limits for day/night hours.	Being complied. No mining activities are carriedout within an area of 500 meters from village boundary. Blasting is being carrieout during day time only. And latest controlled blasting technologies by using NONEL to control noise & vibration are being carriedout. Lighting arrangements is done towards active mining areas away from village areas/ forest areas, there is no disturbance caused to nearby villages/ forest due to illumination and noise during night time.
D	the project authority shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing. In this context, project Authority should implement the directions of the hon'ble Supreme Court with regard to acquiring grazing land. the sparce trees on such grazing ground, which provide mid-day shelter from the scorching sun should be scrupulously guarded against felling lest the cattle abandon the grazing ground or return home by noon.	No grazing land present within the mining lease area.

E	where ever blasting is undertaken as part of mining activity, the project authority shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the zone of influence and impact of blasting on the neighbourhood. within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/ rock breakers/ surface miners etc. should be seriously considered and practiced wherever practicable. a provision for monitoring of each blast should be made so that the impact of blasting on nearby habitation and dwelling units chould be ascertained. the covenant of lease deed under Rule 31 of MCR 1960 provides that no mining operations shall be carriedout within 50 meters of public works such as public roads and buildings or inhabited sites except with the prior permission from the competent authority.	Being Complied. No blasting is being carrioeut within an area of 500 meters near habitats or other public buildings. Additionally, controlled blasting techniques with latest blasting technologies by using non-electric down detonetors with hole delay system and non-electronic trunk line delay system at surface which gives minimum vibration level as well as low value of air blast on the surface. ground vibration is being regularly monitored with the help of latest minimate/micromate Seismograph.
F	main haul road in the mine should be provided with permanent sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with bag filters and or dry fogging system. belt conveyors should be fully covered to avoid air borne dust.	Being complied. Fixed water spniklers installed at permanent haul road. Additionally, water sprinkling is carrioeud on haul road, loadin unloading points with help of mobile water tankers. Primary Crusher is also fitted with dry-fog system. The iron ores are transported to the railway siding through conveyor belts.
G	the project authority shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop liability insurance policy has to be taken by the PP as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease-area for such insurance policy. in case, several mines are located in a cluster, the associations of owners of the cluster mines, formed inter-alia, to sub-srve such an objective, shall take responsibility for securing such crop liability policy.	Being Complied. We have General Liability Insurance Policy which includes for any accidental crop damage due to mining activities. The copy of General Liability Insurance is attached as **Annexure- XXXV**.
H	in case any village is located within the mining leasehold which is not likely to be affected due to mining activities during the life of mine, the expert appraisal committee (EAC) should consider the proposal of environment clearance (EC) for reducing mining area. the mining lease may be executed for the area for which EC is accorded. the mining plan may also be accordingly revised and required stipulated stipulations under the MMDR Act, 1957 rind MCR,1960 met.	Not Applicable. As no village present within the mining lease area.
I	transportation of the minerals by road passing through the village shall not be allowed, A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sounds dust and accidents could be mitigated. the PP shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the project. no road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.	Not Applicable. Mineral transportation is done through conveyor belts to railway siding and further the products are transported to destination through rail.
J	likewise, alteration or re-routing of foot paths, pagdandies, card roads, the villages infrastructure/public utilities or roads (for purposes of land acquisition for mining) shall be avoided to the extent possible and in case such acquisition is inevitable, alternative arangements shall be made first and then only the area acquired. in these types of cases, inspection reports by site visit by experts may be insisted upon which should be done through reputed institutes.	Not Applicable. Mineral transportation is done through conveyor belts to railway siding and further the products are transported to destination through rail.

K	as CSR activities by companies including the mining Establishments has become mandatory upto 2% of their financial turnover, Socio Economic Development of the neighbourhood Habitats could also be planned and executed by the PPs more systematically based on the 'need based door to door survey' by established Social Institutes/ Workers on the lines as required under TOR. "R&R plan/compensation details for he project affected people (PAP) should be furnished. while preparing the R&R plan, the relevant state/National Rehabilitation 7 Resettlement Policy should be kept in view. In respect of SC's/ST's and other weaker sections of the society in the study area, a need based sample survey, family wise, should be undetaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line department of the state government. it may be clearly brought out whether the village located in the mine lease area will be shifted or not. the issue relating to shifting of village including their R&R and social-economic aspects should be discussed in the EIA report.	Being Complied.

Agreement NO → 01/21-22/WTA
Dated → 20.10.2021

Government of Jharkhand

Receipt of Online Payment of Stamp Duty

NON JUDICIAL

Receipt Number : 2c9a2f12bc74f9831981
Receipt Date : 19-Oct-2021 10:28:05 am
Receipt Amount : 100/-
Amount In Words : One Hundred Rupees Only
Document Type : Agreement or Memorandum of an Agreement
District Name : West Singhbhum
Stamp Duty Paid By : TATA STEEL LIMITED NOAMUNDI
Purpose of stamp duty paid : AGREEMENT
First Party Name : TATA STEEL LIMITED NOAMUNDI
Second Party Name : NA
GRN Number : 2107993701

-: This stamp paper can be verified in the jharnibandhan site through receipt number :-

This Receipt is to be used as proof of payment of stamp duty only for one document.The use of the same receipt as proof of payment of stamp duty in another document through reprint,photo copy or other means is penal offence under section-62 of Indian Stamp Act,1899

इस रसीद का उपयोग केवल एक ही दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु ही किया जा सकता है। पुन: प्रिन्ट कर अथवा फोटो कॉपी आदि द्वारा इसी रसीद का दुसरे दस्तावेज पर मुद्रांक शुल्क का भुगतान के प्रमाण हेतु उपयोग भारतीय मुद्रांक अधिनियम, 1899 की धारा 62 अन्तर्गत दण्डनीय अपराध है।

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General Manager
Ore Mines & Quarries
Tata Steel, Mines Division
Noamundi

AGREEMENT

AGREEMENT FOR WATER SUPPLY FROM BAITARNI RIVER TO NOAMUNDI IRON MINE OF M/s TATA STEEL LIMITED, NOAMUNDI

This agreement made on this 20th day of October 2021 (Twenty day of October Two Thousand Twenty-One) between the Governor of Jharkhand through Water Resources Department (WRD), Government of Jharkhand herein after referred to as "**The Government**" which term shall unless excluded by or repugnant to the context, includes its legal representatives, successors, executors, administrator& assigners on the one part

And

Tata Steel Limited having its registered & administrative office at Bombay House, 24, Homi Modi Street, Fort, Mumbai-400001 and its Iron Ore Mine office at Office of the General Manager, Noamundi Iron Mine, Ore Mines and Quarries, Tata Steel Limited, Noamundi (PO), West Singhbhum (Dist.), Jharkhand- 833217 herein after referred to as "**The Company**" which expression shall unless excluded by or repugnant to the context of the meaning thereof. be deemed to include its successor and assigners and also mean **Tata Steel Limited** for all transactions & acts,

Whereas the company approached the Government on 13th September 2019 for allowing to pump **10.6 MCM/** Annum **(1210.04 m3/Hr on average)** of water on annual basis in the river at Latitude22 ^{0} 5 ′ 17.73 ″ North and Longitude E 85 ^{0} 38 ′ 14.01 ″ East for setting up expansion of its Noamundi Iron Mine and whereas the Government is in a position to allow withdrawal of **10.6 MCM/** Annum **on annual basis (1210.04 m3/Hr on average)** of water as per the concurrence issued by Water Resource Department (WRD), Government of Jharkhand to Tata Steel Limited vide letter no. -1/PMC/Vividh/975/2020-514 dated 24th August 2021 and the parties hereto have agreed to have a formal agreement in this regard.

General Manager
Ore Mines & Quarries
Tata Steel, Mines Division,
Noamundi

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Now it is hereby agreed by and between the parties as follows:

1. That "The Government" agrees to allow 10.6 MCM/Annum **(1210.04 m3/Hr on average)** withdrawal of required quantity of water as per the details given herein at para 2.1 below:

2. The water withdrawal schedule for the plant:

PERIOD (DD/MM/YYYY)	QUANTITY OF WATER TO BE DRAWN DURING THE YEAR (in MCM)
1.	2.
20/10/2021 to 31/03/2022 (2021-22)	10.6
01/04/2022 to 31/03/2023 (2022-23)	10.6
01/04/2023 to 31/03/2024 (2023-24)	10.6
01/04/2024 to 31/03/2025 (2024-25)	10.6
01/04/2025 to 31/03/2026 (2025-26)	10.6

2.1. The water charges for quantity of water to be drawn by the company will come into effect from the period as indicated in column-I of the table at para – 2 above.

2.2. The quantity of water to be drawn will be restricted to 10.6 MCM/ Annum on annual basis **(1210.04 m3/Hr on average)** and the measurement of water will be done at the intake point. The measurement of this quantity of water will be checked up jointly by the consumer and the representative of Water Resources Department, Govt. of Jharkhand (WRD, GOJ) at least in every month. The measuring instruments shall be installed by the consumer at his own cost and shall remain exclusively under the control of WRD, GOJ.

A. **<u>General condition to be made applicable to any industry under consideration.</u>**

A.1. The availability of water may be interrupted temporarily for doing repairs or for such other works on the basis of jointly signed protocol &

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such interruption shall not ordinarily exceed thirty days. No claim by the company shall be preferred against the Government for such fluctuation in the discharge.

A.2. The quantity of water indicated in para - 2 is based on the phasing demand of water put up by the company. In future, if it is found by computation as based on scientific methodology or otherwise that the consumption of water is more than as indicated in para -2, charges for such enhanced quantity of water so assessed, shall become payable to Government by the company.

A.3. The company will install a water meter near the point of intake to measure the quantity of water pumped. If the quantity of water exceeds the quantity mentioned in para -2, the company will have to pay the bill based on actual withdrawal of water as per meter reading, but the minimum water rent for supply of water will be charged for the quantity as indicated at para -2.

A.4. **The company will have to establish online monitoring system of water drawl based on latest technology available at its own cost as and when the same will be implemented by WRD, Govt. of Jharkhand.**

A.5. The Government will not be responsible for any interruption of diminution or stoppage of supply of water due to lockout, strikes, breakdowns of mechanical units or other force majeure or other causes beyond the control of the Government. In view of the production technology & need of water supply to some other usage, the Government shall take such action, as is deemed necessary to restore availability of water with the least possible delay & ensure resumption of interruption or diminution or stoppage of water supply within shortest period.

A.6. If due to any unforeseen reasons, the Govt. is not able to make available the quantity of water as envisaged in para 2, no legal action can be taken against the Govt.

A.7. The company will make sure that the effluent (waste water along with Pollutants), if needed to be drained in the river or nala, will conform to the latest prescribed effluent quality parameters as prescribed by State Pollution Control Board and shall be safe for disposal in river or nala and shall not be injurious to human and aquatic life. The Water Resources Department as well as authorities specifically authorised in this regard

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will also get the test checks conducted at regular interval to testify the same. The installation of equipment or plant needed for this purpose, shall be done by the company. The company will also have to get clearance from the respective State Pollution Control Board and submit the report to WRD at regular interval not exceeding one year for continuance of supply of allocated water. The effluent disposal point should be fixed in the upstream of the respective intake point.

A.8. The company shall make every endeavour to use minimum possible water and shall make use of all latest technology to reduce the extent of usage of water.

A.9. That the required water will be withdrawn or pumped by the company from either Left or Right bank of river Baitarni by constructing a suitable water harvesting structure and intake near plant site.

A.10. That the cost of land required for building intake well, pump house, water meter & other allied infrastructure shall be borne by the Company.

A.11. The company shall pay water charge at the rate fixed by the WRD, GOJ from time to time. As and when this rate is revised by the WRD from time to time, the company will be required to make payment at the revised rates of water charge. The rate fixed by the Government shall be binding on the Company.

A.12. All the infrastructures including the intake and water harvesting structure commensurate with the requirement of water as per stipulated in para -2 needed for uninterrupted drawl of water shall be constructed by the company at their own cost, as per the design/drawing approved by the WRD,GOJ. The construction of the infrastructure shall be taken up by company only after joint inspection of the water tapping point by the representatives of WRD. GOJ and the Company and approval there on by the WRD, GOJ. This infrastructure shall be operated and maintained by the company at their own cost.

A.13. That the formal approval of the Government on detailed design, drawing & specification of the water harvesting structure, intake well, pump & pump house shall be obtained by the Company within six months from the date of signing of Agreement.

A.14. The WRD will have the right to inspect the infrastructures from time to time and suggest corrective mechanism for removing the deficiencies. if

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any. The company will have to undertake the remedial measures, as suggested by WRD, at their own expenses.

A.15. The company shall have to bear the cost of rehabilitation and resettlement of the families so displaced. The cost of land acquisition, forest land compensation, etc., as per prevailing norms of the Government, shall have to be borne by the company. The company shall also obtain forest, environmental and other mandatory clearances, wherever required from the concerned departments/Ministry of the State Government/Government of India.

A.16. The company will not be allowed to draw additional water than the quantity committed above without specific permission.

A.17. The company shall utilize the water for the agreed purpose only and will have no right to sublet this water to any other company.

A.18. The Govt. will have right to review the quantum of water required by the Company for its bonafide usage and shall be at liberty to reduce the quantum as allocated in pare -2, soas to optimize the usage of water in the interest of the State.

A.19. The Company has to liaison with the concerned Chief Engineer, WRD to sign an agreement related to the utilisation of allocated water and making payment of the water charge, as per the terms and conditions stipulated under para -A.11 of this agreement. The allocation of water will come into effect from the day of execution of the agreement with the WRD, Jharkhand.

A.20. The company shall install appropriate devices to minimise water use consumption and also provide for recycling & conservation of industrial water.

A.21. The drawl of water from intake structure, shall under no circumstances be detrimental to the safety and operational procedures of reservoirs/barrages lying in the upstream or downstream or on both sides of the intake structure.

A.22. The company will have to go for the construction of Rain Water harvesting (RWH) Pond and Pit of appropriate capacity as per the design and plan approved by Ground Water Directorate, Water Resources department (WRD), Government of Jharkhand at its own cost for the

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conservation of rain water to meet the water demand of the plant during emergency/non-monsoon period and also for ground water recharging commensurate with ground water withdrawn for meeting only the domestic water demand during exigency.

A.22.1 A comprehensive plan of Rain Water Harvesting Project for ground water recharging must be submitted by the Company to Ground water Directorate of Water Resources Department. Govt. of Jharkhand **within two months** from the date of Agreement under intimation to WRD. GoJ. This plan has to get approved by Ground Water Directorate, WRD. GOJ **within one month** from the date of submission of the above plan.

A.22.2 Rain Water Harvesting Project for ground water recharging must be completed within three months from the date of approval of the plan.

A.23. The company will have to construct a reservoir at a suitable location to meet the water requirement of the plant during non-monsoon (November to May) on the basis of realistic quantum of water availability computed with the help of actual observed hydro-meteorological data from where it has been intended to meet the water demand of the plant. Lean season flow of the river will not be intercepted at all. **To ensure this inlet in the intake well will be provided above lowest water level (LWL) which will be fixed by the concerned Chief Engineer, WRD, after approval of WRD, GOJ.**

A.24. The flood water will be optimally stored and utilized by the installation of a rubber dam/a series of rubber dams or any other suitable techniques for flexible storage at suitable locations across the river (from where the water is to be drawn) by the company at his own cost. The storage planning will be approved by WRD, GOJ.

The designed height of the flexible storage dam will be restored during flood period only by inflating /raising it to store the flood water within the river section and also to store it into some other suitable storages limited to the quantity of water earmarked to the industrial unit. This height of flexible dam will be gradually-decreased and finally deflated/lowered fully in accordance with the balance quantity of flood water needed to be stored. However, the height of the flexible storage dam during normal flow of the river will not exceed the upstream level of the river on which the irrigation/municipal/industrial projects have been planned in the downstream. The water levels at different river

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flows near to the flexible dam site in the upstream will be marked by the Company at his own cost. These marked water levels of the river will be finally checked and approved by the WRD. The Company at his own cost has to remove the silt from the river bed likely to be deposited in the upstream of the rubber dam just after the monsoon each year to ensure no adverse impact on the river regime.

A.25. A joint review by the representatives of Govt. of Jharkhand and the company shall be made periodically at least once in every three years on the observed industrial water consumption pattern of the unit to assess the possibility and the technological interventions needed for reducing down the quantum of industrial water already earmarked in order to effect the same from the mutually accepted data.

A.26. That the accounting year shall be from 1st April to 31stMarch of two consecutive calendar years. The bills for payment of water charges shall be prepared by the Government every month on the basis of demand stipulated in para – 2, 2.1& 2.2.

A.27. The company shall ensure to make payment of the bill within 30 days of its presentation, failing which a penalty at the **rate of 10% of the water rate in prevalence** as on the concerned date shall be charged over and above the normal rate. If, however, any discrepancy or error is found in the bill the same will be intimated to the Government within 15 days for necessary rectification, but the payment against the original bill will have to be made within stipulated period. The rectification in the bill, however, will be adjusted in the next accounts and accordingly the next bill be charged from the company.

A.28. In case of non-payment of water charge for more than two consecutive months by the company, the Government shall have the right to stop withdrawal of water from the river by the company.

A.29. That the date of receipt of the bill or the revised bill, as the case may be at company's office, will be treated as the date of receipt from which date the period of 30 days or 15 days referred to above, would be counted.

A.30. All disputes and differences, except the matter for which provision has been expressly made in the agreement between the parties arising out of or in connection with this agreement, shall be referred to the Arbitrator, who will be an officer of WRD, Jharkhand and not below the rank of

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Superintending Engineer & will be nominated by the State Government. **There shall be no objection to the appointment of the Arbitrator on the ground that the Arbitrator so appointed, is a State Government servant or that he had to deal with the matters to which this agreement relates to & that in the course of his duties as Government servant, he had expressed views on all or one of the matters in disputes or differences.** The provision of the Arbitration and Conciliation Act, 1996 & any statutory modification thereof for the time being in force, shall apply.

A.31. **This agreement shall remain valid for a period of five years.** For making a fresh agreement, the company will be required to submit an application to the department 6 months prior to expiry of the existing agreement. The fresh agreement will be executed after reviewing the average actual usage by the Company. In case. the average utilisation of **water during the last four years have been less by more than 10%, the company will have to submit the justification to WRD for allocating the earlier quantum of water as envisaged in para-2 or else the WRD will revise the allocation of water.**

In case the company do not submit the application to WRD within the stipulated time frame or submit the application after the stipulated time frame without substantiating the justification for the allocation of earlier quantum of water, the WRD will have the right to reduce the water allocation to the average use of water made by the company during the last four years or to the quantity to which the WRD deems fit.

A.32. **In case the company violates any of the conditions stipulated in this agreement. WRD, GOJ will be free to take decision regarding termination of the agreement.**

B. **Specific technical conditions to the industry on case to case basis.**

WRD, GOJ will be free to include any specific technical condition/conditions to the industry on case to case basis as and when required and mutually agreed between either parties, **in Annexure - A which will be treated as part of this agreement.**

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Tata Steel, Mines Division
Noamundi

In witness whereof, the parties of this agreement have herein put their respective hands & seals, the day and year of agreement first above written.

Signed, seal & delivered on behalf of

M/s Tata Steel Limited

General Manager
Ore Mines & Quarries
Tata Steel, Mines Division
Noamundi

Signed, seal & delivered on behalf of

Governor of Jharkhand through Water Resources Department, Government of Jharkhand

कार्यपालक अभियन्ता
जल संसाधन विभाग, चाईबासा

In presence of

WITNESSES:

1-	(D. VIJAYENDRA) 20/10/21	1-	20/10/21
2-	20/10/21 (Deepak Shrivastava) Tata Steel Ltd.	2-	20/10/21 Suresh Kr. Rajak
3-	20/10/2021 (Jaydip Prasad)	3-	20.10.21 (Sidhesh Kr. Mehta)

Annexure-A

Specific Technical Conditions to the industry

1. The drawal of water will be done by the company **from the intake point** located at Latitude 22 ^{0} 5 ′ 17.73 ″ North and Longitude E 85 ^{0} 38 ′ 14.01 ″ East from Baitarni River and or through the storage constructed for this purpose by the Company at Latitude 22 ^{0} 9 ′ 5 ″ North and Longitude E 85 ^{0} 30 ′ 15 ″ East at Noamundi Iron Mine, Noamundi, Dist.-West Singhbhum.

2. The drawal of water must start as per the schedule indicated in **clause-2** of the **agreement**.

3. The schedule of drawal of water must start within **two years** from the date of signing of agreement.

4. In the event of delay in drawal of water as per schedule indicated in clause-2 of the agreement, **the delay will be penalized as below:**

(i) Up to one-year delay from schedule mentioned in clause-2 of the agreement.	(i) 25 % of water charges for the quantity of water drawal indicated for the 1st year under column-2 of the table in clause-2 of the agreement.
(ii) Up to two years delay from schedule mentioned in clause -2 of the agreement	(ii) 50% of water charges for the quantity of water drawal indicated for the 2nd year under column- 2 of the table in clause 2 of the agreement
{iii) Beyond two years delay from schedule mentioned in clause-2 of the agreement.	(iii) **Full water charges** for the quantity of water indicated for the 3rd year and onwards under column-2 of the table in clause-2 of the agreement.

5. The schedule of drawal of water will be fixed in such a manner so that the **total quantity of water allocated** must be drawn **within five years** from the starting date of the scheduled water drawal as per clause-2 of the agreement. The quantity of water which cannot be used within five years will be deemed as surrendered and dereserved.

Signed, seal & delivered on behalf of

M/s Tata Steel Limited

General Manager
Ore Mines & Quarries
Tata Steel, Mines Division
Noamundi

Governor of Jharkhand
through Water Resources Department,
Government of Jharkhand

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जलपथ प्रमण्डल, चाईबासा

Mukhiya,
Diriburu Panchayat,
AT/Po Noamundi,
Dist:West Singhbhum, Jharkhand,
Pin-833218

Ref: MD/ENV/ 215 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

Dear Sir,

This is to inform you that Environment Clearance has been granted for expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited. A copy of EC is enclosed for reference.

Thanking you,

Yours sincerely,
f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Received
16/09/2021

Encl: EC of Noamundi Iron Mine

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Mukhiya,
Kadajamda Panchayat,
AT/Po Noamundi,
Dist:West Singhbhum, Jharkhand,
Pin-833218

Ref: MD/ENV/ 216 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

Dear Sir,

This is to inform you that Environment Clearance has been granted for expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited. A copy of EC is enclosed for reference.

Thanking you,

Yours sincerely,
f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

मुखिया,
ग्राम पंचायत- कादाजामदा
नोवामुण्डी प0 सिंहभूम

Encl: EC of Noamundi Iron Mine

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Mukhiya,
Mohudi Panchayat,
AT/Po Noamundi,
Dist: West Singhbhum, Jharkhand,
Pin-833218

Ref: MD/ENV/ 217 / 97 /2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

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Thanking you,

Yours sincerely,
f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine

मुखिया
ग्राम पंचायत–महुदी
प्रखण्ड–नोवामुण्डी
जिला–प० सिंहभूम

TATA STEEL LIMITED
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Mukhiya,
Noamundi Panchayat,
AT/Po Noamundi,
Dist:West Singhbhum, Jharkhand,
Pin-833218

Ref: MD/ENV/ 213 /97/2021

Dated: 08.09.2021

Sub: Environmental Clearance for Expansion of Noamundi Iron Ore Mine from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (ML Area 1160.06 Ha) along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahudi, Balijore, Korta, Noamundi, Sarbil and Barabalijori Villages, West Singhbhum District, Jharkhand of M/s Tata Steel Limited (File No. J-11015/104/2011-IA.II (M))

Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

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Thanking you,

Yours sincerely,
f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine

Resving
16/09/2021
मुखिया
ग्राम पंचायत - नोवामुण्डी बस्ती
प्रखण्ड नोवामुण्डी

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
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Mukhiya,
Balijhore Panchayat,
AT/Po Noamundi,
Dist:West Singhbhum, Jharkhand,
Pin-833218

Ref: MD/ENV/ 214 / 97 /2021

Dated: 08.09.2021

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Ref: Vide letter ref no. J-11015/104/2011-IA.II (M) Dated 06.09.2021.

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Thanking you,

Yours sincerely,
f: Tata Steel Limited

Chief (Mine Planning & Projects) OMQ

Encl: EC of Noamundi Iron Mine

मुखिया
बालीझरन पंचायत
नोवामुण्डी, प० सिंहभूम

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Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Regional Office
Ministry of Environment, Forest & Climate Change
Regional Office (ECZ), Bunglow No. A-2
Shyamali Colony
Ranchi – 834002

MD/ENV/ 210 / 97 /2021
Date: 13.09.2021

Sub: Advertisement regarding grant of Environmental Clearance for expansion of Noamundi Iron Mine of M/s Tata Steel Limited.

Ref: Environmental Clearance letter no. J-11015/104/2011-IA.II (M) dated: 06.09.2021.

Dear Sir,

In compliance to the standard condition no. 13 in EC granted with vide letter no. J-11015/104/2011-IA.II (M) dated: 06.09.2021 which states that *"The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of clearance letter mentioning that the instant project has been accorded EC and copy of EC letter is available with the State Pollution Control Board/Committee and website of Ministry of Environment, Forest and Climate Change(www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional office for compliance and record"* we hereby advertised in two newspapers i.e Avenue Mail(English) and Prabhat Khabar(Hindi) on 12.09.2021. A copy is enclosed as annexure.

Thanking you,

Yours faithfully,
f: Tata Steel Limited

Chief (Mine Planning & Projects), OMQ

Encl: As above

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
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Work for people, not position, Kejriwal's golden advice to AAP cadre



New Delhi, Sep 11 (IANS) Aam Aadmi Party (AAP) convener Arvind Kejriwal on Saturday advised his cadre to work for people and not for some party positions or election ticket as he does not want masses to point fingers and say that this party too, has become just like the BJP and the Congress."We have to work and we have to work hard for our people. Do your work so honestly that we have to come to you to appoint you for a position and not vice-versa. Remember, if you have to approach us for a position or ticket then it means you do not deserve it. Your happiness should come from serving the consumers," Delhi chief minister said while addressing a virtual conference to welcome the new members of National Council."Look at other parties, they are fighting amongst themselves for a seat. This should not happen in AAP," he said as while possibly indicating towards the Indian National Congress (INC) which is going through a rough patch with one of its ministers in Chhattisgarh currently indulging in a tug of war with the chief minister."If you ever feel like donning a post then increase your working hours. Work and work until that feeling seeps out of you," he said.Kejriwal also remembered freedom fighters Bhagat Singh and Ambedkar, saying that the party has always held these two historical figures in high regards and it will always follow the footsteps shown by these revolutionaries."The struggles faced by a young man like Bhagat Singh and Babu Saheb Ambedkar were profound. AAP members should always be ready for a similar ordeal and prepare themselves for future challenges."

Congress announces new chief in poll-bound Manipur

Imphal, Sep 11 (IANS) Congress interim President Sonia Gandhi on Friday appointed N. Lokan Singh as the President of the Manipur unit, while also naming three Working Presidents for the poll-bound northeastern state.Lokan Singh was currently the caretaker state chief.In a statement, party General Secretary Organisation, K.C. Venugopal said that the three Working Presidents are Keisham Meghachandra Singh, Yumnam Rameshwarchandra Singh and D. Kamangthang Lokan Singh. Meghachandra Singh, and Kamangthang are all sitting MLAs.Gandhi also named a 13-member state executive committee.

Could've averted 9/11 if world had accepted Vivekananda's message: President Kovind



Prayagraj,Sep 11 (IANS) President Ram Nath Kovind on Saturday cited the message of peace, service and compassion given by Swami Vivekananda at the 1893 Chicago World Conference of Religions, saying that had the message given on September 11, 1893 been accepted by the world, the horrific events of the 9/11 terror attacks on the US could have been averted. The President's remark was made during a speech at an event in Prayagraj to lay the foundation stone for the upcoming Uttar Pradesh National Law University."On this day 128 years ago Swami Vivekananda brought Indian philosophy and religion before the world at the Chicago World Conference of Religions.He showed that Indian culture is based on justice, equality and cooperation. Had the world accepted Vivekananda's message in 1893, it would not have had to witness the 9/11 2001 attack which was an attack on humanity," said Kovind.Emphasising the need to ensure social justice, the President also touched upon the contribution of the Allahabad High Court and the legal luminaries it has produced to the Indian freedom movement and the intellectual tradition.President Kovind also raised the issue of the low number of women in the legal field, remarking that the new university was expected to boost involvement of women students as well as teachers in the profession."Women are more oriented towards law and justice. They want to want to give justice to all, it is in their nature, thinking and outlook," said President Kovind, adding that "the society will become more just when there is higher participation of women in all fields including judiciary."

NCW takes cognizance of Sakinaka rape case



Mumbai, Sep 11 (IANS) A 30-year-old woman, who was raped and brutalised with rods, remains unconscious and critical in a civic hospital. As the incident sparked outrage all over the state, the National Commission for Women took note of it here on Saturday.NCW Chairperson Rekha Sharma has taken serious cognizance of "this barbaric incident where a woman was raped and brutalised" in Mumbai.Chief Minister Uddhav Thackeray has also taken grave note of the incident and is discussing it with concerned officials, while Leader of Opposition Devendra Fadnavis said he was "shocked" over the development.Terming the incident as "sad and shocking", Home Minister Dilip Walse-Patil said that the arrested accused would be given the most stringent punishment.Mumbai Mayor Kishori Pednekar said that "the victim remains unconscious, and is being treated" at the BMC's Rajawadi Hospital in Ghatkopar.Shiv Sena MLC Dr Manisha Kayande visited the hospital and informed that the victim has undergone an surgery and is still serious."As per information, the victim is married and has two kids. Whether the act is committed by one person, or more is not known and it is a matter of investigation," she told media persons later.

Pending cases will be resolved soon: Minorities' panel chief

By Mohammad Sajab Khan



New Delhi, Sep 11 (IANS) Soon after former IPS officer Iqbal Singh Lalpura took over the charge of National Commission for Minorities as the Chairman, he started hearing the grievances of the people.Lalpura believes that solving the pending cases quickly will be a challenge for him.In an exclusive conversation with IANS on Friday, he said, "We will work for the victims belonging to the minority community and will try to ensure that no wrong narrative is being set.""Many old cases are being pending and they will be disposed of soon," he added."Since the Chairman's has been lying vacant for a long time, steps will be taken to provide speedy justice to the victims at the district and state level," Lalpura asserted.As per the information, over 900 cases are pending before the Commission."We have a total of 524 complaints pending cases. Delhi has the highest number of pending cases – 187 while the incidents from states like Maharashtra, Punjab, Haryana, Bihar and others are also pending, on which we will start working soon," he noted.On the other hand, the several research studies in the Minorities Commission are also yet to be completed.Lalpura is also considering to meet as many people as possible, know their problems and try to ensure justice, so that a trust can be established among the people."I will personally meet people as well contact them so that minorities can have faith that they will get justice," he elaborated.

'Blot on humanity,' says Thackeray as Mumbai rape-assault victim dies in hospital



Mumbai Sep 11 (IANS) A 30-year-old woman, who was raped and brutalised with a rod by a man inside a stationary wagon in suburban Sakinaka area died during treatment at a hospital in the early hours of Saturday, police said.The crime which bore a chilling similarity to the 2012 Nirbhaya gang-rape case of Delhi took place in the wee hours of Friday. The suspect who had been arrested within a few hours of the incident has been now charged with murder.While the city police formed a Special Investigation Team to probe the incident, opposition BJP demanded capital punishment for the accused and questioned if women were safe in Maharashtra.Maharashtra Chief Minister Uddhav Thackeray termed the incident as a a "blot on humanity"."The trial in the case will be held on a fast track and the victim, who succumbed to injuries today, will get justice," he said in a statement.He has discussed the case with state Home Minister Dilip Walse-Patil and Mumbai Police Commissioner Hemant Nagrale, Thackeray added.The Sakinaka area in the western suburbs has several industrial units.According to police, accused Mohan Chauhan (40) worked as a driver and lived on the pavement in the same area.Besides being raped, the victim woman was assaulted with an iron rod in her private parts and lost a lot of blood, a police official said.She had also been stabbed with a knife, he added.Police commissioner Nagrale told reporters that the crime came to light when the watchman of a company located on Khairani Road called the police control room and said that a man was seen thrashing a woman.Police reached the spot within 10 minutes and found the victim inside a parked tempo.As her condition was serious, they decided to take her to hospital in the same vehicle so as to save time.They got the key of the tempo from the watchman and drove her to Rajawadi hospital in suburban Ghatkopar, the commissioner said.The police also obtained CCTV footage of the spot.A man seen leaving the tempo was identified as Mohan Chauhan who hails from Jaunpur, Uttar Pradesh, the commissioner said.He was arrested and produced before a court which sent him to police custody till September 21, Nagrale said.

Vijay Rupani: Fourth BJP CM to quit in 6 months



Gandhinagar, Sep 11 (IANS) Soon after Gujarat Chief Minister Vijay Rupani submitted his resignation to Governor Acharya Devvrat, the principal opposition party Congress alleged that the Bharatiya Janata Party (BJP) has made Rupani a "scapegoat" to "hide its mismanagement during the pandemic" in Gujarat.Gujarat Pradesh Congress Committee president Amit Chavda said, "The government has failed on all fronts. We knew that the state government in Gujarat was remote controlled from Delhi and the manner in which Assemblies were asked to resign without completing her term, as the serial number Vijay Rupani has also not been allowed his full term. The BJP is hiding its failures and making Rupani a scapegoat. The internal dispute within the Gujarat BJP was apparent since CR Patil was chosen as the Gujarat BJP president and today it has reached its pinnacle. The government had failed in COVID management, over three lakh people died in first and second wave, lakhs of youth are unemployed in the state and farmers are committing suicide. Bhagya se Rupani ka Bhog Lagaya hai apni sabhla chupane ke liye aur Gujarat ki janta ye sab chalta hai."

Replacing Rupani might help BJP beat anti-incumbency

New Delhi, Sep 11 (IANS) Strong resentment among BJP cadre at ground level against him is one of the main reasons for removal of Vijay Rupani from the post of Gujarat chief minister, sources told IANS.Rupani on Saturday resigned from the office. A section in the party believes that the decision to replace the chief minister might help the party beat anti-incumbency against the government among its own cadre.While there is no clarity at what exactly led to Rupani's resignation, sullen party sources said that there are many reasons for removal of Rupani and there was strong resentment against him among party cadre."There was a strong resentment among cadre against Rupani. His popularity is low among BJP workers. The removal of Rupani will help the party contend the disaster at ground well in advance ahead of next year's assembly polls. In other words, we can say that the move might help the party beat anti-incumbency against the government and the chief minister among its own cadre," a BJP leader said.It is learnt that while discussing the reasons for Rupani's removal, the party leadership discussed keeping workers unhappy will adversely affect the party's electoral performance in the state polls, which is all set to become triangular with the entry of Arvind Kejriwal's Aam Aadmi Party (AAP).Another leader pointed out that it is a political course correction ahead of assembly polls."By bringing a new face, BJP will try to address the issue of social engineering in the state, which played a crucial role in state politics," he said.A party insider claimed that Rupani lacks the quality of fire brand leader and may not be able to take on Congress and Aam Aadmi Party (AAP) which is all set to contest state polls scheduled in November - December next year."Mr (Rupani) was good in executing the given works or assignments, but lacked the quality we needed in our chief ministerial candidate to take on Congress and AAP in assembly polls. Workers are demanding a leader who can lead the party from the front under guidance of Prime Minister Narendra Modi and union home minister Amit Shah," he said.

Rupani made a scapegoat to hide failures of remote-controlled BJP govt: Congress

Karnal standoff ends: Haryana govt orders probe into Aug 28 incident, farmers call off sit-in



Karnal, Sep 11 (IANS) The Haryana government on Saturday ordered a probe into last month's clash between farmers and police and sent the IAS officer at the centre of a row between the two sides on leave.Following this, the farmers said they would call off their protest outside the Karnal district headquarters.The probe will be conducted by a retired judge, Haryana Additional Chief Secretary Devender Singh told the media in Karnal.The probe will be completed within a month and former SDM Ayush Sinha will remain on leave during the time, Singh added.Farmer leader Gurnam Singh Chaduni, who was also part of the press conference, said they would now call off their sit-in outside the Karnal district headquarters.The farmers had been demanding the suspension of Sinha, who was caught on tape allegedly telling policemen to "break the heads" of farmers if they cross the line.About 10 protesters were hurt in the clash with police in Karnal on August 29 when they tried to march towards the venue of a BJP meeting.Devender Singh also announced that jobs would be given to two family members of a farmer, who the protesters claimed had died after he was injured during the lathicharge.This allegation was earlier by the administration.

India, Sudan navies carry out maritime drill in Red Sea

New Delhi, Sep 11 (IANS) India and Sudan navies carried out a bilateral maritime exercise in the Red Sea off the Sudanese coast, the Indian Navy said on Saturday.Indian Naval Ship Tabar undertook a maritime partnership exercise with ships of the Sudanese Navy on September 10.Two Sudanese Navy ships, Almaaz and Nimir, participated in this maiden exercise with the Indian Navy.The exercise involved multiple activities covering a wide range of naval operations. These included coordinated manoeuvring, replenishment at sea drills, helo operations, operations for interdicting suspect vessels at sea and communication procedures.The exercise enhanced inter-operability between the two navies significantly and widened the scope for combined operations against common maritime threats in future."The exercise culminated with a 'Steam Past' between ships of the navies, as per naval customs," the Indian navy said.Last week, INS Tabar undertook a maritime partnership exercise with INS Alexandria, a frontline frigate of the Egyptian Navy, in the Mediterranean Sea.The exercise involved drills for transit through asymmetric threat environment, operations for conducting suspect vessels at sea, communication procedures, joint development of maritime domain picture and replenishment at sea drills.A highlight of the exercise was the cross-deck helo operations that involved helo recovery procedures and tailwater light replenishment drills between the two ships.

TATA STEEL TATA

NOTICE

Vide MoEF&CC letter nos F.No. IA-J-11015/104/2011-IA-II (M) dated 06th September, 2021, Noamundi Iron Mine of M/s Tata Steel Ltd. has been granted environmental clearance for its expansion in production of Iron Ore from 10 MTPA To 19 MTPA (ROM) with total excavation of 27 MTPA (M), Area 1160.06 Hal along with increase of Iron Ore Beneficiation Plant Capacity (feed to plant) from 18 MTPA To 27 MTPA in total project area 1230.42 Ha located at Mahuldi, Baljore, Kiarta, Noamundi, Sarbil and Barabalipori Villages, West Singhbhum District, Jharkhand. The copy of EC letter is available with Jharkhand State Pollution Control Board and also on website of Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in).

Registered Office: Bombay House, 24, Homi Mody Street, Fort, Mumbai 400 001, India
Tel: 022 6665 8282 Fax: 022 6665 7724 CIN: L27106MH1907PLC000260
Website: www.tatasteel.com

TATA STEEL

TATA

NOTICE

पर्यावरण, वन व जलवायु परिवर्तन मंत्रालय पत्र संख्या : I A-J&11015/104/2011&IA-II (M) दिनांक 06 सितंबर, 2021 के द्वारा मेसर्स टाटा स्टील लिमिटेड के नोआमुंडी आयरन माइन को 10 एम टी पी ए से 19 एम टी पी ए (आर ओ एम) तक लौह अयस्क उत्पादन विस्तार के लिए पर्यावरण मंजूरी दी गई है, जिसमें 27 एम टी पी ए (एम एल एरिया 1160.06 हेक्टेयर) के कुल उत्खनन के साथ-साथ महुदी, बालिजोर, कोरटा, नोआमुंडी, सरबिल और बाराबालिजोरी गांव, पश्चिमी सिंहभूम जिला, झारखंड में स्थित 1230.42 हेक्टेयर के कुल परियोजना क्षेत्र में आयरन ओर बेनेफिसिएशन प्लांट (फीड टू प्लांट) की 18 एम टी पी ए से 27 एम टी पी ए तक क्षमता बढ़ोतरी भी शामिल है। ईसी पत्र की प्रतिलिपि झारखंड राज्य प्रदूषण नियंत्रण बोर्ड और पर्यावरण, वन व जलवायु परिवर्तन मंत्रालय की वेबसाइट (*www.parivesh.nic.in*) पर भी उपलब्ध है।

Registered Office: Bombay House, 24, Homi Mody Street, Fort, Mumbai 400 001, India
Tel.: 022 66658282 Fax: 022 66657724 (CIN) - L27100MH1907PLC000260
Website: www.tatasteel.com

Continuous Ambient Air Quality Monitoring Station

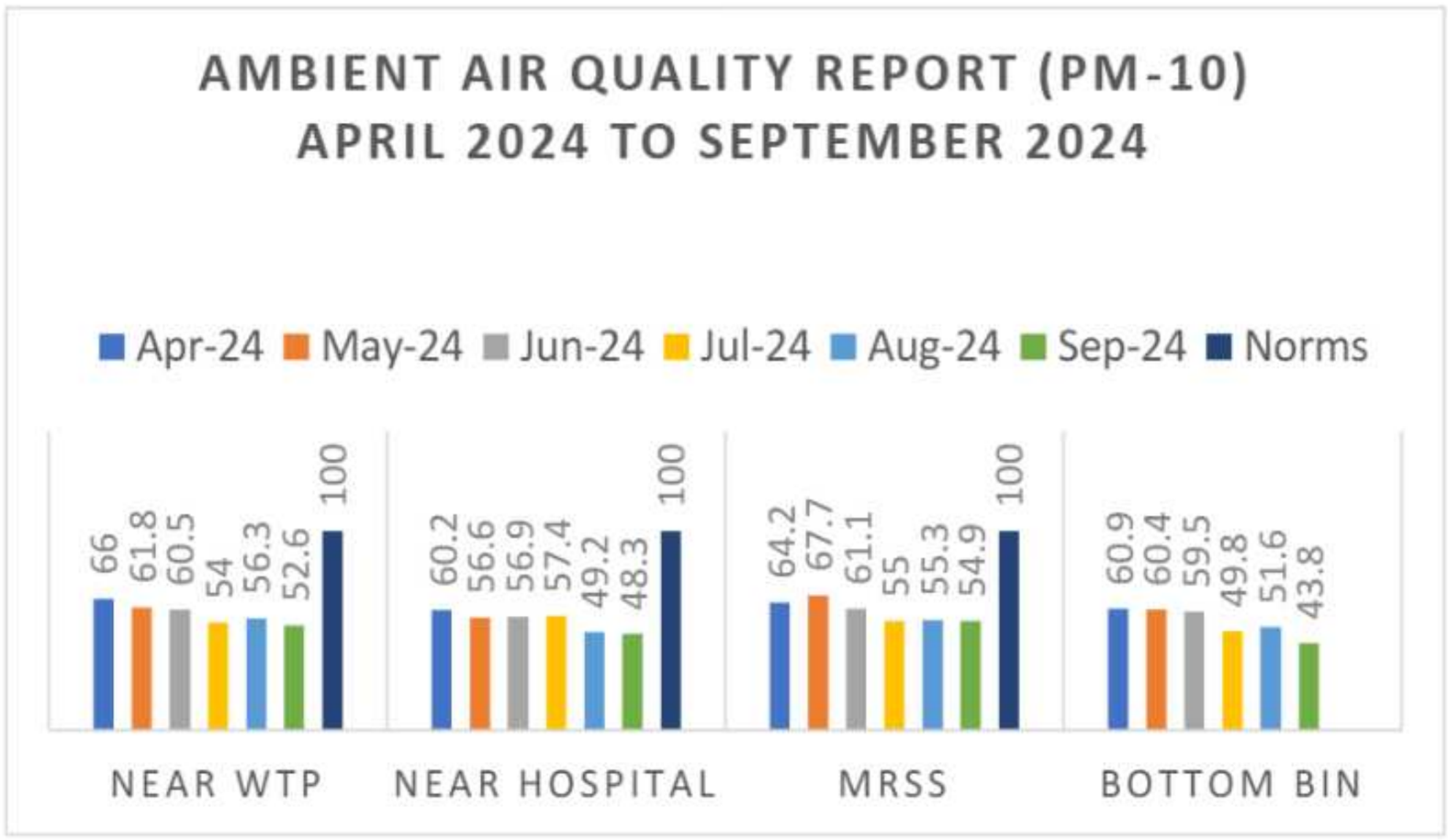


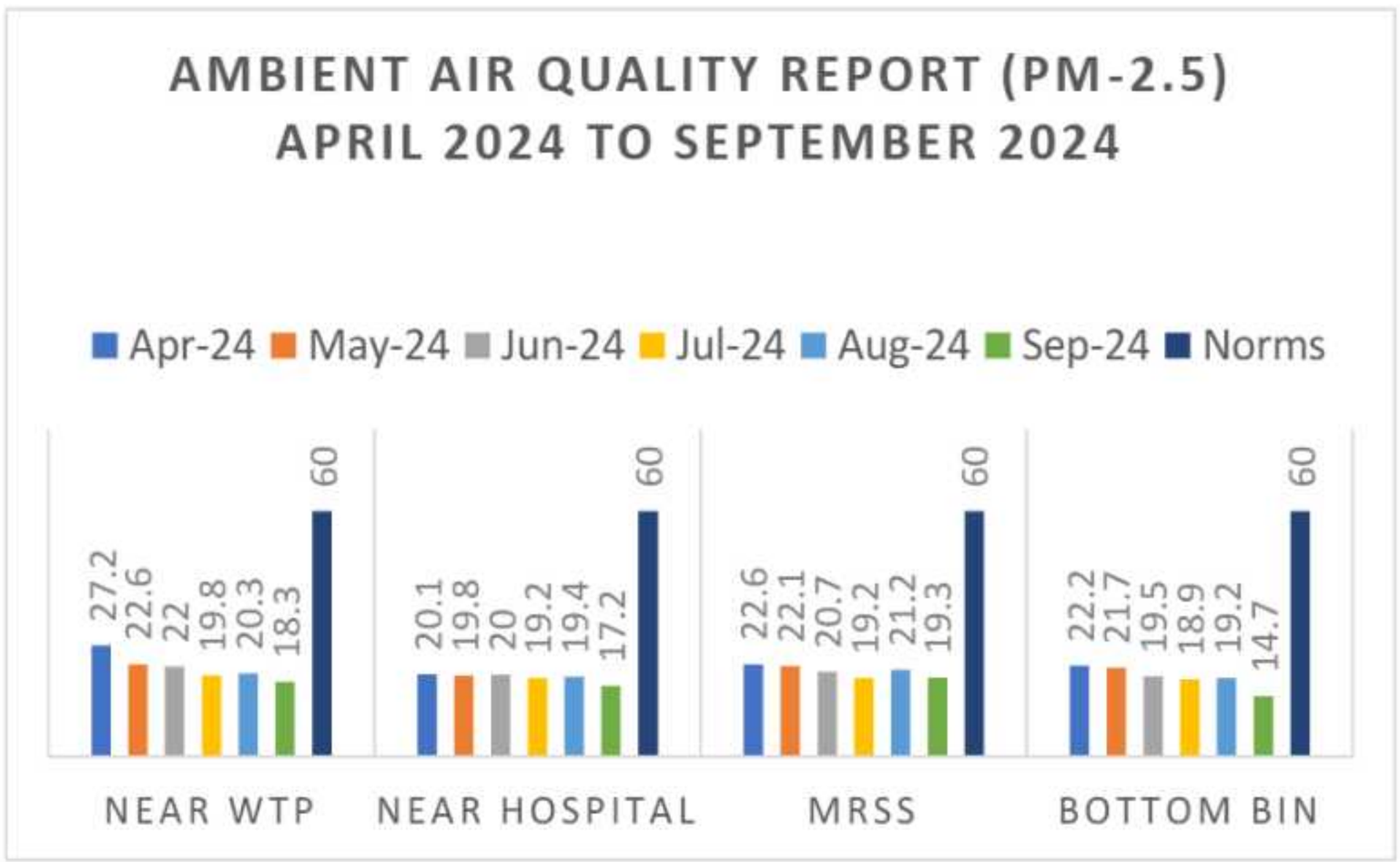




ANNEXURE-XI

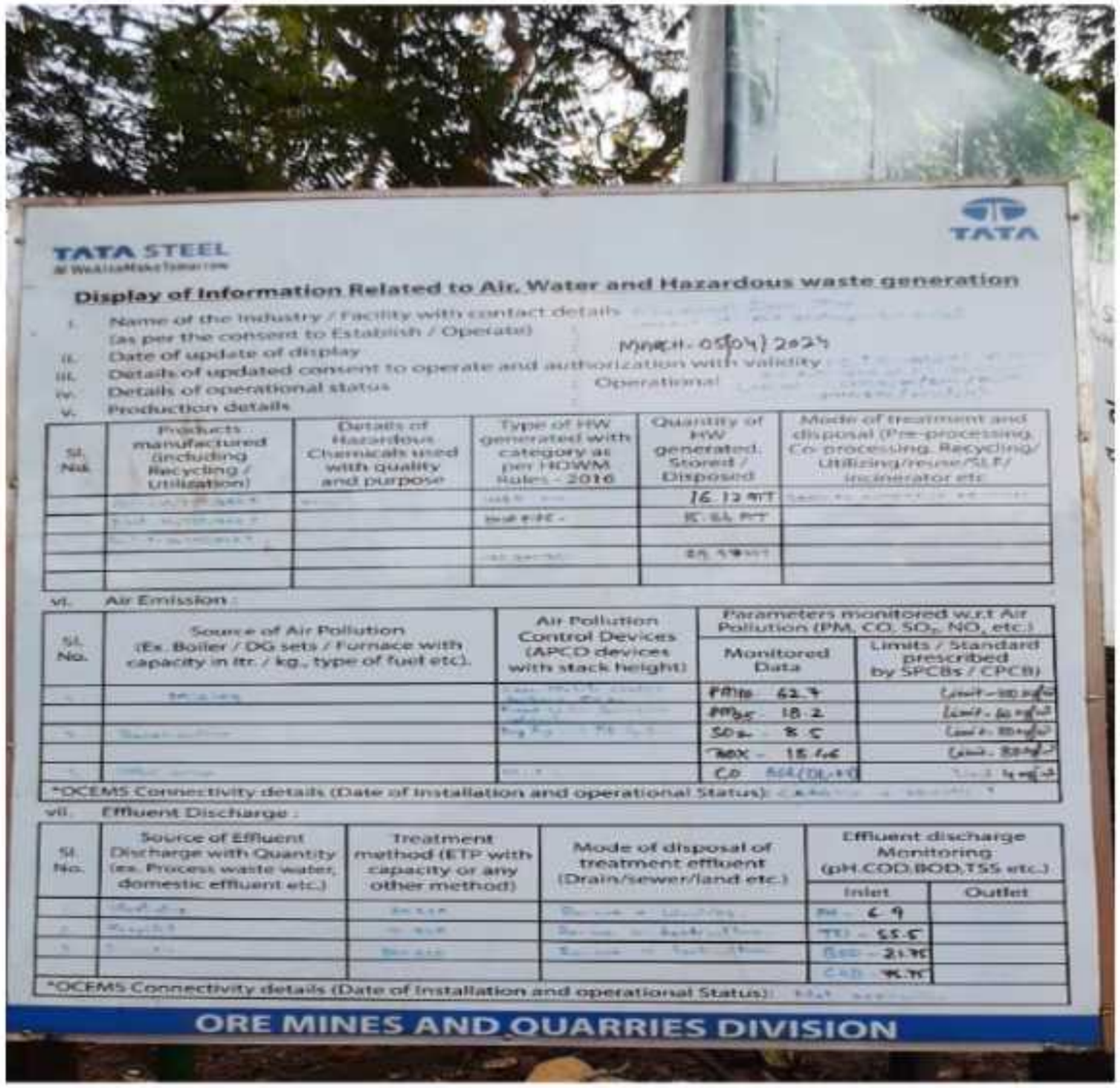
Summarised Ambient Air Quality Monitoring Report								
Noamundi Iron Ore Mine of M/s Tata Steel Limited								
Period: April-24 to September-24								
Mine location	**Sampling location**	**Month**	**Range**	**Results in µg/m³**				
				PM_{10}	**$PM_{2.5}$**	**SO_2**	**NOx**	**CO**
Noamundi Iron Ore Mine	Near WTP	Apr-24	Avg.	66.0	27.2	11.2	21.6	BDL (DL – 0.5)
		May-24	Avg.	61.8	22.6	11.9	21.2	BDL (DL – 0.5)
		Jun-24	Avg.	60.5	22.0	10.5	20.6	BDL (DL – 0.5)
		Jul-24	Avg.	54.0	19.8	10.3	20.7	BDL (DL – 0.5)
		Aug-24	Avg.	56.3	20.3	11.2	21.7	BDL (DL – 0.5)
		Sep-24	Avg.	52.6	18.3	9.3	19.1	BDL (DL – 0.5)
	Near Hospital	Apr-24	Avg.	60.2	20.1	10.8	22.7	BDL (DL – 0.5)
		May-24	Avg.	56.6	19.8	10.9	20.5	BDL (DL – 0.5)
		Jun-24	Avg.	56.9	20.0	10.4	21.0	BDL (DL – 0.5)
		Jul-24	Avg.	57.4	19.2	9.4	18.9	BDL (DL – 0.5)
		Aug-24	Avg.	49.2	19.4	9.8	18.9	BDL (DL – 0.5)
		Sep-24	Avg.	48.3	17.2	8.4	16.7	BDL (DL – 0.5)
	MRSS	Apr-24	Avg.	64.2	22.6	11.0	21.4	BDL (DL – 0.5)
		May-24	Avg.	67.7	22.1	10.8	20.5	BDL (DL – 0.5)
		Jun-24	Avg.	61.1	20.7	10.7	20.5	BDL (DL – 0.5)
		Jul-24	Avg.	55.0	19.2	9.2	18.9	BDL (DL – 0.5)
		Aug-24	Avg.	55.3	21.2	11.3	22.1	BDL (DL – 0.5)
		Sep-24	Avg.	54.9	19.3	12.8	19.2	BDL (DL – 0.5)
	Bottom Bin	Apr-24	Avg.	60.9	22.2	11.5	21.6	BDL (DL – 0.5)
		May-24	Avg.	60.4	21.7	10.8	21.7	BDL (DL – 0.5)
		Jun-24	Avg.	59.5	19.5	9.7	19.3	BDL (DL – 0.5)
		Jul-24	Avg.	49.8	18.9	10.5	20.1	BDL (DL – 0.5)
		Aug-24	Avg.	51.6	19.2	11.3	20.0	BDL (DL – 0.5)
		Sep-24	Avg.	43.8	14.7	9.2	16.8	BDL (DL – 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
Norms
66
61.8
60.5
54
56.3
52.6
60.2
56.6
56.9
57.4
49.2
48.3
64.2
67.7
61.1
55
55.3
54.9
60.9
60.4
59.5
49.8
51.6
43.8
NEAR WTP
NEAR HOSPITAL
MRSS
BOTTOM BIN

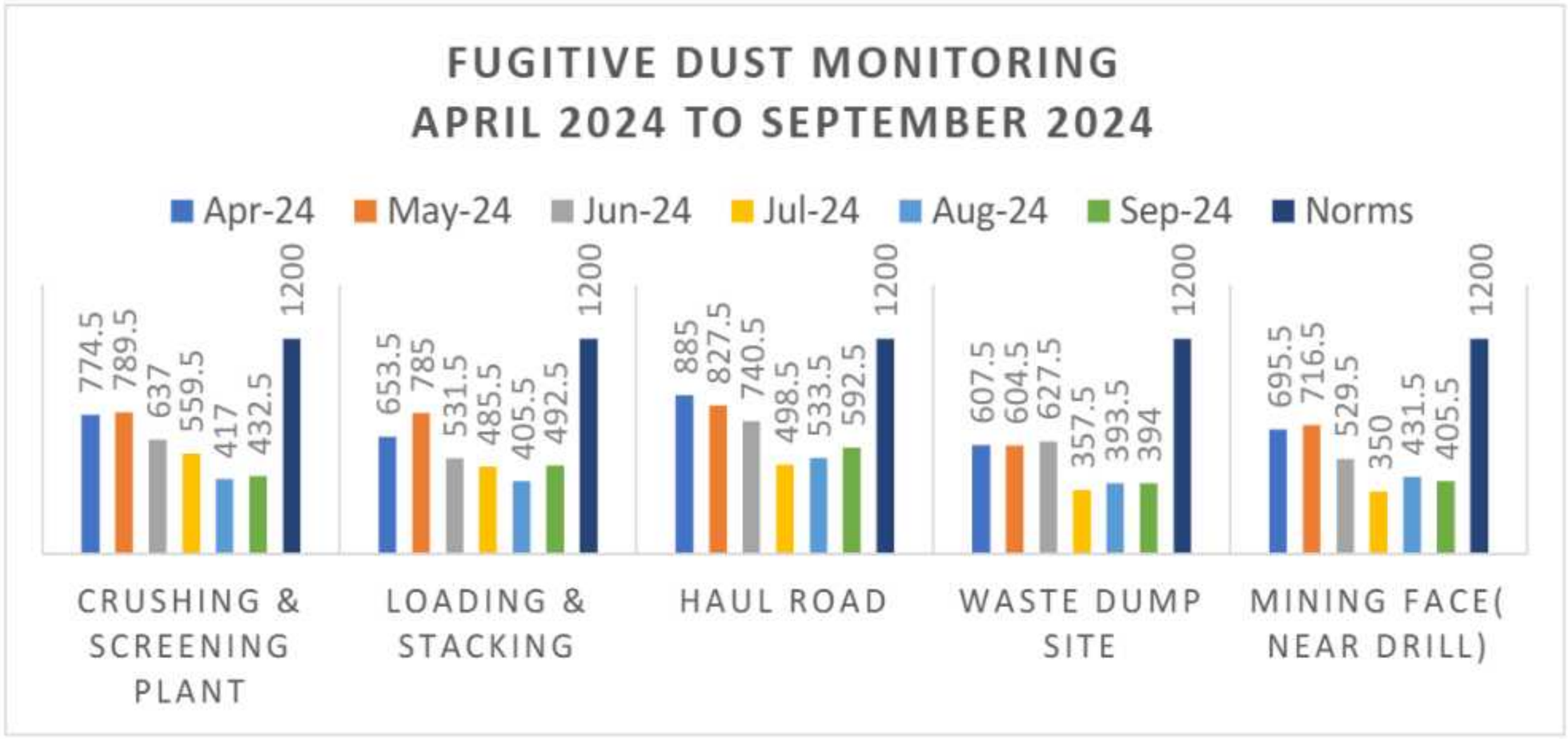

AMBIENT AIR QUALITY REPORT (PM-2.5)
APRIL 2024 TO SEPTEMBER 2024
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Norms
27.2
22.6
22
19.8
20.3
18.3
60
20.1
19.8
20
19.2
19.4
17.2
60
22.6
22.1
20.7
19.2
21.2
19.3
60
22.2
21.7
19.5
18.9
19.2
14.7
60
NEAR WTP
NEAR HOSPITAL
MRSS
BOTTOM BIN

Display Board





ANNEXURE-XIII



Summarized Fugitive Dust Monitoring Report					
Noamundi Iron Ore Mine of M/s Tata Steel Limited					
Period: October-23 to March-24					
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**	**Norms**
Noamundi Iron Mine	Crushing & Screening Plant	Apr-24	µg/m^3	774.5	1200
		May-24	µg/m^3	789.5	1200
		Jun-24	µg/m^3	637	1200
		Jul-24	µg/m^3	559.5	1200
		Aug-24	µg/m^3	417	1200
		Sep-24	µg/m^3	432.5	1200
	Loading & Stacking	Apr-24	µg/m^3	653.5	1200
		May-24	µg/m^3	785	1200
		Jun-24	µg/m^3	531.5	1200
		Jul-24	µg/m^3	485.5	1200
		Aug-24	µg/m^3	405.5	1200
		Sep-24	µg/m^3	492.5	1200
	Haul Road	Apr-24	µg/m^3	885	1200
		May-24	µg/m^3	827.5	1200
		Jun-24	µg/m^3	740.5	1200
		Jul-24	µg/m^3	498.5	1200
		Aug-24	µg/m^3	533.5	1200
		Sep-24	µg/m^3	592.5	1200
	Waste Dump Site	Apr-24	µg/m^3	607.5	1200
		May-24	µg/m^3	604.5	1200
		Jun-24	µg/m^3	627.5	1200
		Jul-24	µg/m^3	357.5	1200
		Aug-24	µg/m^3	393.5	1200
		Sep-24	µg/m^3	394	1200
	Mining Face (Near Drill)	Apr-24	µg/m^3	695.5	1200
		May-24	µg/m^3	716.5	1200
		Jun-24	µg/m^3	529.5	1200
		Jul-24	µg/m^3	350	1200
		Aug-24	µg/m^3	431.5	1200
		Sep-24	µg/m^3	405.5	1200

Air Pollution Control Devices



Fixed Sprinklers



Mist canons



Mobile Sprinklers



Dry-fog System

ANNEXURE-XV

Surface Water Flow Rate Measurement Report				
Noamundi Iron Ore Mine of M/s tata Steel Limited				
Period: April 2024 to September 2024				
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**
Noamundi iron Mine	Balijhore Nalla	April 2024	Cu.m/hr	295.24
		May 2024	Cu.m/hr	315.38
		June 2024	Cu.m/hr	425.62
		July 2024	Cu.m/hr	624.96
		August 2024	Cu.m/hr	830.25
		September 2024	Cu.m/hr	720.14
	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-XVI

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

	Parameters	Noamundi Basti	Noamundi Bazar	Mahudi Village	Bottom Bin
		MAY-2024			
I	**Biological Testing 1. Water**				
1	*Escherichia coli*	Absent	Absent	Absent	Absent
II	**Chemical Testing 1. Water**				
2	Alkalinity (as $CaCO_3$)	187.26	156.27	173.81	193.74
3	Anionic surface active agents (as MBAS)	BDL(DL– 0.01)	BDL(DL– 0.01)	BDL(DL– 0.01)	BDL(DL– 0.01)
4	Colour	1	1	1	1
5	Cyanide (as CN)	BDL(DL– 0.005)	BDL(DL– 0.005)	BDL(DL– 0.005)	BDL(DL– 0.005)
6	Chloride (as Cl)	28.76	23.61	23.91	17.43
7	Calcium (as Ca)	41.92	51.64	48.31	54.68
8	Free residual chlorine	BDL (DL – 0.1)	BDL (DL – 0.1)	BDL (DL – 0.1)	BDL (DL – 0.1)
9	Fluoride (as F)	0.18	0.21	0.21	0.27
10	Magnesium (as Mg)	13.68	13.97	13.67	12.63
11	Nitrate (as NO_3)	8.16	8.16	6.31	BDL(DL-2)
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	6.72	6.91	7.21	7.19
14	Phenolic compounds (as C_6H_5OH)	BDL(DL– 0.001)	BDL(DL– 0.001)	BDL(DL– 0.001)	BDL(DL– 0.001)
15	Sulphate (as SO_4)	9.21	8.16	13.57	11.62
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	463	453	486	483
18	Turbidity	0.4	0.2	0.7	0.4
19	Total hardness (as $CaCO_3$)	161.27	181.46	182.54	188.57
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)
21	Aluminium (as Al)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
22	Boron (as B)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
23	Copper (as Cu)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
24	Cadmium (as Cd)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)
25	Iron (as Fe)	0.17	0.24	0.21	0.27
26	Lead (as Pb)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
27	Manganese (as Mn)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
28	Mercury (as Hg)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)
29	Selenium (as Se)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
30	Total Chromium (as Cr)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
31	Zinc (as Zn)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
32	Polynuclear aromatic hydrocarbon (PAH)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
33	Mineral Oil	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)

	Parameters	Noamundi Basti	Noamundi Bazar	Mahudi Village	Bottom Bin
		MAY 2024			
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)
ii	Beta HCH	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)
iv	Delta- HCH	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)
vi	Aldrin	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)
viii	Butachlor	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)
x	o,p′-DDE	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)
xii	o,p′-DDD	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)
xiv	p,p′- DDT	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)
xvi	Atrazine	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)
xviii	Paraoxon methyl	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)
xx	Malaoxon	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)
xxii	Chlorpyrifos	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL (DL - 0.03)

	Parameters	**Noamundi Basti**	**Noamundi Bazar**	**Mahudi Village**	**Bottom Bin**
		AUGUST-2024			
I	**Biological Testing 1. Water**				
1	*Escherichia coli*	Absent	Absent	Absent	Absent
II	**Chemical Testing 1. Water**				
2	Alkalinity (as $CaCO_3$)	181.54	169.52	197.26	187.41
3	Anionic surface active agents (as MBAS)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)
4	Colour	2	2	4	2
5	Cyanide (as CN)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)
6	Chloride (as Cl)	31.24	24.96	32.67	17.67
7	Calcium (as Ca)	46.68	47.39	54.19	46.31
8	Free residual chlorine	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)
9	Fluoride (as F)	0.21	0.24	0.21	0.16
10	Magnesium (as Mg)	13.58	12.67	12.87	12.47
11	Nitrate (as NO_3)	6.17	4.81	4.73	4.91
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	7.18	7.16	6.92	7.16
14	Phenolic compounds (as C_6H_5OH)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)
15	Sulphate (as SO_4)	8.91	8.29	7.81	6.27
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable

17	Total dissolved solids	462	462	461	468
18	Turbidity	0.4	0.3	0.4	0.2
19	Total hardness (as $CaCO_3$)	172.47	170.51	188.33	166.99
II	**Chemical Testing 2. Residues In Water**				
20	Arsenic (as As)	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)
22	Boron (as B)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
23	Copper (as Cu)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
24	Cadmium (as Cd)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)
25	Iron (as Fe)	0.17	0.26	0.19	0.09
26	Lead (as Pb)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)
27	Manganese (as Mn)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
28	Mercury (as Hg)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)
29	Selenium (as Se)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)
30	Total Chromium (as Cr)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
31	Zinc (as Zn)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
32	Polynuclear aromatic hydrocarbon (PAH)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)
33	Mineral Oil	BLQ (LOQ -0.001)	BLQ (LOQ -0.001)	BLQ (LOQ - 0.001)	BLQ (LOQ -0.001)

	Parameters	**Noamundi Basti**	**Noamundi Bazar**	**Mahudi Village**	**Bottom Bin**
		AUGUST-2024			
II	**Chemical Testing 2. Residue In Water**				
35	**Pesticide Residues Organochlorine**				
i	Alpha-HCH	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)
iii	Gamma - HCH (Lindane)	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)
v	Alachlor	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)
vii	Dieldrin	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)
ix	p,p′-DDE	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)
xi	p,p′-DDD	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)
xiii	o,p′- DDT	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)

xv	Monocrotophos	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)
xvii	Parathion methyl	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)
xix	Malathion	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)
xxi	Ethion	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)

ANNEXURE-XVII

Summarized Ground Water Level Report			
Noamundi Iron Ore Mine of M/s Tata Steel Limited			
Period: April-24 to September-24			
Months	Locations wise Ground Water Level in Mtrs. (BGL)		
	Noamundi Basti	Noamundi Petrol Pump	Mahudi Village
Apr'24	5.01	5.03	5.78
May'24	5.2	5.1	5.9
Jun'24	5.09	4.97	5.62
Jul'24	4.41	4.28	4.63
Aug'24	4.11	3.74	4.01
Sep'24	3.51	3.32	3.43

Piezometer


Latitude : 22.14674°
Longitude : 85.49607°
Elevation : 518.00 m
Accuracy : 2.40 m
Pitch : 90.0°(-0.00°)
Date : 05/07/2024
Time : 10:00:55 AM


Latitude : 22.14676°
Longitude : 85.49603°
Elevation : 518.00 m
Accuracy : 1.94 m
Pitch : 90.0°(-0.00°)
Date : 05/07/2024
Time : 10:01:51 AM

ANNEXURE-XIX

Summarized Surface Water Quality Monitoring Report					
Noamundi Iron Ore Mine of M/s TATA Steel Limited					
Period: April 2024 to September 2024					
Location		**Balijhore Nallah (upstream)**		**Balijhore Nallah (Downstream)**	
Parameters		**May 2024**	**August 2024**	**May 2024**	**August 2024**
I	**Discipline : Biological**				
1	Coliform	Absent	Absent	Absent	Absent
II	**Discipline : Chemical**				
2	pH value	6.71	6.91	6.84	7.16
3	Colour	24	18	21	16
4	Dissolved Oxygen	6.7	6.5	6.3	6.2
5	Total Suspended Solid (as TSS)	26	21	21	18
6	BOD (3 days at 27°C)	2.61	2.73	2.54	2.67
7	Chemical oxygen demand	7.93	6.51	6.82	6.18
8	Total Dissolved Solids (TDS)	1387	1429	1196	1376
9	Copper (as Cu)	0.06	0.07	0.04	0.06
10	Chloride (as Cl)	182	194	161	173
11	Sulphate (as SO4)	141.68	152.39	127.39	147.68
12	Nitrate (as NO3)	27.41	32.91	16.43	26.46
13	Fluoride (as F)	0.52	0.43	0.46	0.38
14	Cyanide (as CN)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
III	**Discipline : Chemical**				
17	Iron (as Fe)	0.42	0.43	0.37	0.39
18	Cadmium (as Cd)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr+6)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

RWH Structure



ANEXURE-XXI

ETP Report (April 2024 to September 2024) Noamundi Iron Mine

Test Parameter		B/Bin ETP 10 KLD - OUTLET					
		Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**						
1	pH value	7.16	7.31	7.41	7.38	7.16	7.31
2	Oil & Grease	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	73	84	73	76	58	56
4	Ammonical Nitrogen (as N)	28.57	24.93	26.51	28.43	27.46	28.42
5	Total Kjeldahl Nitrogen (as N)	32.58	38.16	34.93	47.29	38.91	37.91
6	BOD (3 days at 27°C)	26	18	21	24	21	18
7	Chemical Oxygen Demand	64	53	64	93	64	82
8	Cyanide (as CN)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues In Water**						
10	Iron (as Fe)	0.96	1.16	1.18	1.14	1.18	0.91
11	Manganese (as Mn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**						
1	Fecal coliform	84	106	128	141	64	63
II	**Chemical Testing Pollution & Environment**						
2	Colour	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS	<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
8	Fluoride (as F)	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	Sulphide (as S)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	92%	92%	92%	94%	94%	94%
12	Hexavalent 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)
13	Dissolved Phosphate (as P)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

ETP Report (April 2024 to September 2024)Noamundi Iron Mine

Test Parameter		Hospital ETP 15 KLD - OUTLET					
		Apr'24	May'24	Jun'24	Jul'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**						
1	pH value	6.94	7.14	7.21	7.26	6.93	6.97
2	Oil & Grease	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	46	53	47	46	21	28
4	Ammonical Nitrogen (as N)	24.52	28.46	27.46	28.43	32	37
5	Total Kjeldahl Nitrogen (as N)	31.93	31.29	34.87	38.56	37	42
6	BOD (3 days at 27°C)	18	18	16	18	21	24
7	Chemical Oxygen Demand	84	42	43	56	63	63
8	Cyanide (as CN)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues In Water**						
10	Iron (as Fe)	1.18	1.36	1.38	1.53	0.87	1.16
11	Manganese (as Mn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**						
1	Fecal coliform	172	104	152	141	108	172
II	**Chemical Testing Pollution & Environment**						
2	Colour	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS	<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-	BLQ (LOQ-0.1)

						0.1)	
8	Fluoride (as F)	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	Sulphide (as S)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	92%	92%	94%	92%	94%	94%
12	Hexavalent 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)
13	Dissolved Phosphate (as P)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

Location :-

30 KLD ETP at Mega Center

Record for the Month April-2024

Sl. No.	Date	No. of vehicles washed	Quantity of Oil & Greak recovered in Kg
1	1-04-2024	3	0.21
2	2-04-2024	2	0.2
3	3-04-2024	2	0.2
4	4-04-2024	1	0.2
5	5-04-2024	2	0.21
6	6-04-2024	1	0.1
7	7-04-2024	2	0.2
8	8-04-2024	3	0.21
9	9-04-2024	3	0.21
10	10-04-2024	2	0.2
11	11-04-2024	2	0.2
12	12-04-2024	3	0.2
13	13-04-2024	3	0.21
14	14-04-2024	1	0.13
15	15-04-2024	2	0.15
16	16-04-2024	1	0.15
17	17-04-2024	1	0.16
18	18-04-2024	1	0.14
19	19-04-2024	2	0.16
20	20-04-2024	2	0.17
21	21-04-2024	1	0.17
22	22-04-2024	1	0.16
23	23-04-2024	2	0.17
24	24-04-2024	2	0.17
25	25-04-2024	1	0.16
26	26-04-2024	1	0.18
27	27-04-2024	2	0.18
28	28-04-2024	2	0.16
29	29-04-2024	1	0.16
30	30-04-2024	2	0.19
		Total	5.31

Location

30 KLD ETP at Mega Center

Record for the Month May - 2024

Sl. No	Date	No. of Vehicles Washed	Quantity of Oil & Grease recovered in kg
1	1-05-2024	1	0.17
2	2-05-2024	1	0.18
3	3-05-2024	2	0.18
4	4-05-2024	2	0.18
5	5-05-2024	1	0.16
6	6-05-2024	1	0.17
7	7-05-2024	3	0.2
8	8-05-2024	2	0.2
9	9-05-2024	3	0.2
10	10-05-2024	3	0.21
11	11-05-2024	3	0.22
12	12-05-2024	2	0.22
13	13-05-2024	2	0.2
14	14-05-2024	1	0.16
15	15-05-2024	1	0.18
16	16-05-2024	2	0.19
17	17-05-2024	1	0.18
18	18-05-2024	1	0.14
19	19-05-2024	1	0.16
20	20-05-2024	2	0.16
21	21-05-2024	1	0.13
22	22-05-2024	1	0.15
23	23-05-2024	1	0.15
24	24-05-2024	2	0.16
25	25-05-2024	1	0.14
26	26-05-2024	1	0.14
27	27-05-2024	2	0.16
28	28-05-2024	2	0.16
29	29-05-2024	1	0.17
30	30-05-2024	1	0.18
31	31-05-2024	1	0.14
	Total		5.34

Location :- 30 KLD ETP at Megacenter

Record for the Month June-2024

Sl. No.	Date	No. of Vehicles Washed	Quantity of Oil & Grease Recovered in kg
1	1/06/2024	1	0.16
2	2/06/2024	2	0.16
3	3/06/2024	1	0.13
4	4/06/2024	2	0.15
5	5/06/2024	2	0.15
6	6/06/2024	1	0.14
7	7/06/2024	1	0.14
8	8/06/2024	1	0.14
9	9/06/2024	2	0.16
10	10/06/2024	2	0.16
11	11/06/2024	3	0.2
12	12/06/2024	2	0.2
13	13/06/2024	2	0.2
14	14/06/2024	2	0.2
15	15/06/2024	3	0.21
16	16/06/2024	3	0.22
17	17/06/2024	3	0.2
18	18/06/2024	1	0.16
19	19/06/2024	2	0.18
20	20/06/2024	2	0.19
21	21/06/2024	2	0.18
22	22/06/2024	1	0.14
23	23/06/2024	1	0.16
24	24/06/2024	1	0.16
25	25/06/2024	1	0.14
26	26/06/2024	2	0.16
27	27/06/2024	2	0.16
28	28/06/2024	1	0.13
29	29/06/2024	1	0.12
30	30/06/2024	1	0.12
		Total	4.92

Location :- 30 KLD ETP
at Mega Cente

Record for the Month July - 2024

SL. No.	DATE	No. of vehicles washed	Quantity of Oil & Grease recovered in kg
1	1-07-2024	2	0.15
2	2-07-2024	1	0.1
3	3-07-2024	1	0.14
4	4-07-2024	1	0.14
5	5-07-2024	2	0.16
6	6-07-2024	2	0.16
7	7-07-2024	2	0.16
8	8-07-2024	1	0.13
9	9-07-2024	1	0.13
10	10-07-2024	2	0.12
11	11-07-2024	1	0.12
12	12-07-2024	1	0.14
13	13-07-2024	1	0.16
14	14-07-2024	2	0.15
15	15-07-2024	2	0.15
16	16-07-2024	1	0.13
17	17-07-2024	2	0.15
18	18-07-2024	1	0.12
19	19-07-2024	1	0.12
20	20-07 2024	1	0.12
21	21-07-2024	2	0.14
22	22-07-2024	2	0.16
23	23-07-2024	1	0.13
24	24-07-2024	1	0.13
25	25-07-2024	1	0.13
26	26-07-2024	3	0.2
27	27-07-2024	3	0.2
28	28-07-2024	2	0.2
29	29-07-2024	1	0.12
30	30-07-2024	2	0.21
31	31-07-2024	3	0.22
		Total	4.59

Location :- 30KLD ETP
at Mega Center.

Record for the Month August-2024

SL.No.	Date	No. of vehicles washed	Quantity of Oil & grease recovered in kg
1	1-08-2024	2	0.21
2	2-08-2024	1	0.16
3	3-08-2024	2	0.18
4	4-08-2024	2	0.17
5	5-08-2024	2	0.19
6	6-08-2024	1	0.14
7	7-08-2024	2	0.16
8	8-08-2024	2	0.16
9	9-08-2024	1	0.14
10	10-08-2024	1	0.14
11	11-08-2024	2	0.16
12	12-08-2024	1	0.14
13	13-08-2024	1	0.15
14	14-08-2024	1	0.16
15	15-08-2024	2	0.2
16	16-08-2024	2	0.21
17	17-08-2024	3	0.2
18	18-08-2024	3	0.2
19	19-08-2024	1	0.16
20	20-08-2024	3	0.2
21	21-08-2024	2	0.2
22	22-08-2024	2	0.21
23	23-08-2024	1	0.16
24	24-08-2024	1	0.19
25	25-08-2024	2	0.21
26	26-08-2024	3	0.22
27	27-08-2024	3	0.23
28	28-08-2024	3	0.23
29	29-08-2024	1	0.18
30	30-08-2024	1	0.14
31	31-08-2024	3	0.23
		Total	5.63

Location : 30 KLD ETP at Mega Centre

Record for the Month September - 2024

Sl:No	Date	No. of Vehicle washed	Quantity of Oil & grease recovered in kg
1	01-09-2024	2	0.16
2	02-09-2024	2	0.14
3	03-09-2024	1	0.13
4	04-09-2024	1	0.13
5	05-09-2024	2	0.15
6	06-09-2024	1	0.14
7	07-09-2024	1	0.14
8	08-09-2024	2	0.17
9	09-09-2024	2	0.16
10	10-09-2024	1	0.16
11	11-09-2024	3	0.2
12	12-09-2024	3	0.2
13	13-09-2024	2	0.2
14	14-09-2024	3	0.2
15	15-09-2024	3	0.21
16	16-09-2024	3	0.25
17	17-09-2024	3	0.22
18	18-09-2024	1	0.16
19	19-09-2024	2	0.18
20	20-09-2024	2	0.19
21	21-09-2024	2	0.18
22	22-09-2024	1	0.14
23	23-09-2024	2	0.16
24	24-09-2024	1	0.16
25	25-09-2024	3	0.24
26	26-09-2024	2	0.22
27	27-09-2024	2	0.16
28	28-09-2024	1	0.13
29	29-09-2024	1	0.12
30	30-09-2024	1	0.12
		Total	5.12

ANNEXURE-XXII

STP Report (April 2024 to September 2024) Noamundi Iron Mine

	Test Parameter	Measurement Unit	New Town Ship STP 50 KLD - Outlet					
			Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**							
1	pH value	-	6.48	6.42	6.57	6.64	6.57	6.38
2	Oil & Grease	mg/l	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	mg/l	82	73	76	54	48	51
4	Ammonical Nitrogen (as N)	mg/l	21.93	18.76	19.48	19.24	18.27	21.46
5	Total Kjeldahl Nitrogen (as N)	mg/l	24.58	26.43	28.19	26.58	24.93	28.29
6	BOD (3 days at 27°C)	mg/l	16	16	18	16	18	21
7	Chemical Oxygen Demand	mg/l	107	114	109	118	76	92
8	Cyanide (as CN)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	mg/l	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues in Water**							
10	Iron (as Fe)	mg/l	0.76	0.68	0.87	0.86	0.94	0.82
11	Manganese (as Mn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**							
1	Faecal coliform	MPN/100 ml	148	126	116	148	62	177
II	**Chemical Testing Pollution & Environment**							
2	Colour	Hazen units	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	°C	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS		<850	<850	<850	<850	<850	<850
7	Free Ammonia	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-	BLQ (LOQ-

	(as NH_3)						0.1)	0.1)
8	Fluoride (as F)	mg/l	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	Sulphide (as S)	mg/l	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	mg/l	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	%	94%	92%	94%	94%	92%	94%
12	Hexavalent Chromium (as Cr^{+6})	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Dissolved Phosphate (as P)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

STP Report (April 2024 to September 2024)Noamundi Iron Mine

	Test Parameter	Measurement Unit	Central Camp STP 50 KLD -Outlet					
			Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**							
1	pH value	-	7.14	6.93	6.91	7.03	6.98	6.91
2	Oil & Grease	mg/l	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	mg/l	37	46	37	48	21	38
4	Ammonical Nitrogen (as N)	mg/l	16.24	15.92	19.28	18.76	17.36	19.52
5	Total Kjeldahl Nitrogen (as N)	mg/l	19.46	18.54	21.46	26.43	24.93	28.46
6	BOD (3 days at 27°C)	mg/l	24	16	24	16	18	21
7	Chemical Oxygen Demand	mg/l	73	48	76	48	61	63
8	Cyanide (as CN)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	mg/l	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues in Water**							
10	Iron (as Fe)	mg/l	0.87	1.16	1.18	1.14	1.64	1.19
11	Manganese (as Mn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**							

1	Faecal coliform	MPN/100 ml	94	114	116	84	104	109
II	**Chemical Testing Pollution & Environment**							
2	Colour	Hazen units	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	°C	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS		<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
8	Fluoride (as F)	mg/l	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	Sulphide (as S)	mg/l	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	mg/l	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	%	92%	94%	92%	92%	92%	94%
12	Hexavalent Chromium (as Cr^{+6})	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Dissolved Phosphate (as P)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

Event Report

Waveform Trigger Source	Long at April 2, 2024 14:04:52
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa
Pre-Trigger/Record Time	0.25 sec/13.1 sec (Auto)
Sample Rate	2048 sps
Setup File Name	factory.MMB
Operator	Operator
Job Number	1

Serial Number	UM15992
Model Number	Micromate ISEE 10.90FB
Battery Level	3.7 volts
Unit Calibration	October 19, 2023 by UES New Delhi
Event File Name	UM15992_20240402140452.IDFW
USB Sensor Support	Disabled

Notes

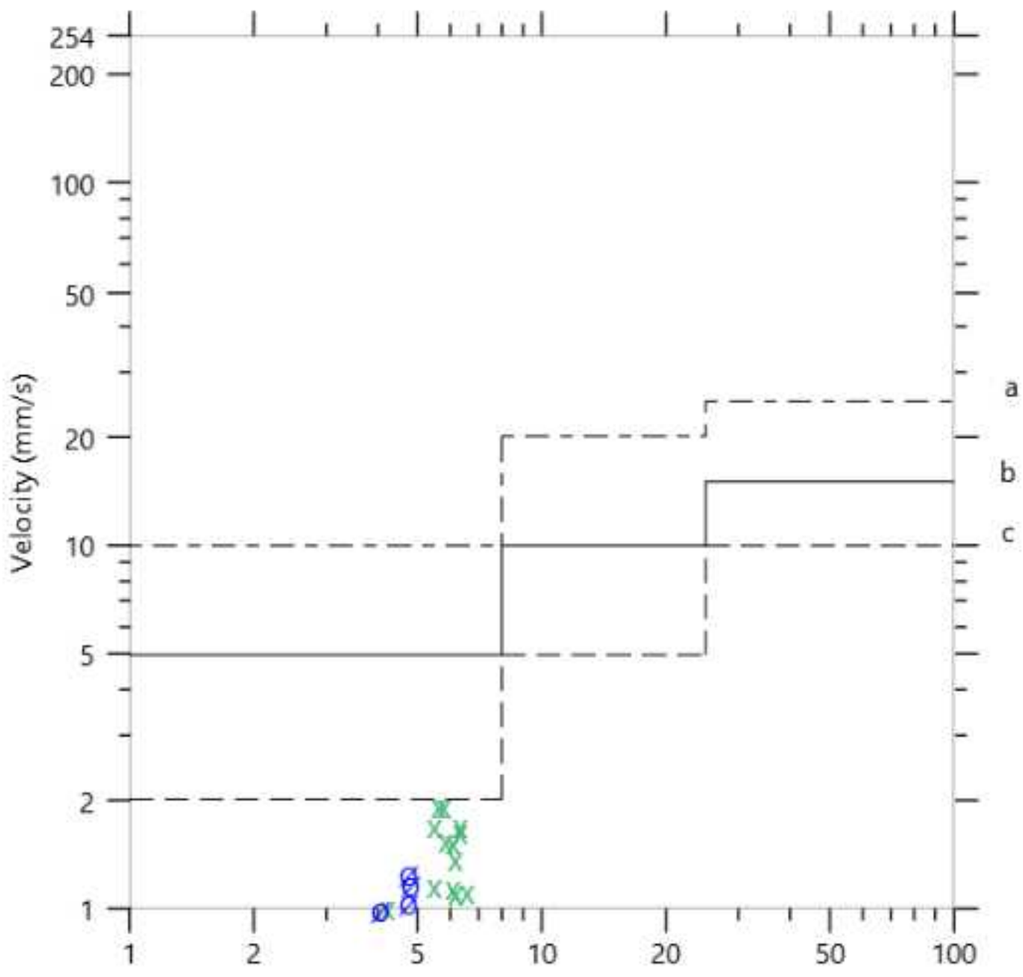
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Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.867 mm/s	1.939 mm/s	1.261 mm/s
Zero Crossing Frequency	4.5 Hz	5.6 Hz	4.7 Hz
Time (Relative to Trigger)	2.000 sec	1.008 sec	2.075 sec
Peak Acceleration	0.012 g	0.020 g	0.012 g
Peak Displacement	0.028 mm	0.054 mm	0.041 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.5	4.3	4.5
Peak Vector Sum	2.156 mm/s at 1.003 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	<0.5 pa
Peak Sound Pressure Level	<88 dB(L)
Time (Relative to Trigger)	0.928 sec
Zero Crossing Frequency	>100 Hz
Sensor Check	X Check
Frequency	0.0 Hz
Test Amplitude	0 mv



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FFT Report

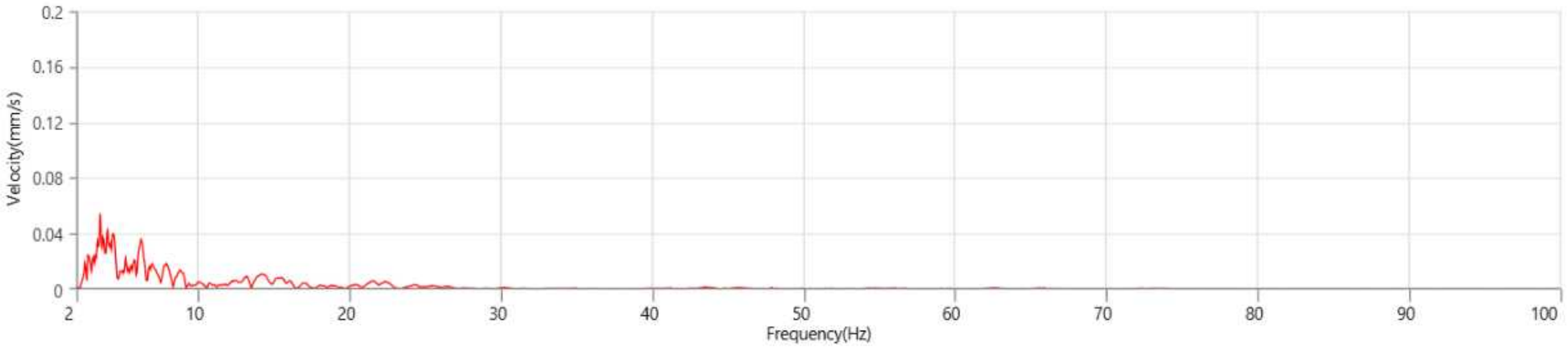
Waveform Trigger Source	Long at April 2, 2024 14:04:52	**Serial Number**	UM15992
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/13.1 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	October 19, 2023 by UES New Delhi
Setup File Name	factory.MMB	**Event File Name**	UM15992_20240402140452.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

Notes

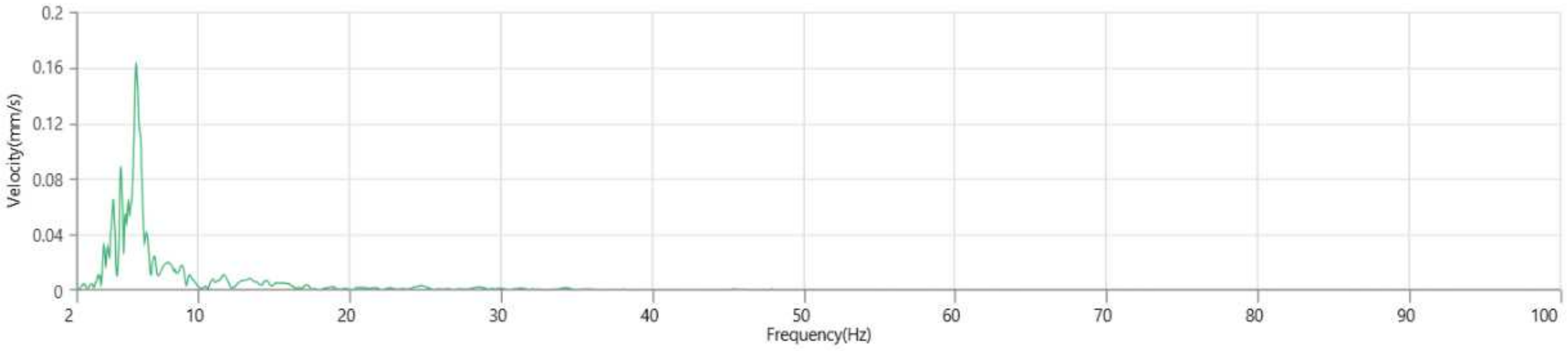
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Post Event Notes No text to be displayed.

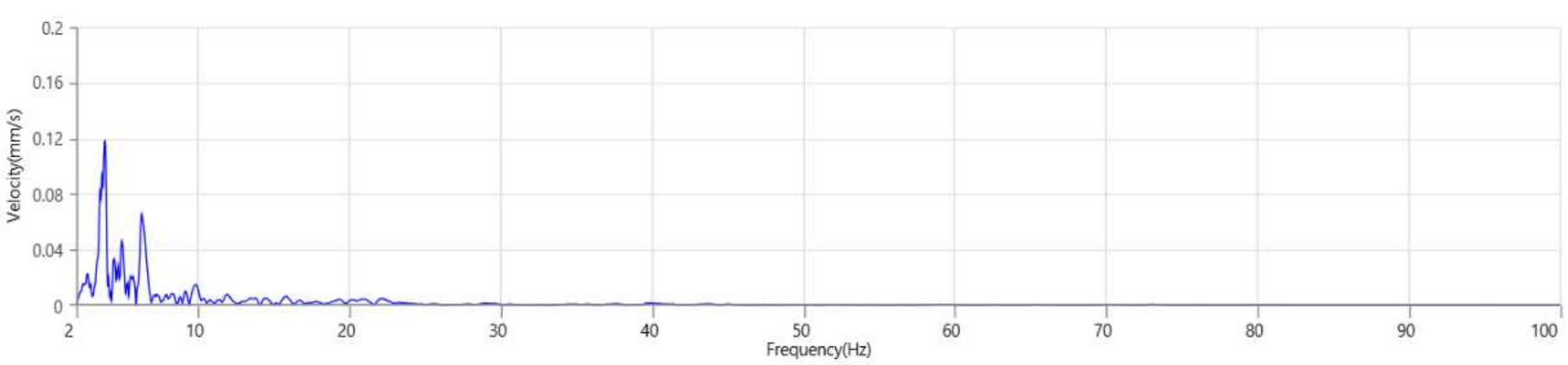
Tran - Dominant Frequency 3.6 Hz, Amplitude 0.054 mm/s (Peak Particle Velocity: 0.867 mm/s)



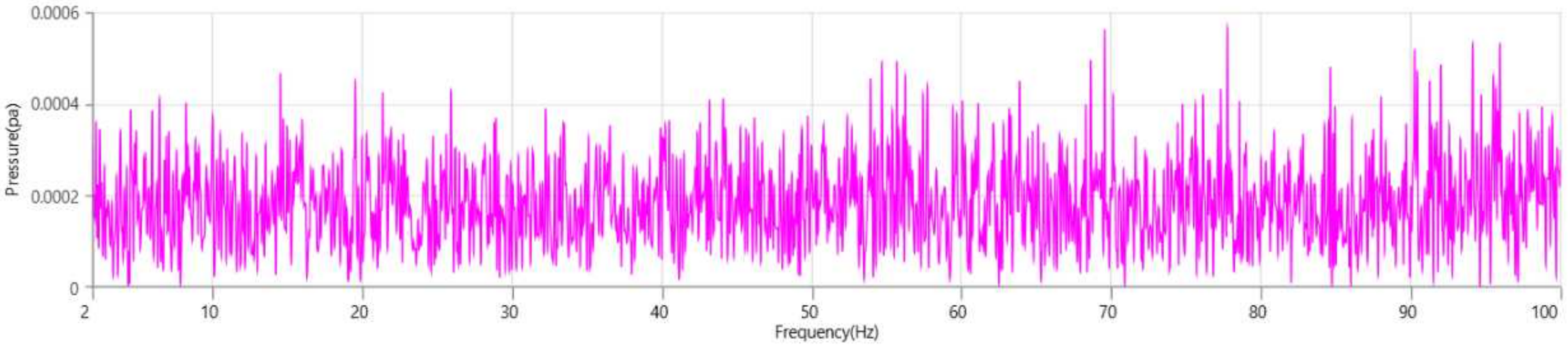
Vert - Dominant Frequency 5.9 Hz, Amplitude 0.162 mm/s (Peak Particle Velocity: 1.939 mm/s)



Long - Dominant Frequency 3.9 Hz, Amplitude 0.118 mm/s (Peak Particle Velocity: 1.261 mm/s)



MicL - Dominant Frequency 77.8 Hz, Amplitude 0.00 pa (Peak Sound Pressure Level: 0.08 pa)



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Event Report

Waveform Trigger Source	Long at April 16, 2024 14:38:17
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa
Pre-Trigger/Record Time	0.25 sec/13.8 sec (Auto)
Sample Rate	2048 sps
Setup File Name	factory.MMB
Operator	Operator
Job Number	1

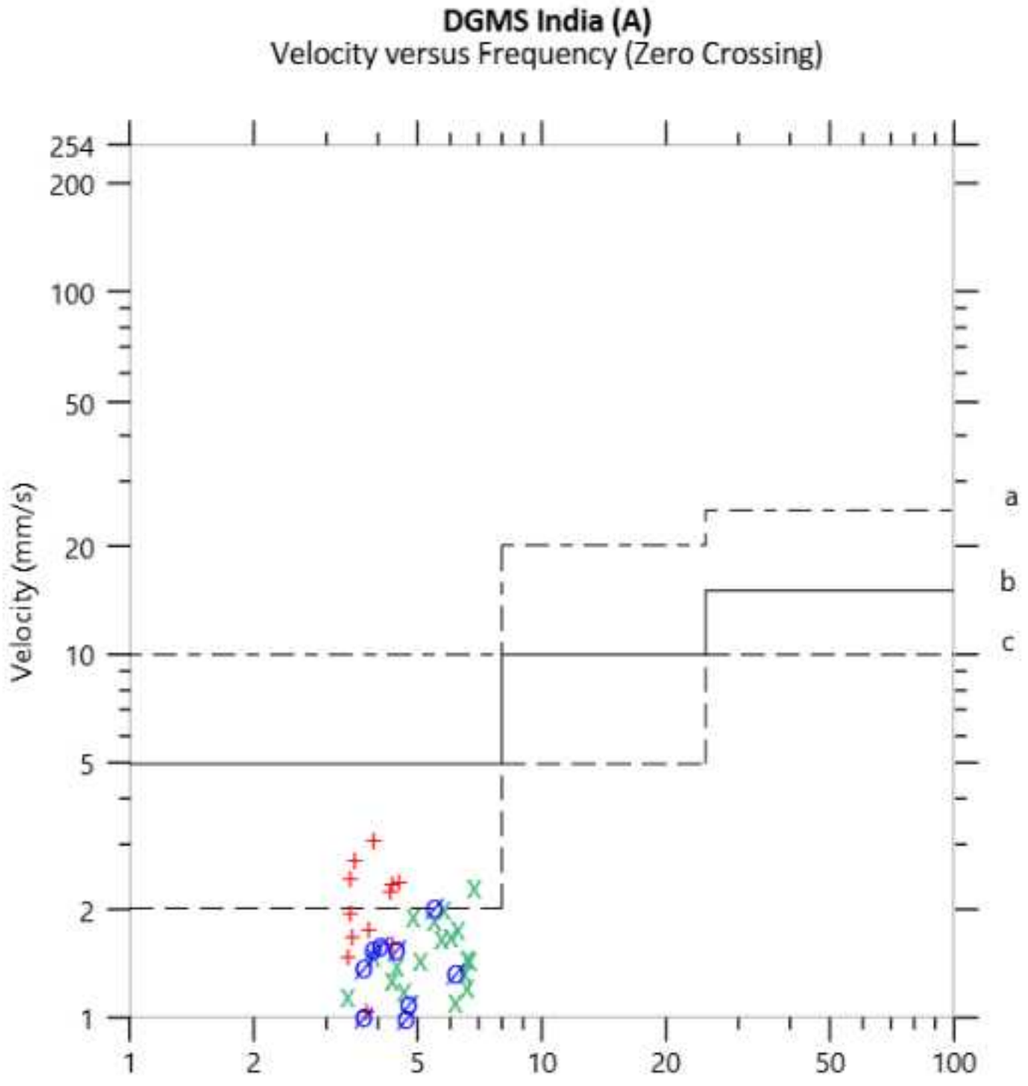
Serial Number	UM15992
Model Number	Micromate ISEE 10.90FB
Battery Level	3.7 volts
Unit Calibration	October 19, 2023 by UES New Delhi
Event File Name	UM15992_20240416143817.IDFW
USB Sensor Support	Disabled

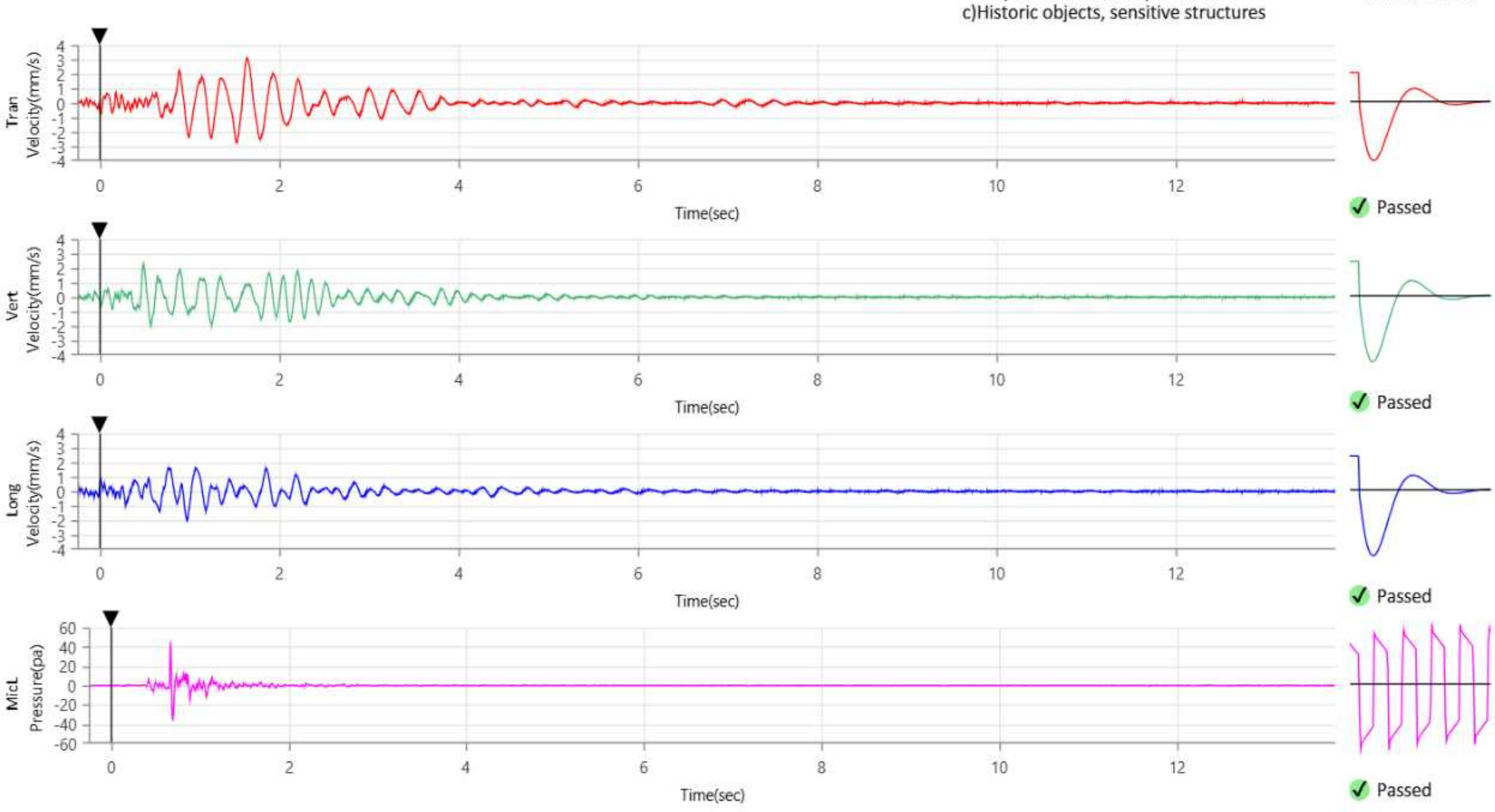
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Location:
Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	3.129 mm/s	2.309 mm/s	2.041 mm/s
Zero Crossing Frequency	3.9 Hz	6.8 Hz	5.5 Hz
Time (Relative to Trigger)	1.643 sec	0.487 sec	0.973 sec
Peak Acceleration	0.015 g	0.021 g	0.020 g
Peak Displacement	0.122 mm	0.060 mm	0.065 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.5	4.3	4.5
Peak Vector Sum	3.246 mm/s at 1.644 sec		

ISEE Linear Microphone	
Peak Sound Pressure Level	45.46 pa
Peak Sound Pressure Level	127.1 dB(L)
Time (Relative to Trigger)	0.671 sec
Zero Crossing Frequency	27.7 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1104 mv





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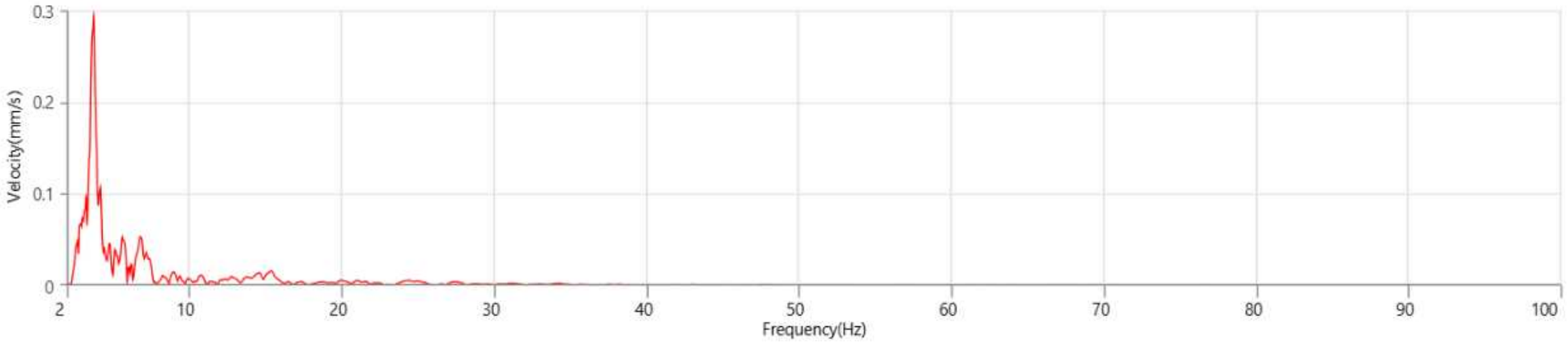
FFT Report

Waveform Trigger Source	Long at April 16, 2024 14:38:17	**Serial Number**	UM15992
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/13.8 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	October 19, 2023 by UES New Delhi
Setup File Name	factory.MMB	**Event File Name**	UM15992_20240416143817.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

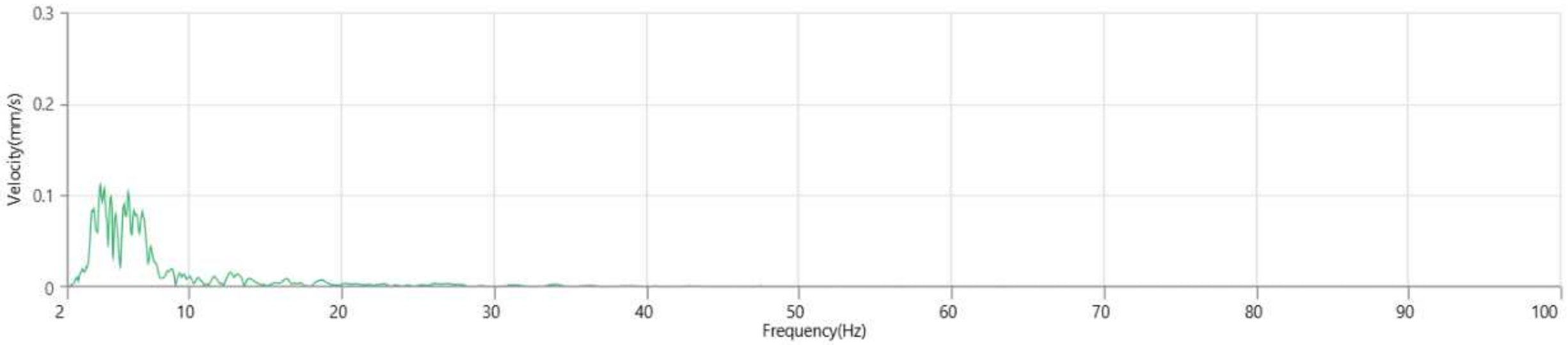
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Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

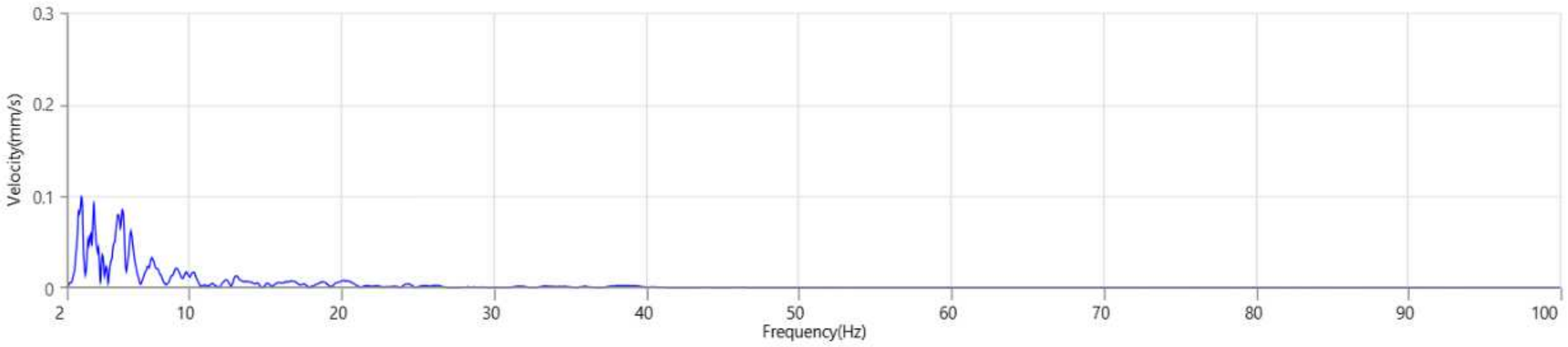
Tran - Dominant Frequency 3.8 Hz, Amplitude 0.292 mm/s (Peak Particle Velocity: 3.129 mm/s)



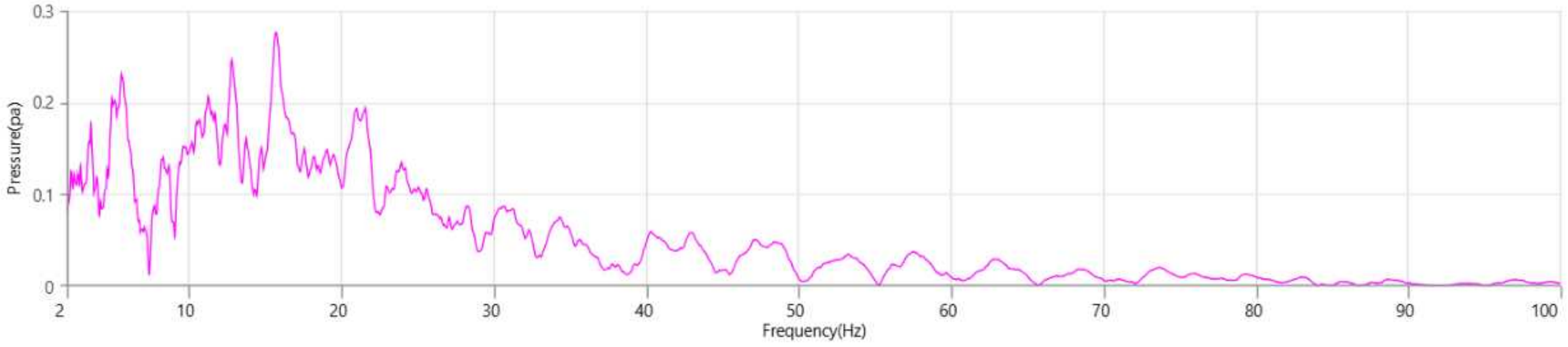
Vert - Dominant Frequency 4.2 Hz, Amplitude 0.112 mm/s (Peak Particle Velocity: 2.309 mm/s)



Long - Dominant Frequency 2.9 Hz, Amplitude 0.099 mm/s (Peak Particle Velocity: 2.041 mm/s)



MicL - Dominant Frequency 15.7 Hz, Amplitude 0.28 pa (Peak Sound Pressure Level: 45.46 pa)



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Event Report

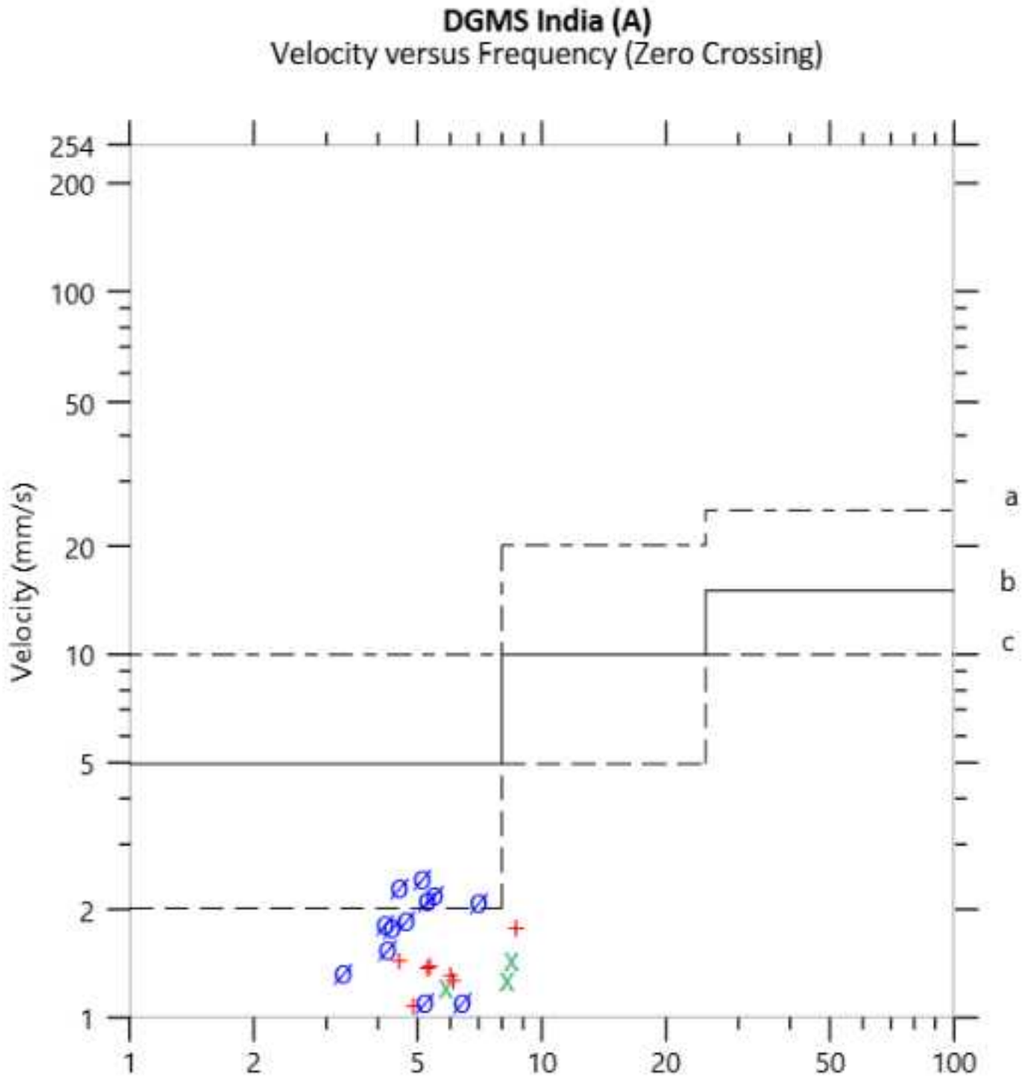
Waveform Trigger Source	Long at April 25, 2024 14:14:07	**Serial Number**	UM15992
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/13.3 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	October 19, 2023 by UES New Delhi
Setup File Name	factory.MMB	**Event File Name**	UM15992_20240425141407.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

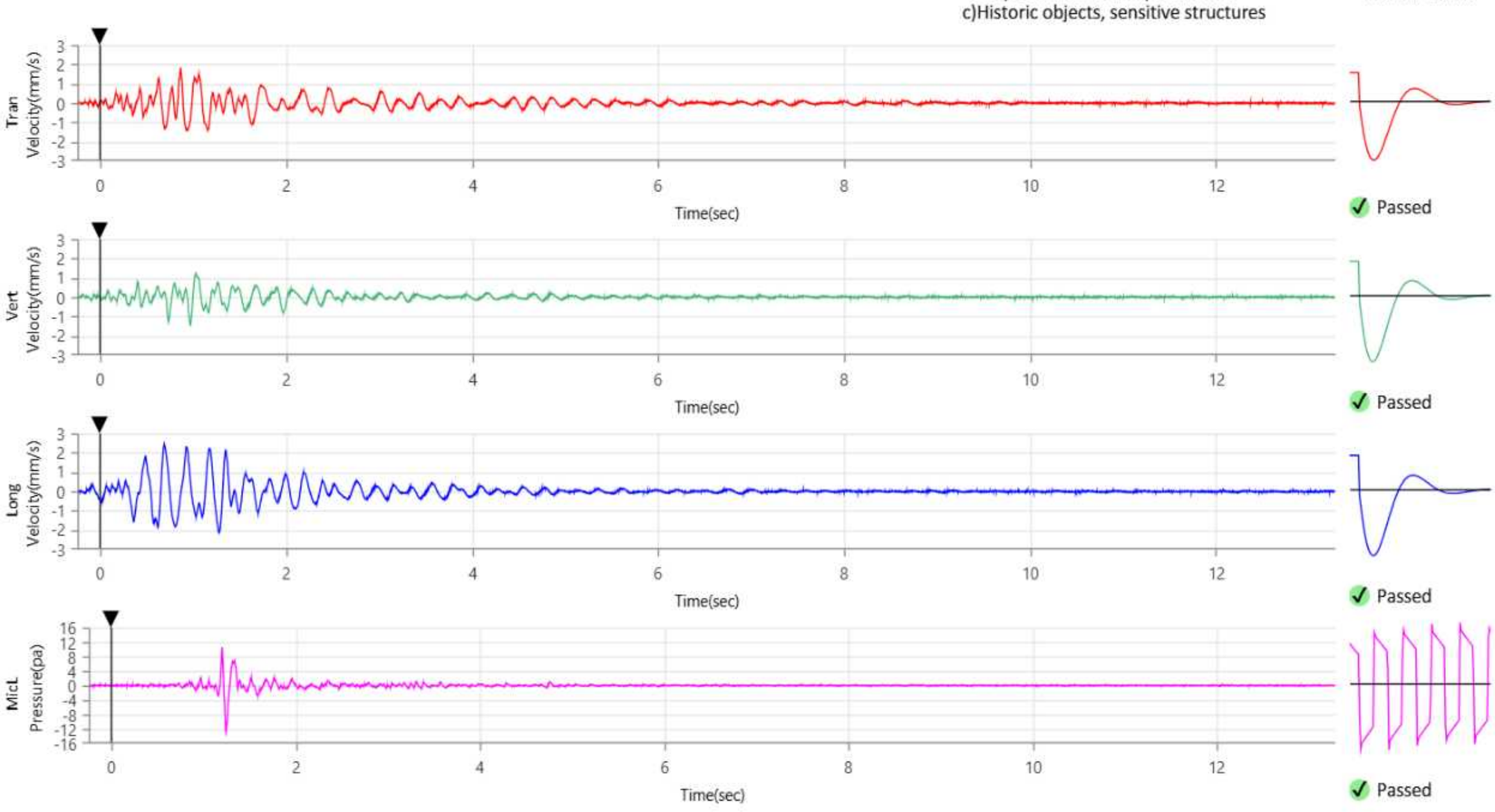
Notes
Location:
Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.805 mm/s	1.466 mm/s	2.451 mm/s
Zero Crossing Frequency	8.8 Hz	8.5 Hz	5.1 Hz
Time (Relative to Trigger)	0.858 sec	0.964 sec	0.684 sec
Peak Acceleration	0.018 g	0.013 g	0.023 g
Peak Displacement	0.058 mm	0.036 mm	0.071 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.5	4.3	4.4
Peak Vector Sum	2.775 mm/s at 0.684 sec		

ISEE Linear Microphone	
Peak Sound Pressure Level	12.97 pa
Peak Sound Pressure Level	116.2 dB(L)
Time (Relative to Trigger)	1.240 sec
Zero Crossing Frequency	7.8 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1125 mv





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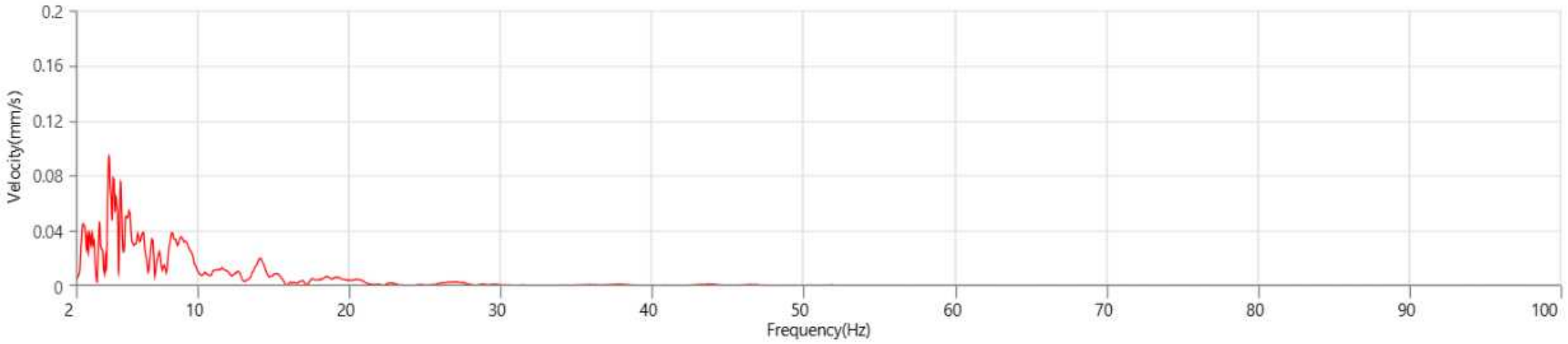
FFT Report

Waveform Trigger Source	Long at April 25, 2024 14:14:07	**Serial Number**	UM15992
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/13.3 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	October 19, 2023 by UES New Delhi
Setup File Name	factory.MMB	**Event File Name**	UM15992_20240425141407.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

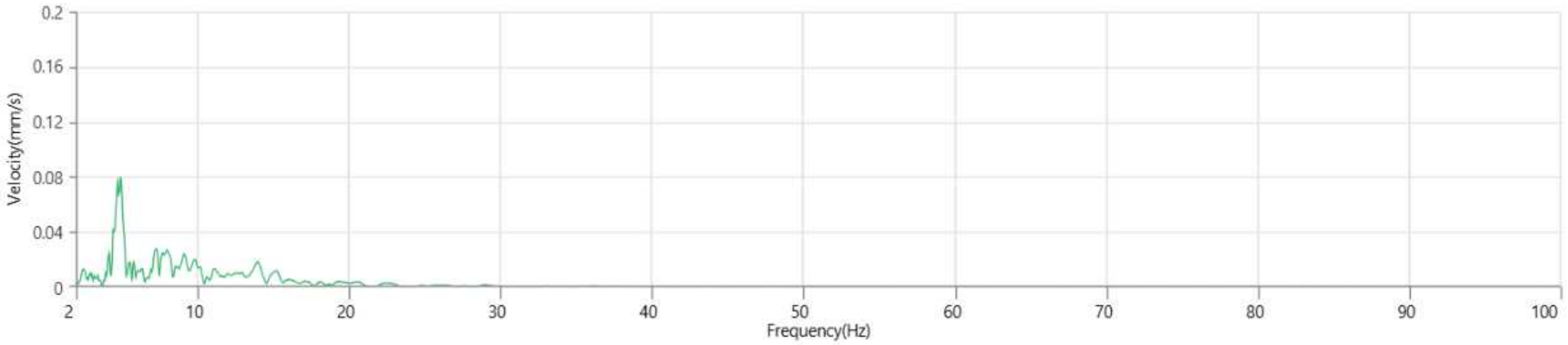
Notes
Location:
Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

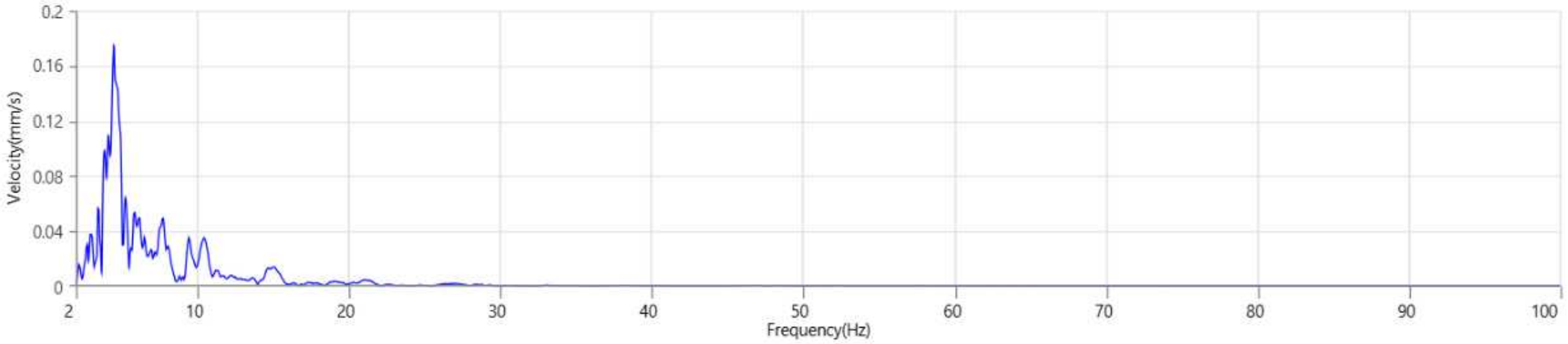
Tran - Dominant Frequency 4.2 Hz, Amplitude 0.094 mm/s (Peak Particle Velocity: 1.805 mm/s)



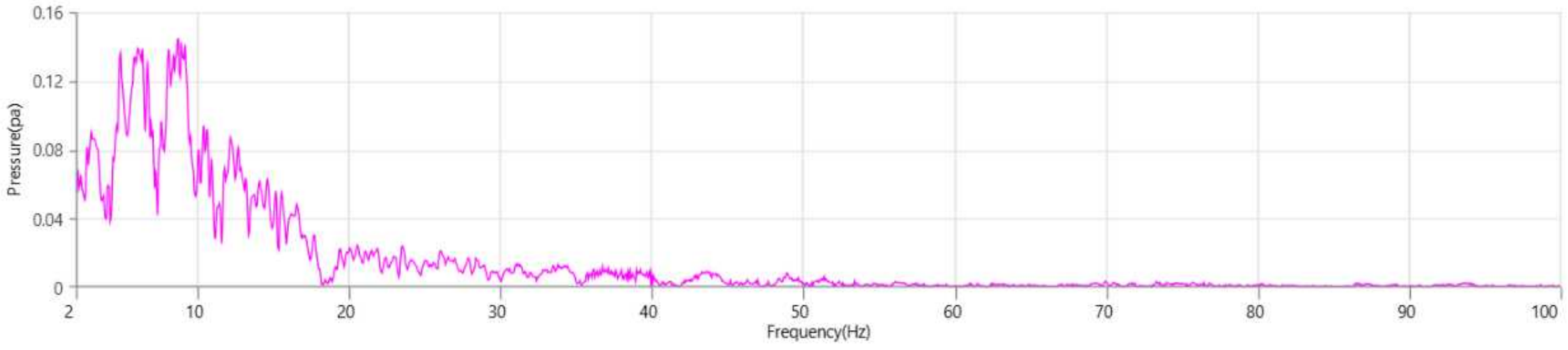
Vert - Dominant Frequency 4.9 Hz, Amplitude 0.079 mm/s (Peak Particle Velocity: 1.466 mm/s)



Long - Dominant Frequency 4.5 Hz, Amplitude 0.174 mm/s (Peak Particle Velocity: 2.451 mm/s)



MicL - Dominant Frequency 8.8 Hz, Amplitude 0.14 pa (Peak Sound Pressure Level: 12.97 pa)



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Event Report

Waveform Trigger Source	Tran at May 14, 2024 14:14:39
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa
Pre-Trigger/Record Time	0.25 sec/11.5 sec (Auto)
Sample Rate	2048 sps
Setup File Name	factory.MMB
Operator	Operator
Job Number	1

Serial Number	UM15992
Model Number	Micromate ISEE 10.90FB
Battery Level	3.8 volts
Unit Calibration	October 19, 2023 by UES New Delhi
Event File Name	UM15992_20240514141439.IDFW
USB Sensor Support	Disabled

Notes

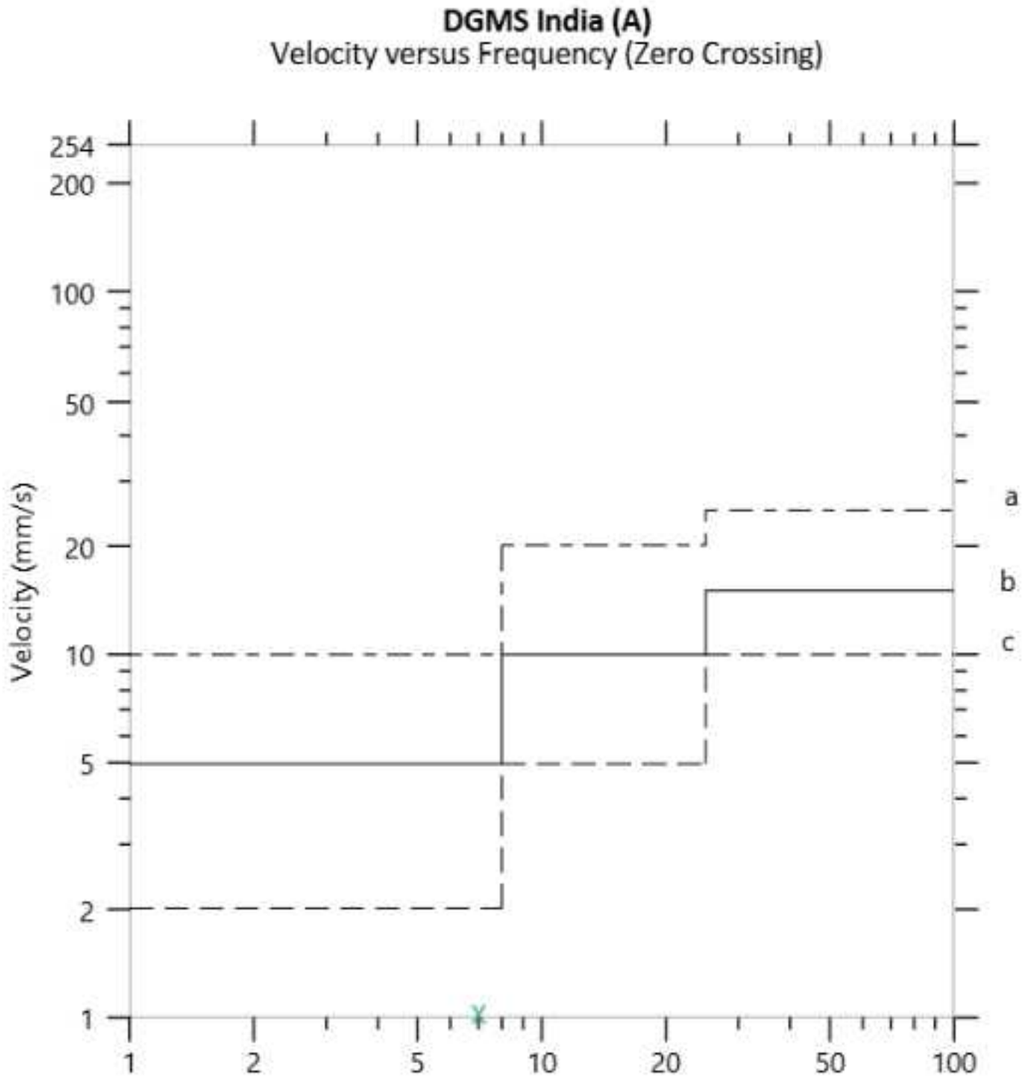
Location:
Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.969 mm/s	1.048 mm/s	0.843 mm/s
Zero Crossing Frequency	6.7 Hz	7.0 Hz	5.0 Hz
Time (Relative to Trigger)	0.442 sec	0.247 sec	0.311 sec
Peak Acceleration	0.018 g	0.015 g	0.012 g
Peak Displacement	0.018 mm	0.019 mm	0.022 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.5	4.3	4.5
Peak Vector Sum	1.249 mm/s at 0.244 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	<0.5 pa
Peak Sound Pressure Level	<88 dB(L)
Time (Relative to Trigger)	4.146 sec
Zero Crossing Frequency	>100 Hz
Sensor Check	X Check
Frequency	0.0 Hz
Test Amplitude	0 mv



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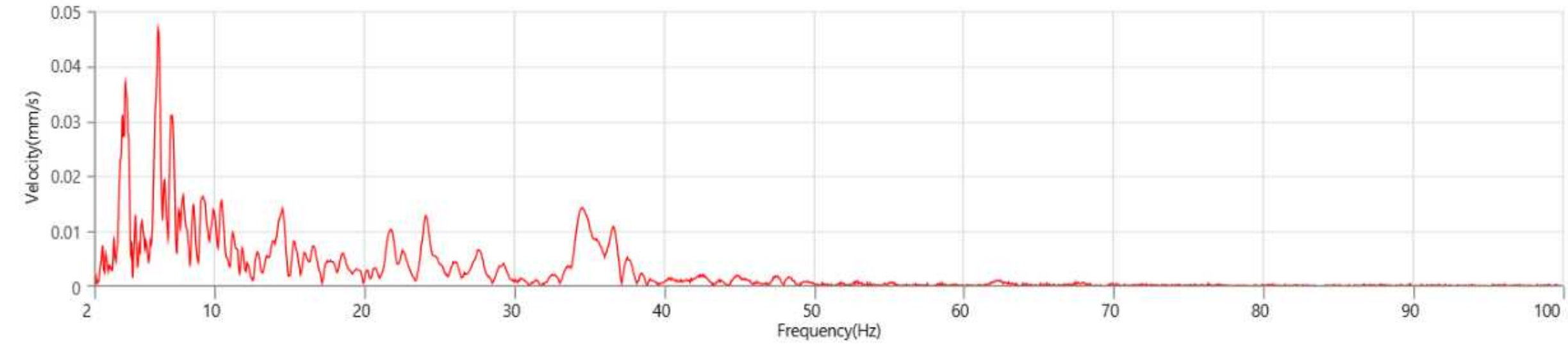
FFT Report

Waveform Trigger Source	Tran at May 14, 2024 14:14:39	**Serial Number**	UM15992
Trigger Level(s)	Geo 0.500 mm/s,Mic 6.32 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/11.5 sec (Auto)	**Battery Level**	3.8 volts
Sample Rate	2048 sps	**Unit Calibration**	October 19, 2023 by UES New Delhi
Setup File Name	factory.MMB	**Event File Name**	UM15992_20240514141439.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

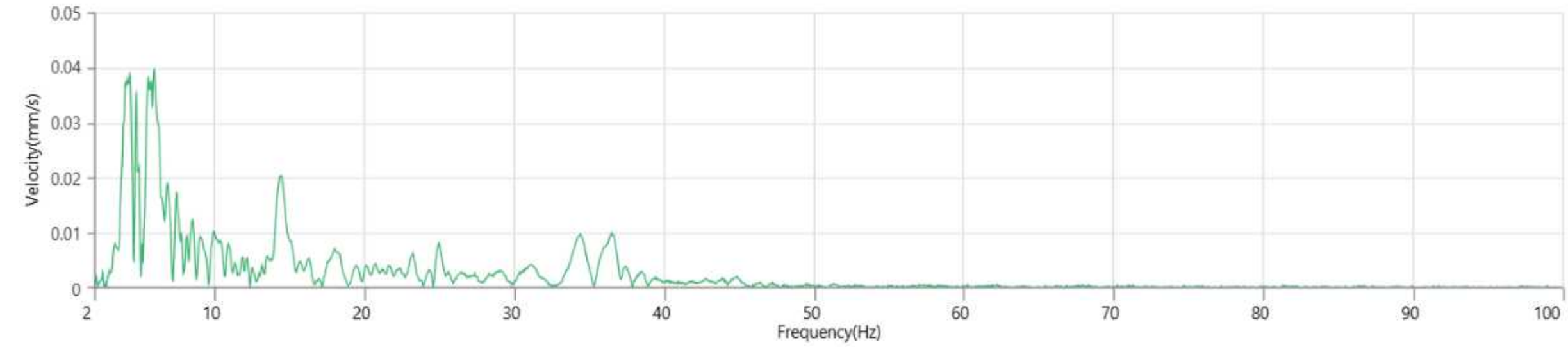
Notes
Location:
Client:
User Name: ORICA
General:

Post Event Notes No text to be displayed.

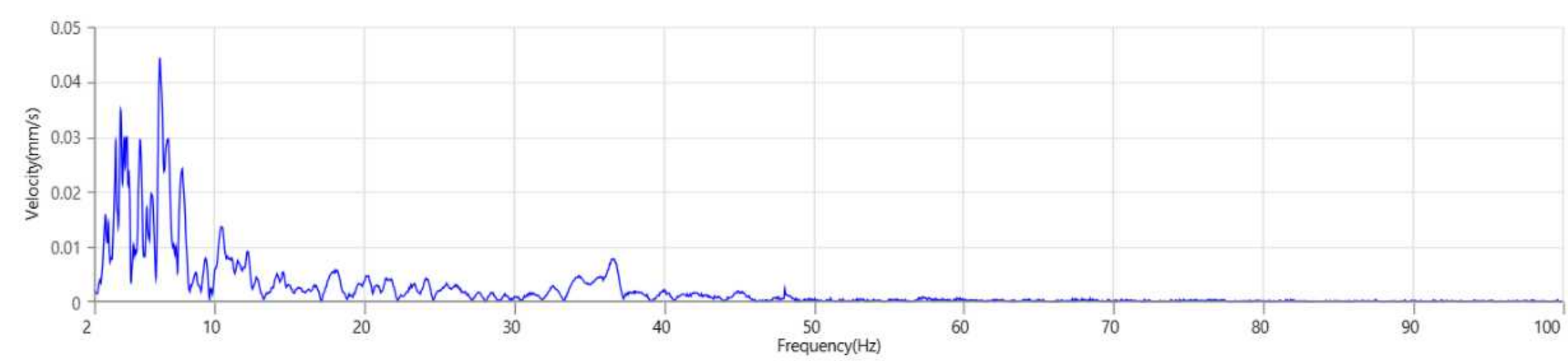
Tran - Dominant Frequency 6.2 Hz, Amplitude 0.047 mm/s (Peak Particle Velocity: 0.969 mm/s)



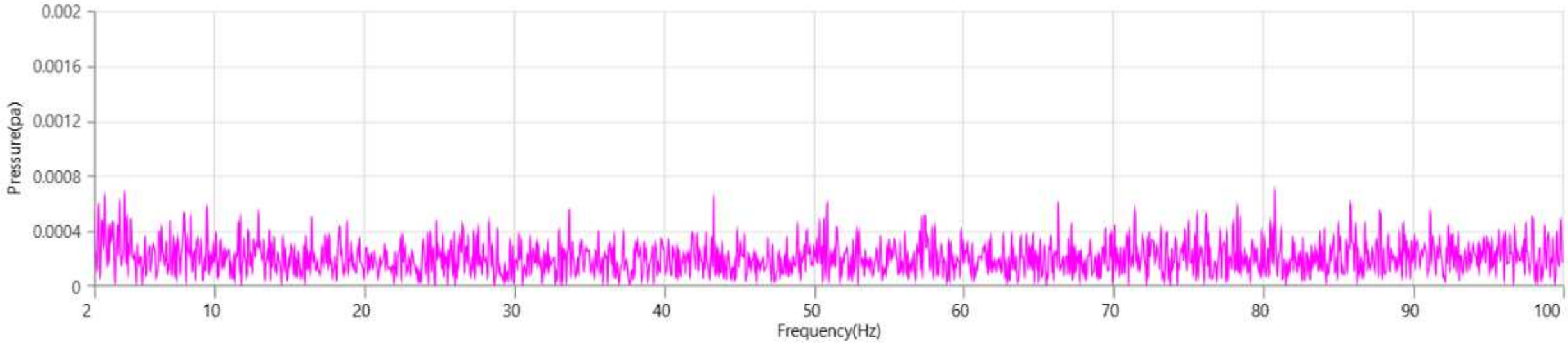
Vert - Dominant Frequency 6.0 Hz, Amplitude 0.040 mm/s (Peak Particle Velocity: 1.048 mm/s)



Long - Dominant Frequency 6.4 Hz, Amplitude 0.044 mm/s (Peak Particle Velocity: 0.843 mm/s)



MicL - Dominant Frequency 80.8 Hz, Amplitude 0.00 pa (Peak Sound Pressure Level: 0.09 pa)



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Waveform Trigger Source	Long at May 23, 2024 14:40:01
Trigger Level(s)	Geo 0.909 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	TATA STEEL.MMB
Operator	Operator
Job Number	7

Notes

Location:	
Client:	TATA STEEL
User Name:	
General:	

Serial Number	UM15994
Model Number	Micromate ISEE 10.90FB
Battery Level	3.7 volts
Unit Calibration	January 29, 2024 by UES New Delhi
Event File Name	UM15994_20240524144001.IDFW
USB Sensor Support	Disabled

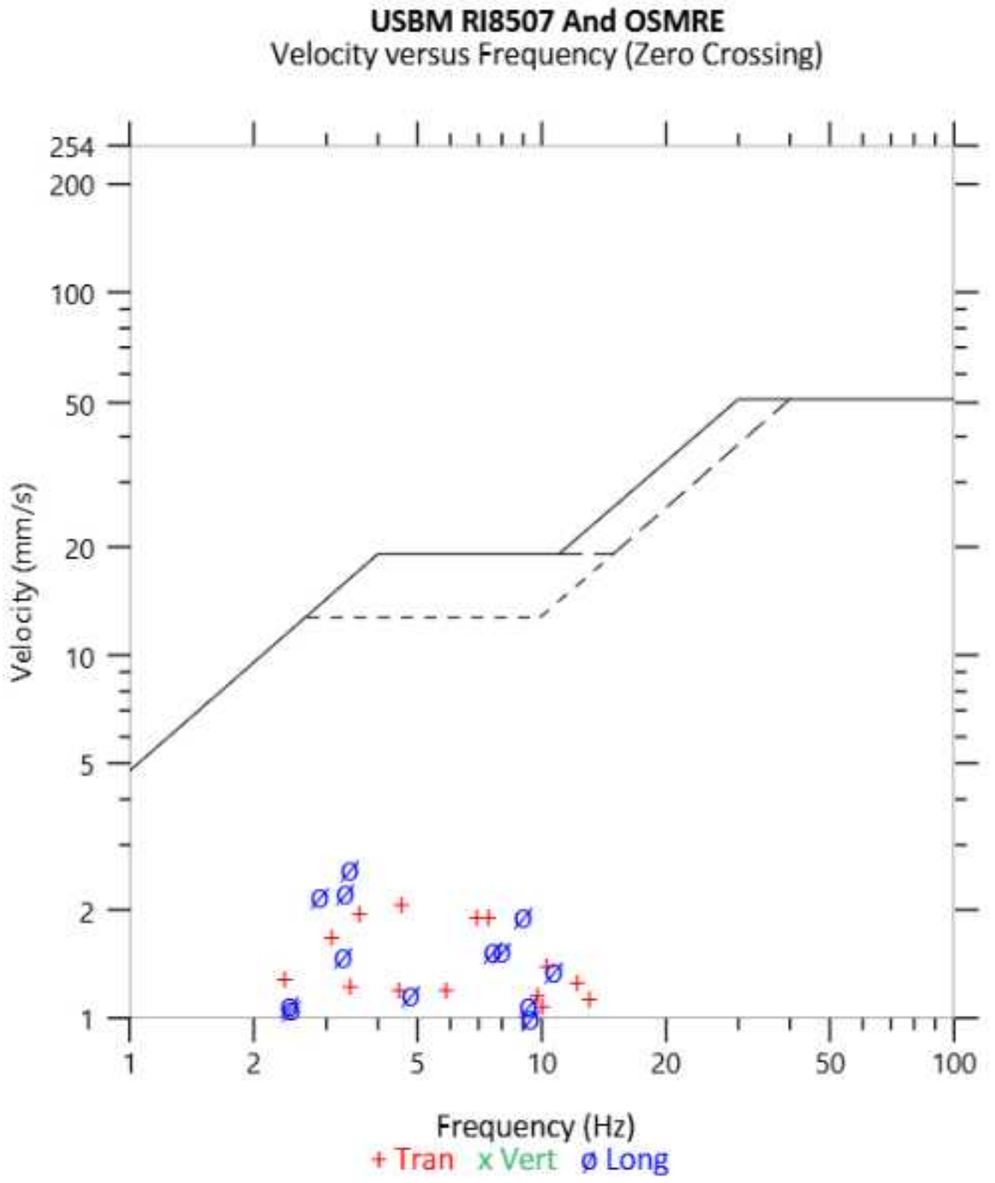
GPS Location	**Latitude**	**Longitude**
Source Location	000 0.000 N	000 0.000 W
Sensor Location	000 0.000 N	000 0.000 W
Distance	0.0 m	
Scaled Distance	26.8 (200.0 m, 55.6 kg)	

Extended Notes No text to be displayed.

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	2.104 mm/s	0.717 mm/s	2.625 mm/s
Zero Crossing Frequency	4.6 Hz	12.5 Hz	3.4 Hz
Time (Relative to Trigger)	1.631 sec	0.816 sec	1.232 sec
Peak Acceleration	0.015 g	0.013 g	0.018 g
Peak Displacement	0.083 mm	0.013 mm	0.106 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.5 Hz
Overswing Ratio	4.2	4.2	4.2
Peak Vector Sum	3.261 mm/s at 1.235 sec		

ISEE Linear Microphone	
Peak Sound Pressure Level	3.06 pa
Time (Relative to Trigger)	0.796 sec
Zero Crossing Frequency	7.3 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1147 mv

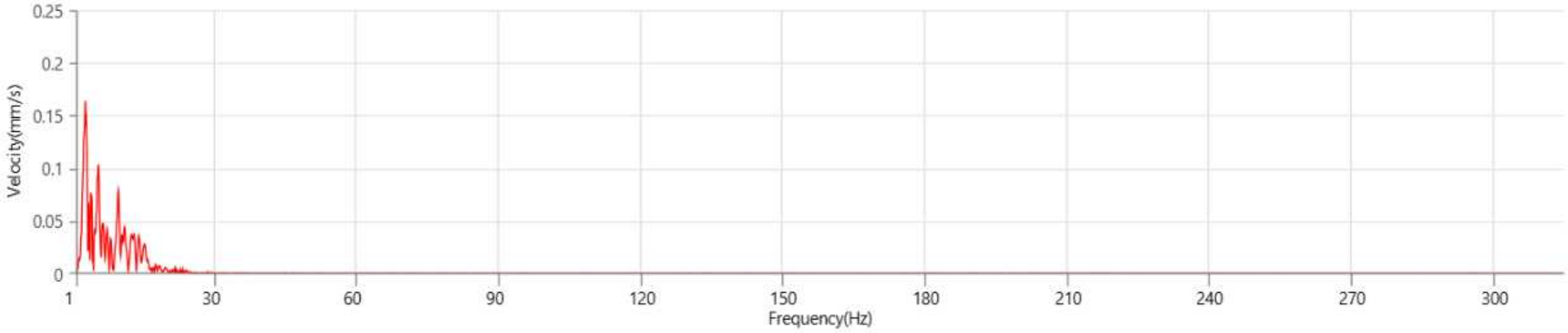


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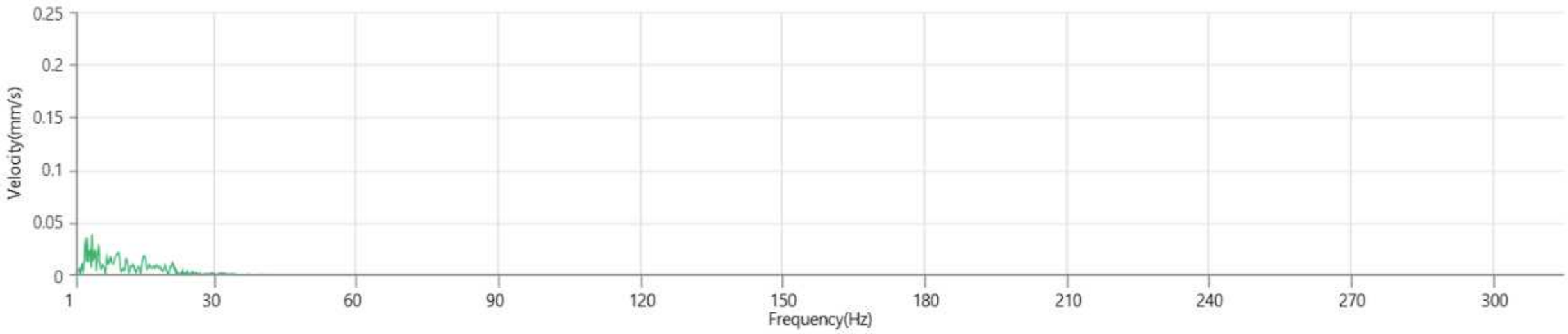
Waveform Trigger Source	Long at May 23, 2024 14:40:01	**Serial Number**	UM15994
Trigger Level(s)	Geo 0.909 mm/s	**Model Number**	Micromate ISEE 10.90FB
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.7 volts
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)	**Unit Calibration**	January 29, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15994_20240524144001.IDFW
Setup File Name	TATA STEEL.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	7	**GPS Location**	**Latitude** **Longitude**
		Source Location	000 0.000 N 000 0.000 W
Notes		**Sensor Location**	000 0.000 N 000 0.000 W
Location:		**Distance**	0.0 m
Client:	TATA STEEL	**Scaled Distance**	26.8 (200.0 m, 55.6 kg)
User Name:			
General:			

Extended Notes No text to be displayed.
Post Event Notes No text to be displayed.

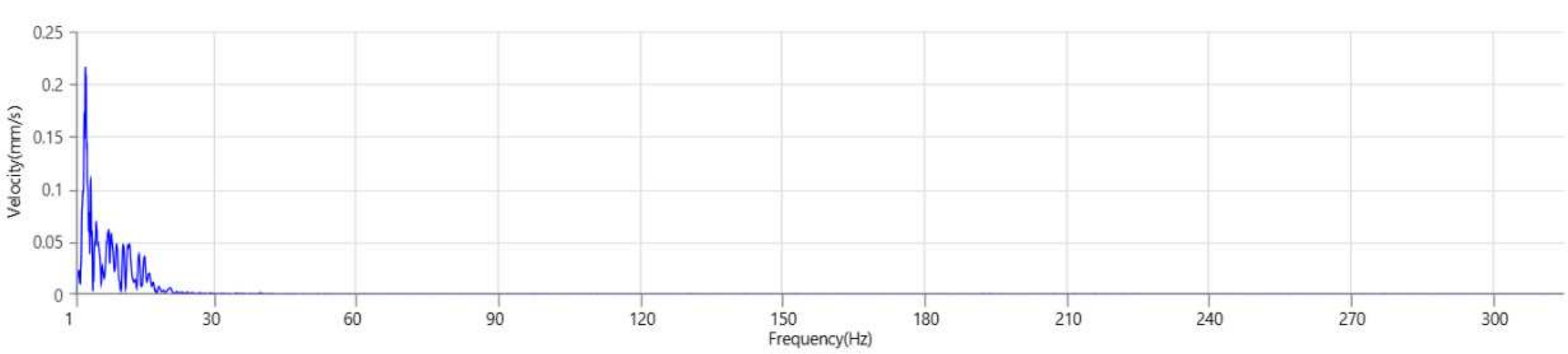
Tran - Dominant Frequency 2.9 Hz, Amplitude 0.164 mm/s (Peak Particle Velocity: 2.104 mm/s)



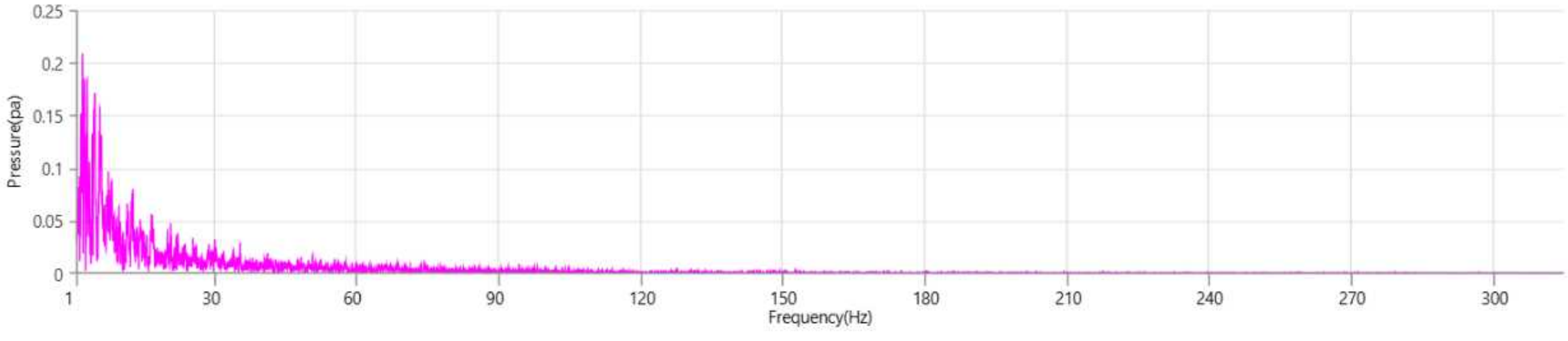
Vert - Dominant Frequency 4.3 Hz, Amplitude 0.039 mm/s (Peak Particle Velocity: 0.717 mm/s)



Long - Dominant Frequency 2.9 Hz, Amplitude 0.216 mm/s (Peak Particle Velocity: 2.625 mm/s)



MicL - Dominant Frequency 2.3 Hz, Amplitude 0.21 pa (Peak Sound Pressure Level: 3.06 pa)



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Waveform Trigger Source	Long at May 27, 2024 14:36:16
Trigger Level(s)	Geo 0.500 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	factory A.MMB
Operator	Operator
Job Number	1

Serial Number	UM15991
Model Number	Micromate ISEE 10.90
Battery Level	3.8 volts
Unit Calibration	January 12, 2024 by UES New Delhi
Event File Name	UM15991_20240527143616.IDFW
USB Sensor Support	Disabled

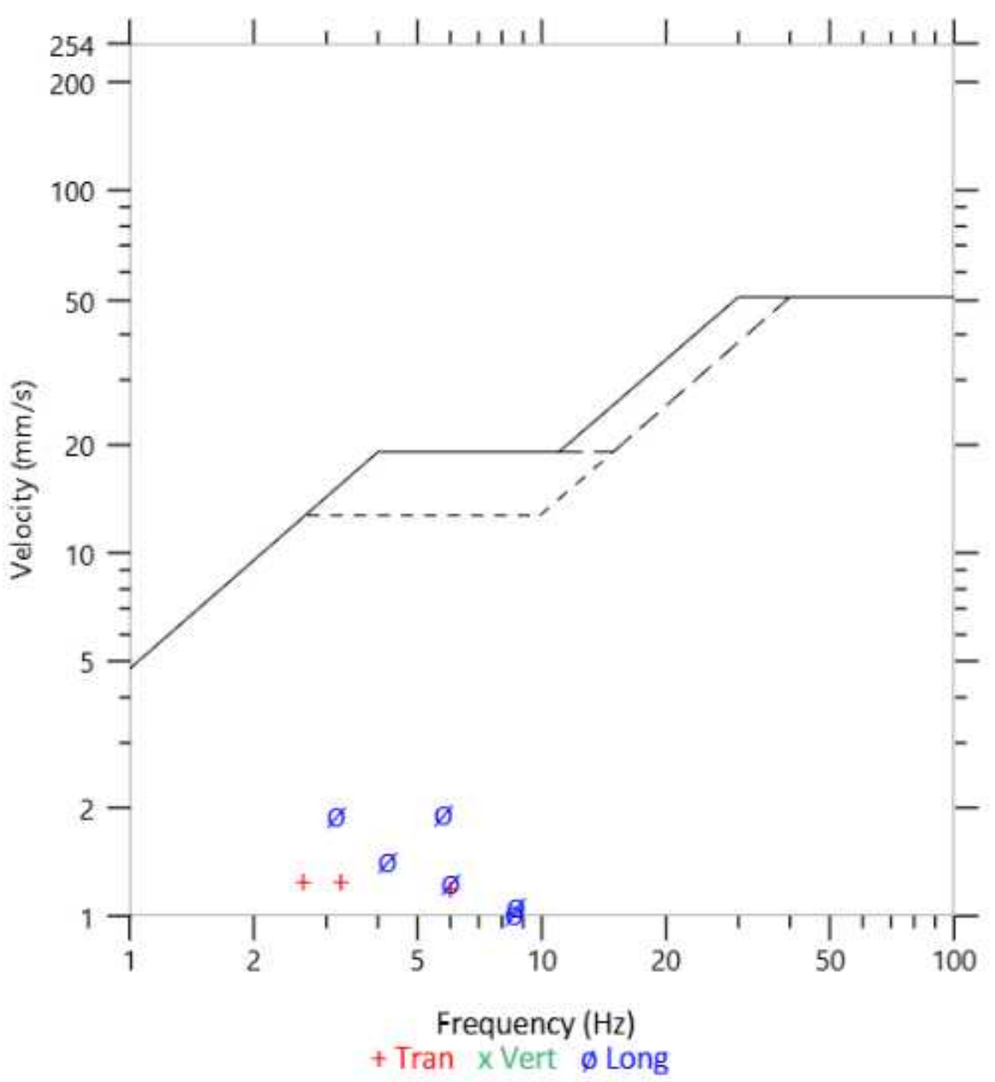
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.285 mm/s	0.725 mm/s	1.970 mm/s
Zero Crossing Frequency	3.3 Hz	3.6 Hz	5.8 Hz
Time (Relative to Trigger)	1.143 sec	0.747 sec	0.959 sec
Peak Acceleration	0.012 g	0.010 g	0.016 g
Peak Displacement	0.068 mm	0.031 mm	0.098 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.8	4.6	4.7
Peak Vector Sum	2.189 mm/s at 0.959 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	2.93 pa
Time (Relative to Trigger)	0.902 sec
Zero Crossing Frequency	5.3 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1153 mv



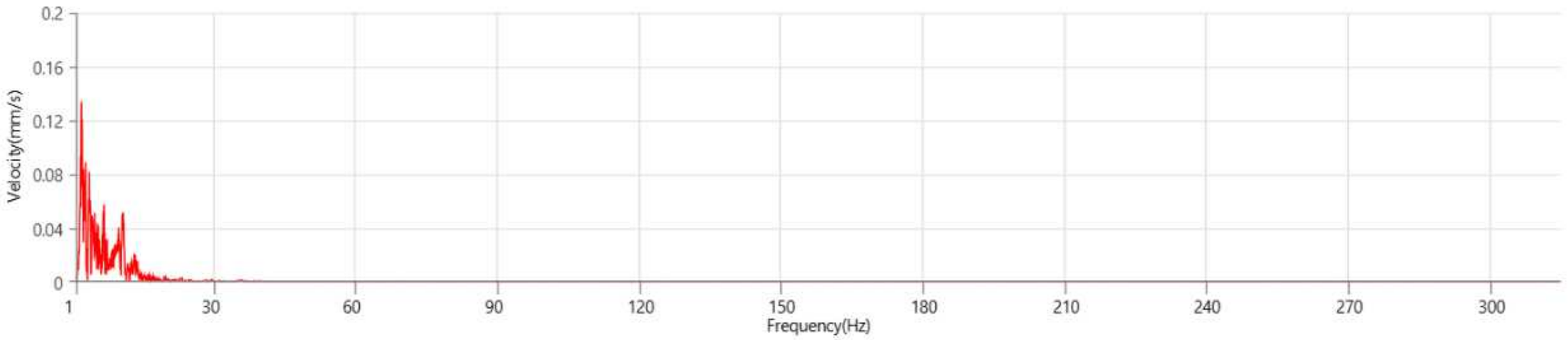
Format © 2021 Xmark Corporation

Waveform Trigger Source	Long at May 27, 2024 14:36:16	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.8 volts
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)	**Unit Calibration**	January 12, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15991_20240527143616.IDFW
Setup File Name	factory A.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	1		

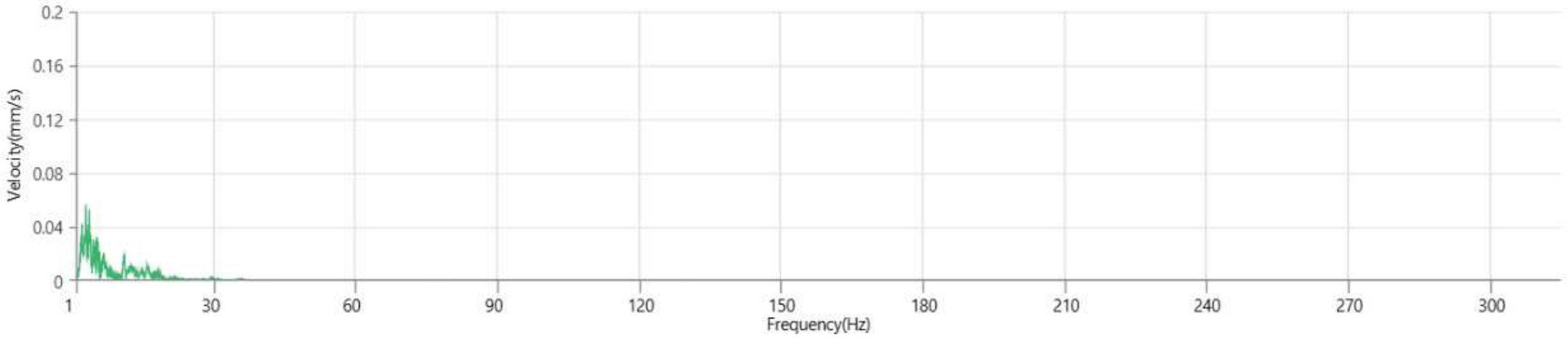
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

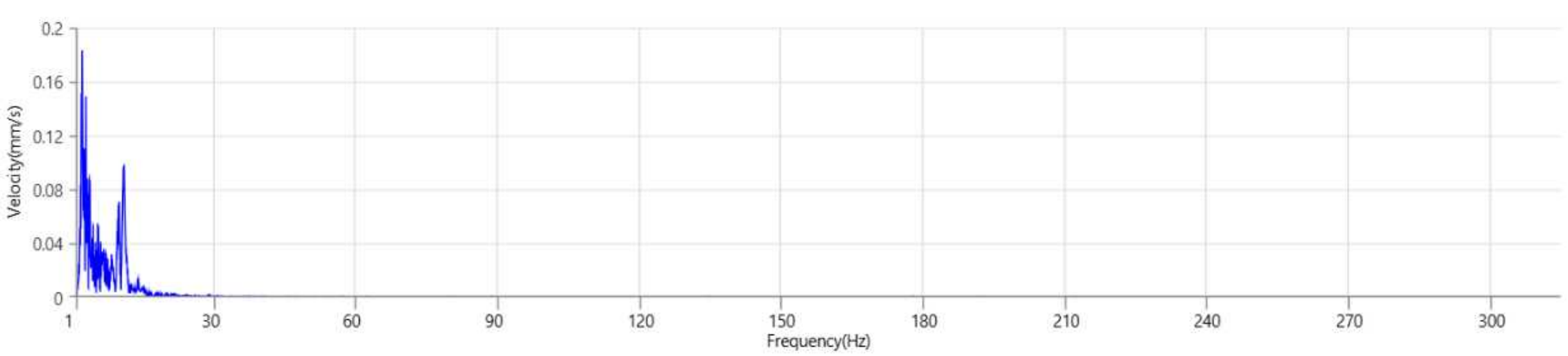
Tran - Dominant Frequency 2.1 Hz, Amplitude 0.132 mm/s (Peak Particle Velocity: 1.285 mm/s)



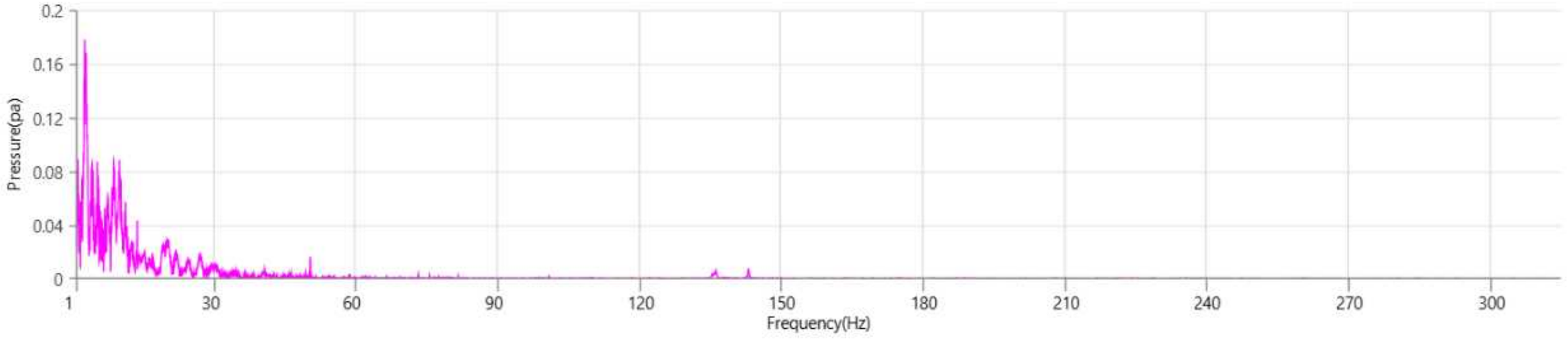
Vert - Dominant Frequency 3.1 Hz, Amplitude 0.055 mm/s (Peak Particle Velocity: 0.725 mm/s)



Long - Dominant Frequency 2.2 Hz, Amplitude 0.182 mm/s (Peak Particle Velocity: 1.970 mm/s)



MicL - Dominant Frequency 2.8 Hz, Amplitude 0.18 pa (Peak Sound Pressure Level: 2.93 pa)



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Waveform Trigger Source	Tran at May 5, 2024 13:46:23
Trigger Level(s)	Geo 0.500 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.00 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	factory A.MMB
Operator	Operator
Job Number	1

Serial Number	UM15991
Model Number	Micromate ISEE 10.90
Battery Level	3.7 volts
Unit Calibration	January 12, 2024 by UES New Delhi
Event File Name	UM15991_20240510134623.IDFW
USB Sensor Support	Disabled

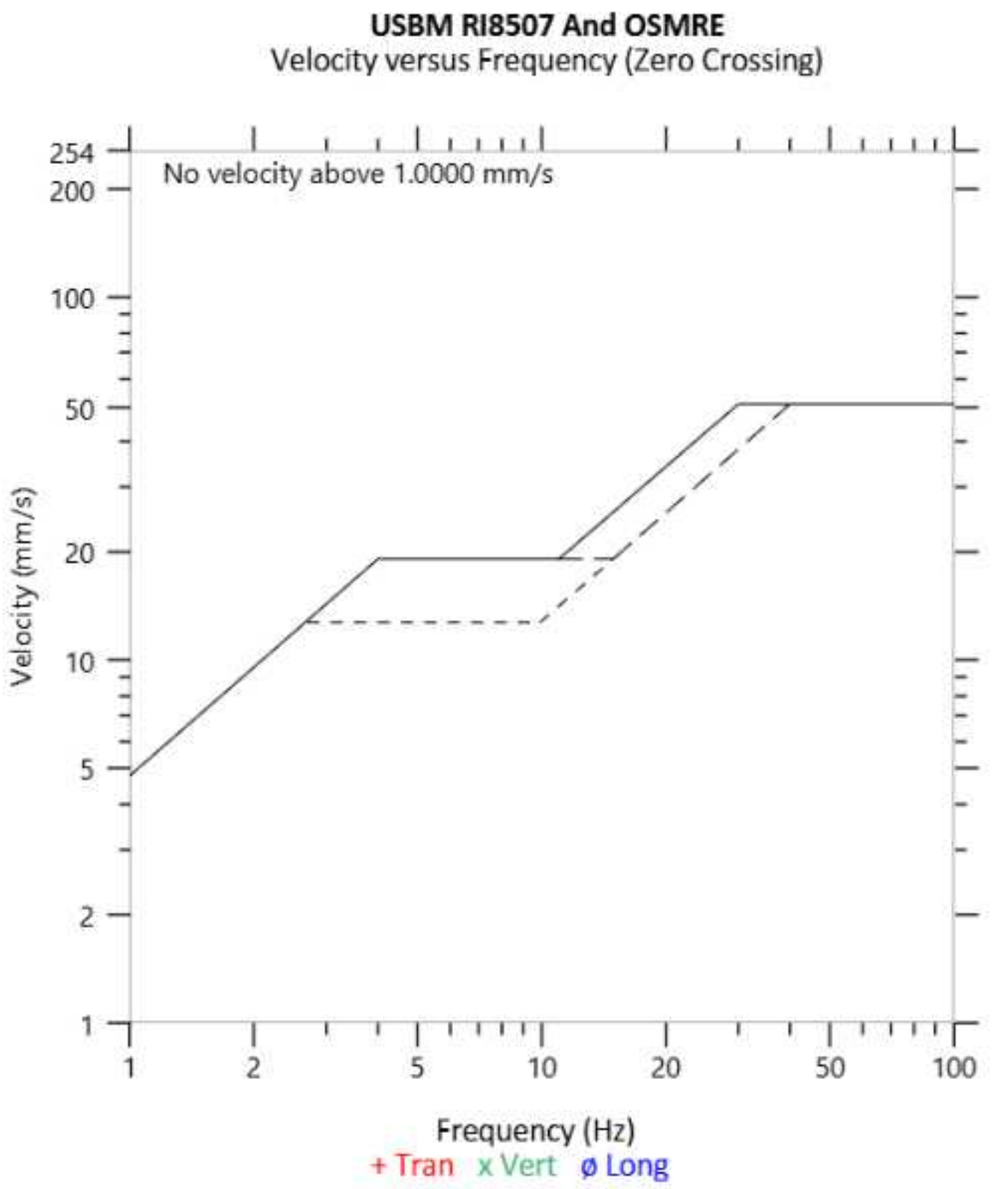
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.662 mm/s	0.457 mm/s	0.394 mm/s
Zero Crossing Frequency	3.6 Hz	3.6 Hz	3.9 Hz
Time (Relative to Trigger)	0.035 sec	0.638 sec	0.086 sec
Peak Acceleration	0.010 g	0.010 g	0.010 g
Peak Displacement	0.035 mm	0.019 mm	0.018 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.6	4.4	4.4
Peak Vector Sum	0.756 mm/s at 0.651 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	1.09 pa
Time (Relative to Trigger)	6.837 sec
Zero Crossing Frequency	11.9 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1152 mv



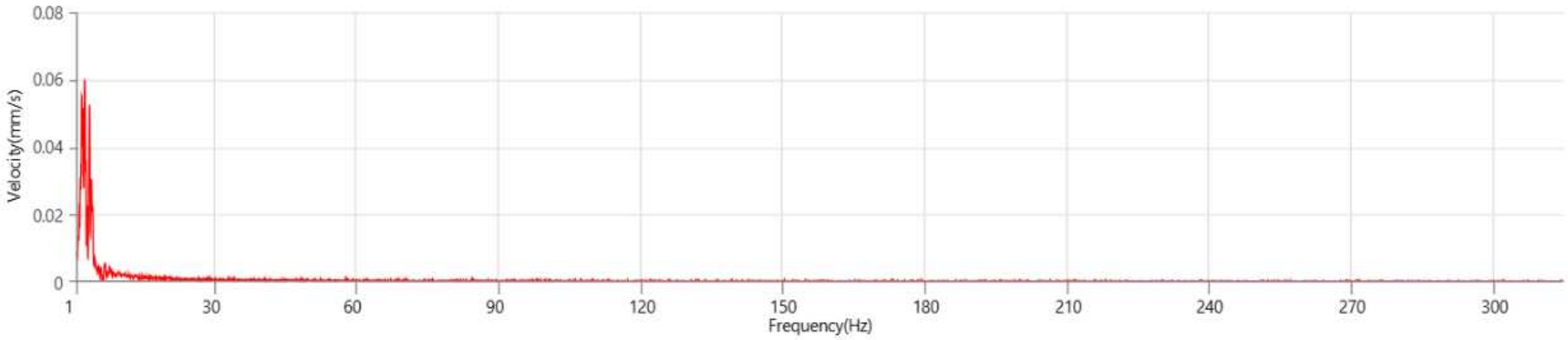
Format © 2021 Xmark Corporation

Waveform Trigger Source	Tran at May 10, 2024 13:46:23	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.7 volts
Pre-Trigger/Record Time	0.00 sec/9.0 sec (Fixed)	**Unit Calibration**	January 12, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15991_20240510134623.IDFW
Setup File Name	factory A.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	1		

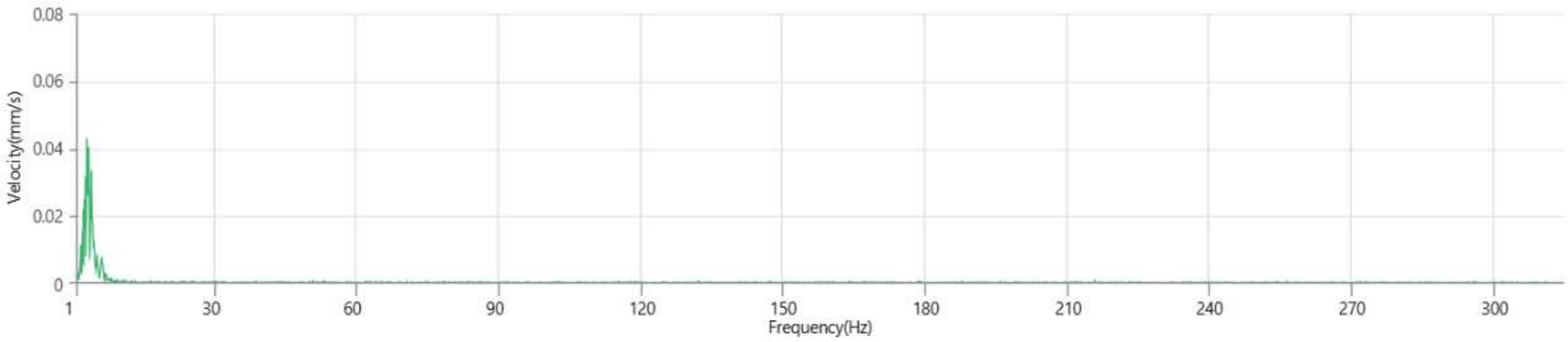
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

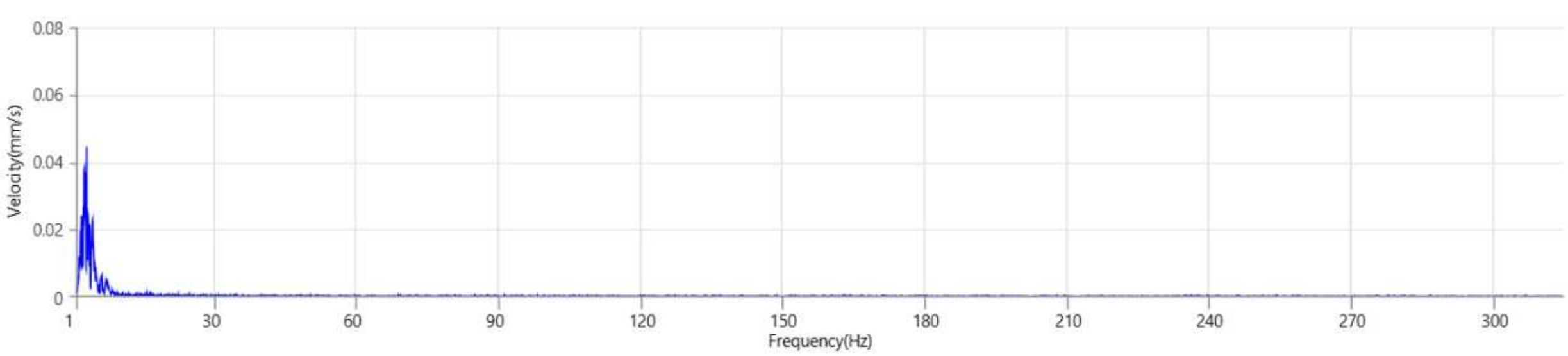
Tran - Dominant Frequency 2.8 Hz, Amplitude 0.060 mm/s (Peak Particle Velocity: 0.662 mm/s)



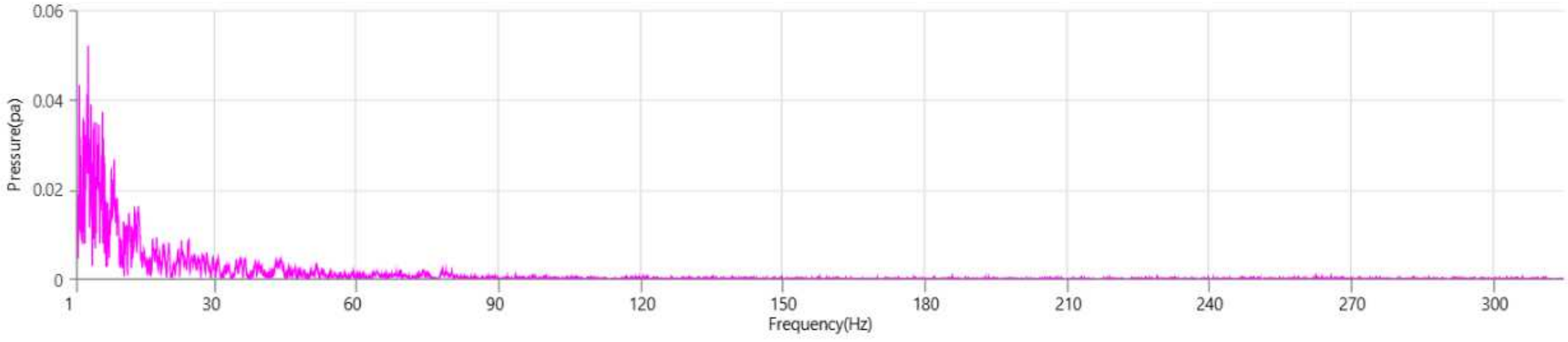
Vert - Dominant Frequency 3.2 Hz, Amplitude 0.043 mm/s (Peak Particle Velocity: 0.457 mm/s)



Long - Dominant Frequency 3.2 Hz, Amplitude 0.044 mm/s (Peak Particle Velocity: 0.394 mm/s)



MicL - Dominant Frequency 3.5 Hz, Amplitude 0.05 pa (Peak Sound Pressure Level: 1.09 pa)



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Waveform Trigger Source	Vert at May 11, 2024 13:52:41
Trigger Level(s)	Geo 0.500 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	factory A.MMB
Operator	Operator
Job Number	1

Serial Number	UM15991
Model Number	Micromate ISEE 10.90
Battery Level	3.8 volts
Unit Calibration	January 12, 2024 by UES New Delhi
Event File Name	UM15991_20240516135241.IDFW
USB Sensor Support	Disabled

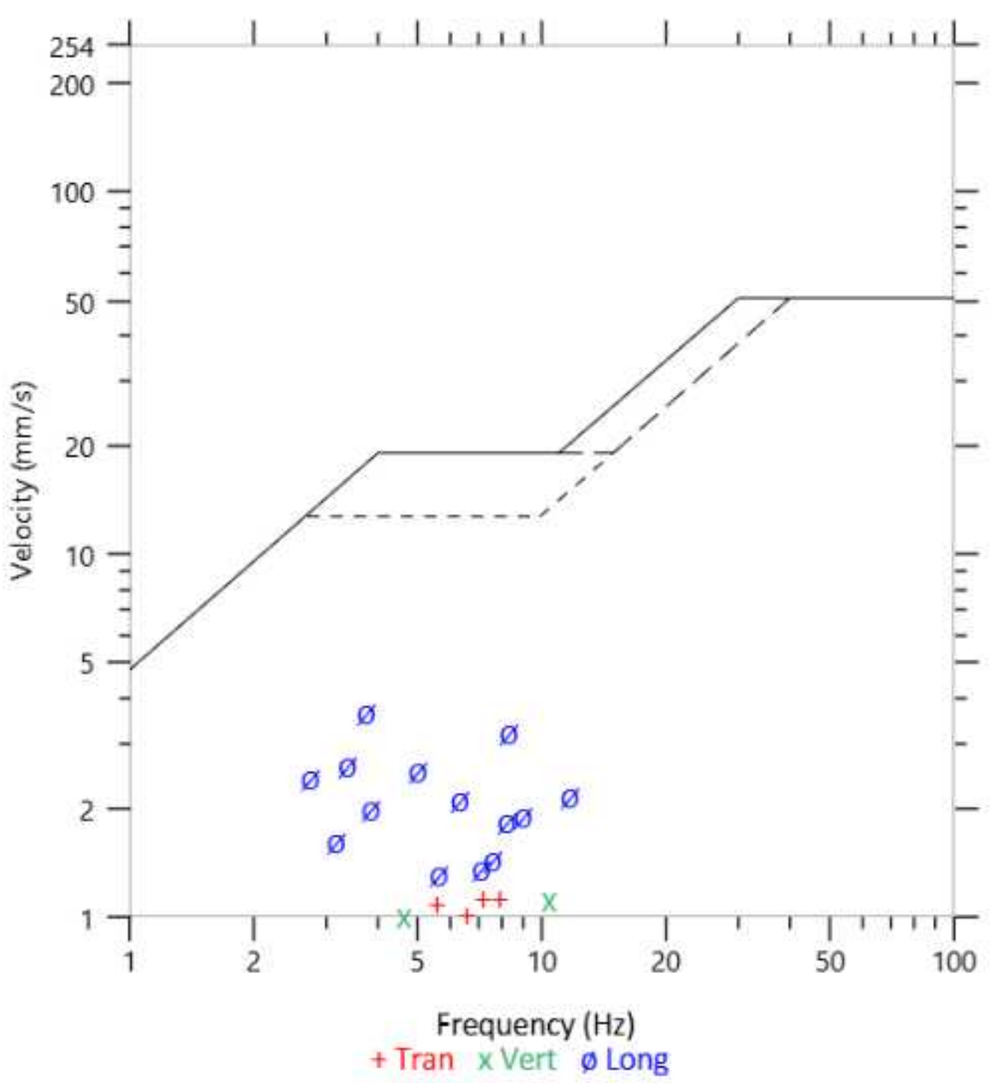
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.151 mm/s	1.135 mm/s	3.728 mm/s
Zero Crossing Frequency	7.2 Hz	10.3 Hz	3.8 Hz
Time (Relative to Trigger)	0.580 sec	0.825 sec	0.693 sec
Peak Acceleration	0.016 g	0.016 g	0.036 g
Peak Displacement	0.030 mm	0.032 mm	0.128 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.5 Hz
Overswing Ratio	4.6	4.5	4.4
Peak Vector Sum	3.889 mm/s at 0.693 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	6.70 pa
Time (Relative to Trigger)	1.179 sec
Zero Crossing Frequency	6.6 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1178 mv



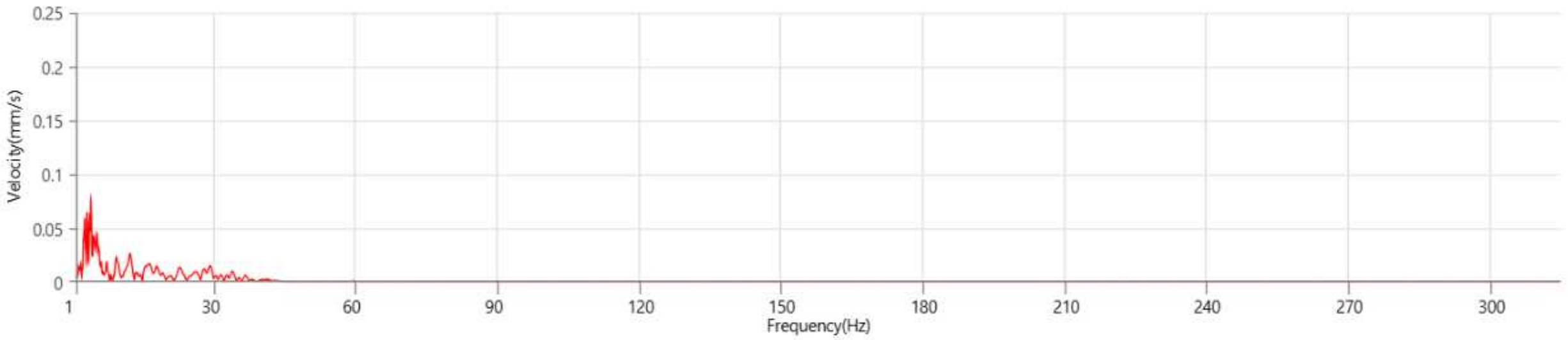
Format © 2021 Xmark Corporation

Waveform Trigger Source	Vert at May 16, 2024 13:52:41	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.8 volts
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)	**Unit Calibration**	January 12, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15991_20240516135241.IDFW
Setup File Name	factory A.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	1		

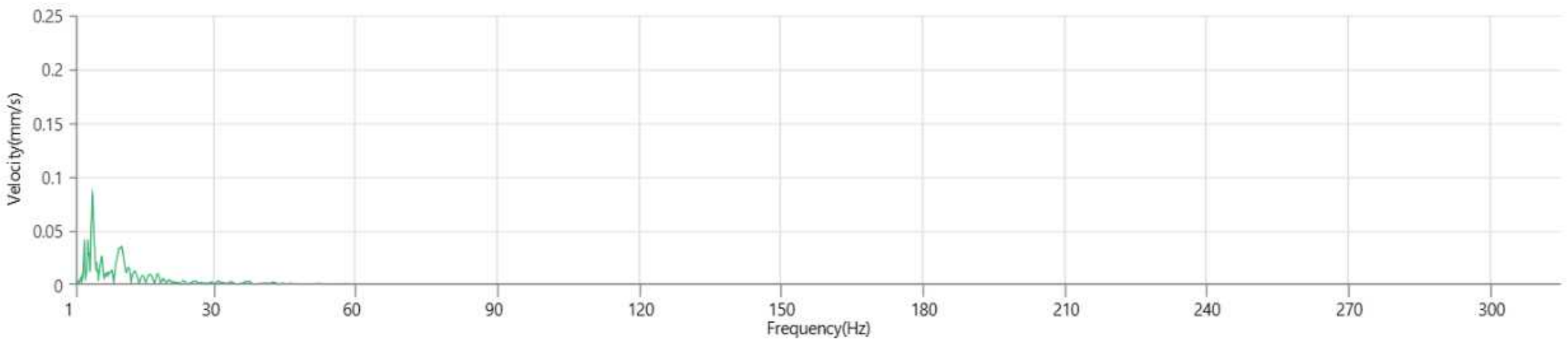
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

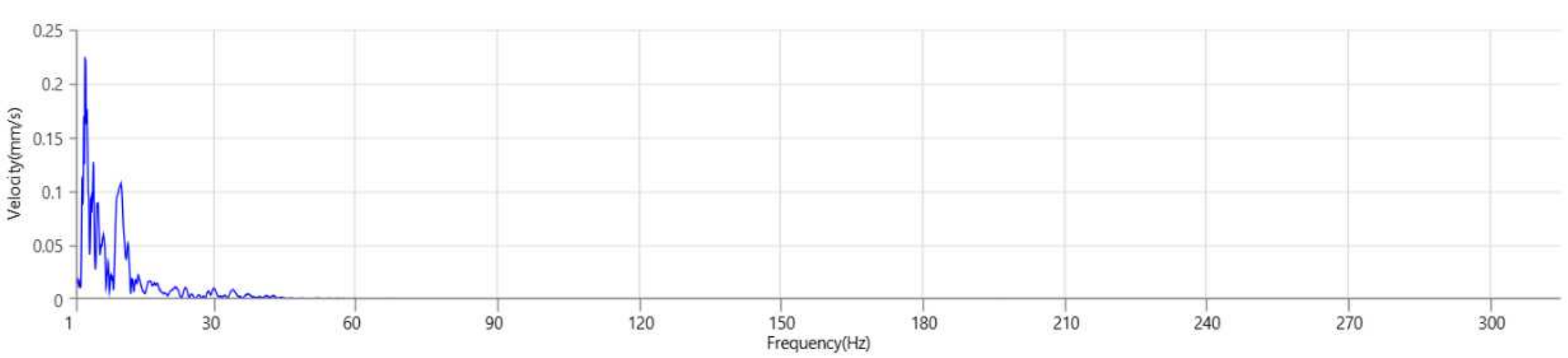
Tran - Dominant Frequency 4.1 Hz, Amplitude 0.077 mm/s (Peak Particle Velocity: 1.151 mm/s)



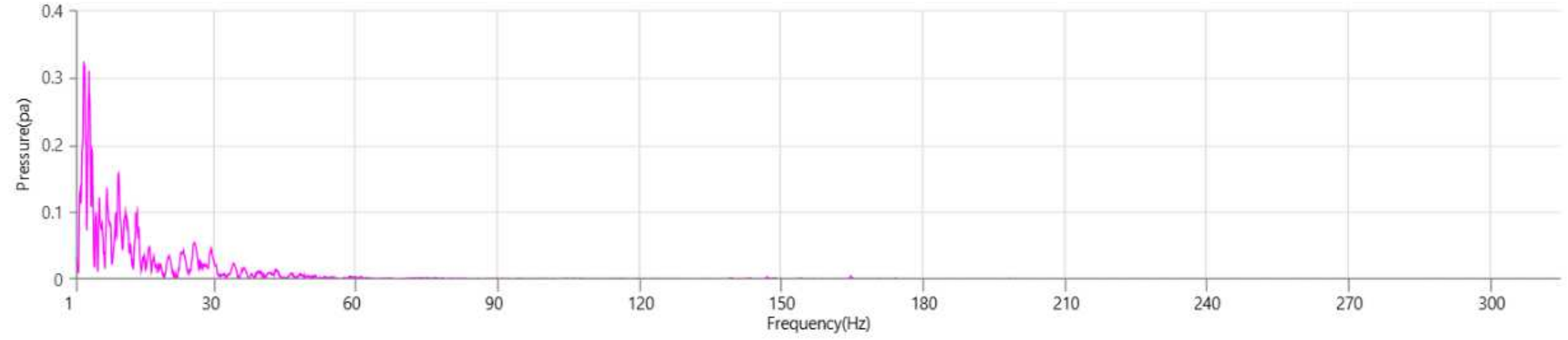
Vert - Dominant Frequency 4.4 Hz, Amplitude 0.084 mm/s (Peak Particle Velocity: 1.135 mm/s)



Long - Dominant Frequency 2.9 Hz, Amplitude 0.225 mm/s (Peak Particle Velocity: 3.728 mm/s)



MicL - Dominant Frequency 2.6 Hz, Amplitude 0.32 pa (Peak Sound Pressure Level: 6.70 pa)



Format © 2021 Xmark Corporation

Waveform Trigger Source	Tran at May 14, 2024 14:20:09
Trigger Level(s)	Geo 0.500 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	factory A.MMB
Operator	Operator
Job Number	1

Serial Number	UM15991
Model Number	Micromate ISEE 10.90
Battery Level	3.8 volts
Unit Calibration	January 12, 2024 by UES New Delhi
Event File Name	UM15991_20240513142009.IDFW
USB Sensor Support	Disabled

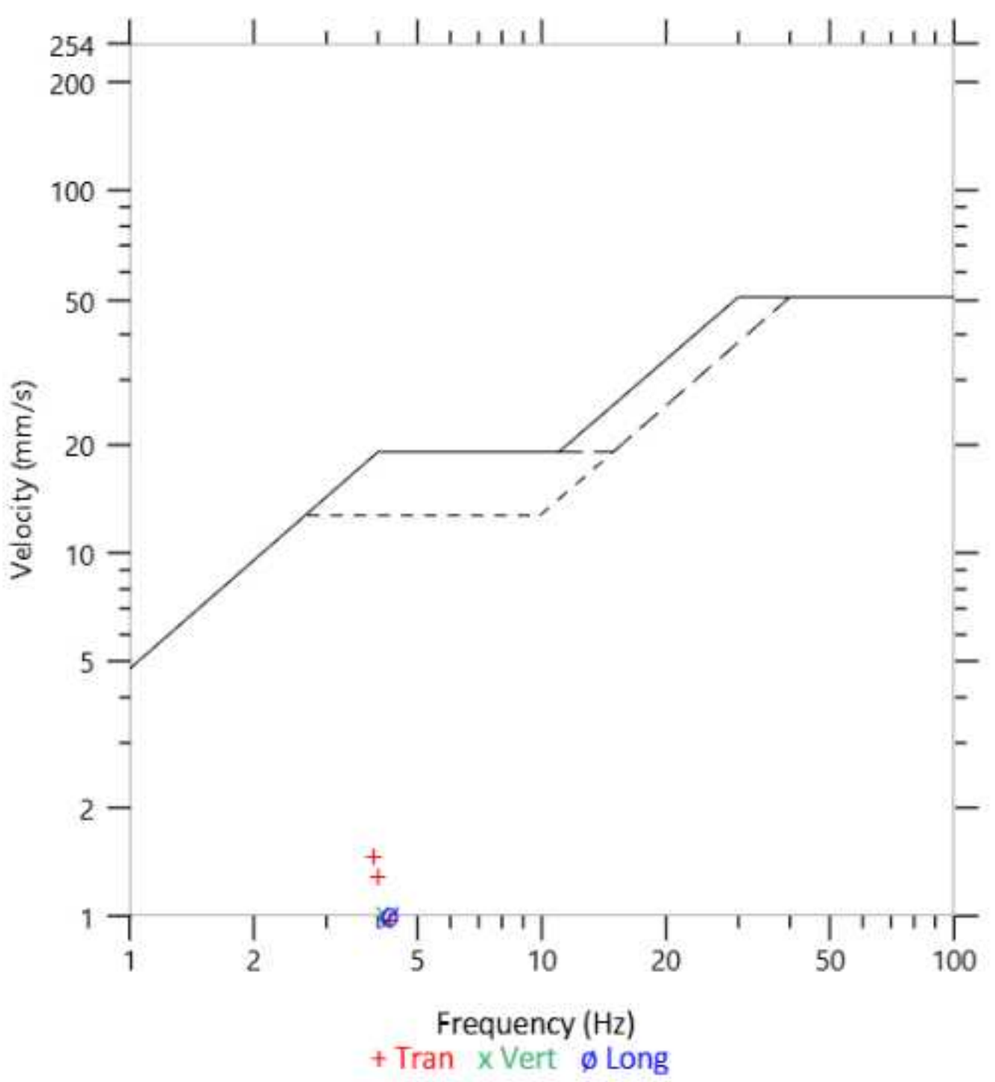
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.490 mm/s	1.025 mm/s	1.009 mm/s
Zero Crossing Frequency	3.9 Hz	4.1 Hz	4.2 Hz
Time (Relative to Trigger)	0.584 sec	0.909 sec	0.726 sec
Peak Acceleration	0.012 g	0.010 g	0.010 g
Peak Displacement	0.056 mm	0.038 mm	0.039 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.5 Hz
Overswing Ratio	4.6	4.5	4.4
Peak Vector Sum	1.560 mm/s at 0.710 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	6.25 pa
Time (Relative to Trigger)	0.394 sec
Zero Crossing Frequency	4.6 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1166 mv



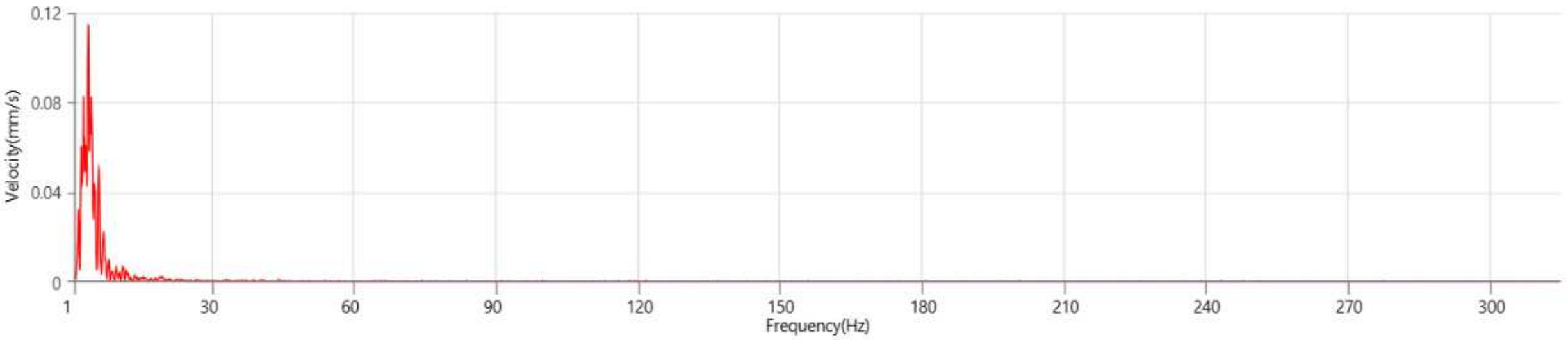
Format © 2021 Xmark Corporation

Waveform Trigger Source	Tran at May 13, 2024 14:20:09	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.8 volts
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Fixed)	**Unit Calibration**	January 12, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15991_20240513142009.IDFW
Setup File Name	factory A.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	1		

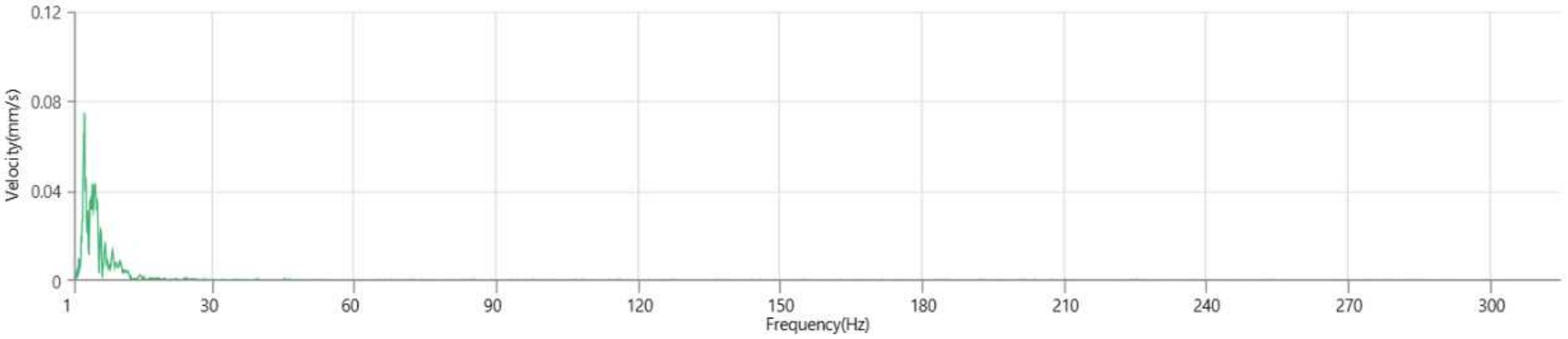
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

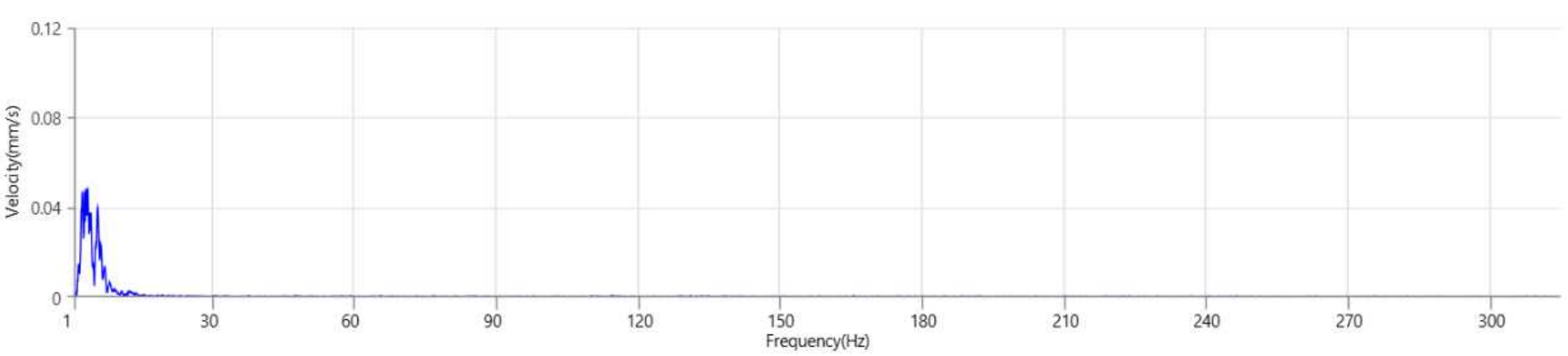
Tran - Dominant Frequency 4.0 Hz, Amplitude 0.114 mm/s (Peak Particle Velocity: 1.490 mm/s)



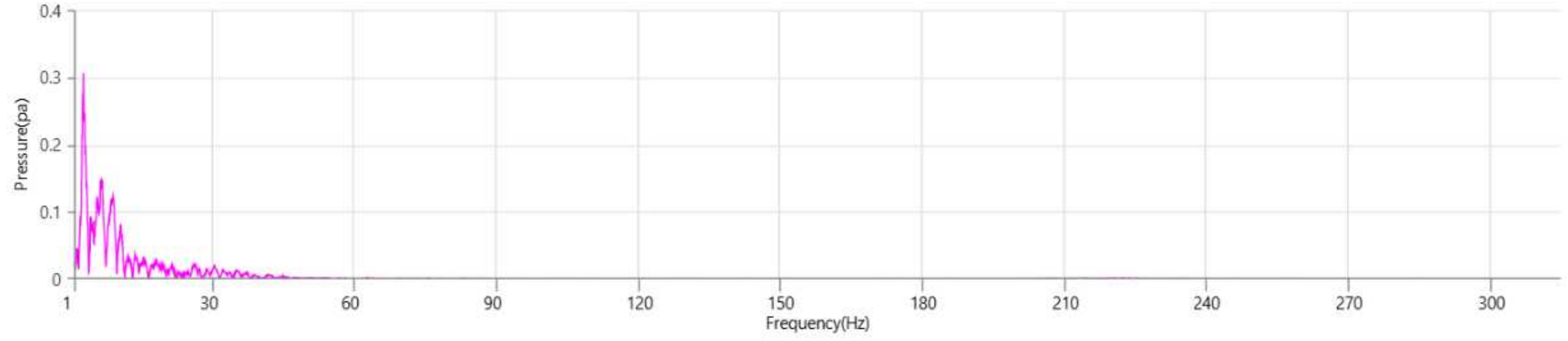
Vert - Dominant Frequency 3.1 Hz, Amplitude 0.075 mm/s (Peak Particle Velocity: 1.025 mm/s)



Long - Dominant Frequency 3.4 Hz, Amplitude 0.048 mm/s (Peak Particle Velocity: 1.009 mm/s)



MicL - Dominant Frequency 2.9 Hz, Amplitude 0.31 pa (Peak Sound Pressure Level: 6.25 pa)



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Waveform Trigger Source	Tran at May 21, 2024 13:46:23
Trigger Level(s)	Geo 0.500 mm/s
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)
Pre-Trigger/Record Time	0.00 sec/9.0 sec (Fixed)
Sample Rate	2048 sps
Setup File Name	factory A.MMB
Operator	Operator
Job Number	1

Serial Number	UM15991
Model Number	Micromate ISEE 10.90
Battery Level	3.7 volts
Unit Calibration	January 12, 2024 by UES New Delhi
Event File Name	UM15991_20240510134623.IDFW
USB Sensor Support	Disabled

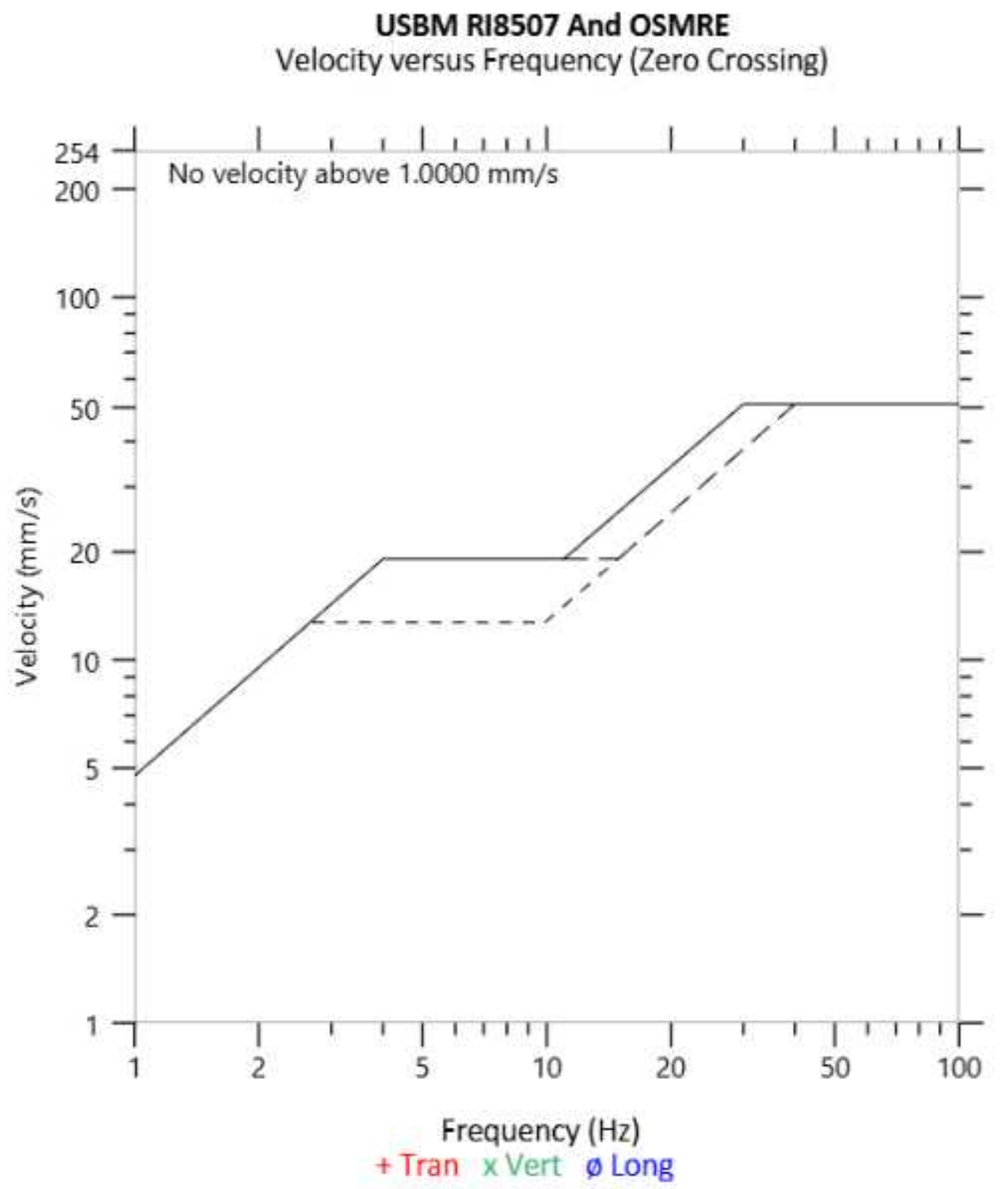
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.662 mm/s	0.457 mm/s	0.394 mm/s
Zero Crossing Frequency	3.6 Hz	3.6 Hz	3.9 Hz
Time (Relative to Trigger)	0.035 sec	0.638 sec	0.086 sec
Peak Acceleration	0.010 g	0.010 g	0.010 g
Peak Displacement	0.035 mm	0.019 mm	0.018 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.6	4.4	4.4
Peak Vector Sum	0.756 mm/s at 0.651 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	1.09 pa
Time (Relative to Trigger)	6.837 sec
Zero Crossing Frequency	11.9 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1152 mv



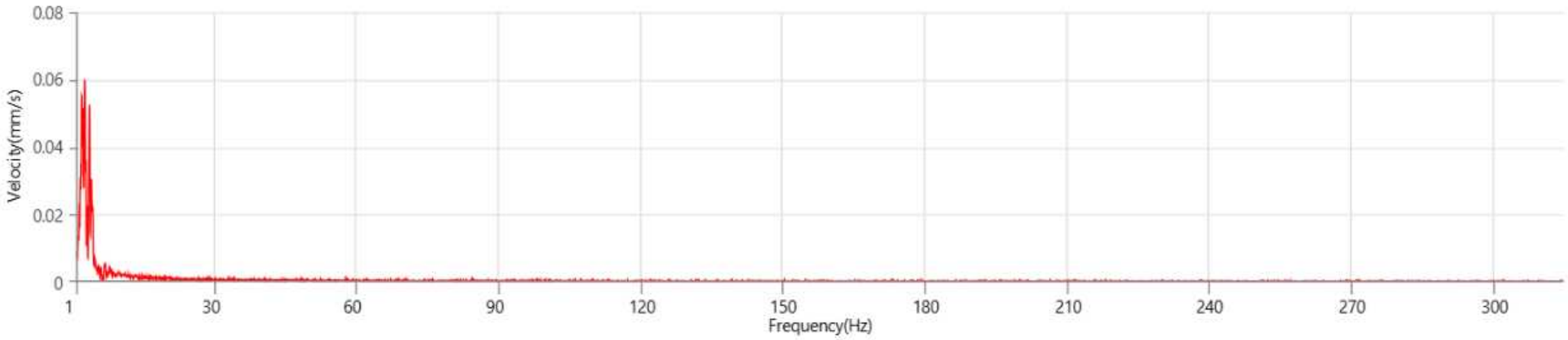
Format © 2021 Xmark Corporation

Waveform Trigger Source	Tran at May 10, 2024 13:46:23	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Trigger Level (Mic)	Mic 2.00 pa, 100 dB(L)	**Battery Level**	3.7 volts
Pre-Trigger/Record Time	0.00 sec/9.0 sec (Fixed)	**Unit Calibration**	January 12, 2024 by UES New Delhi
Sample Rate	2048 sps	**Event File Name**	UM15991_20240510134623.IDFW
Setup File Name	factory A.MMB	**USB Sensor Support**	Disabled
Operator	Operator		
Job Number	1		

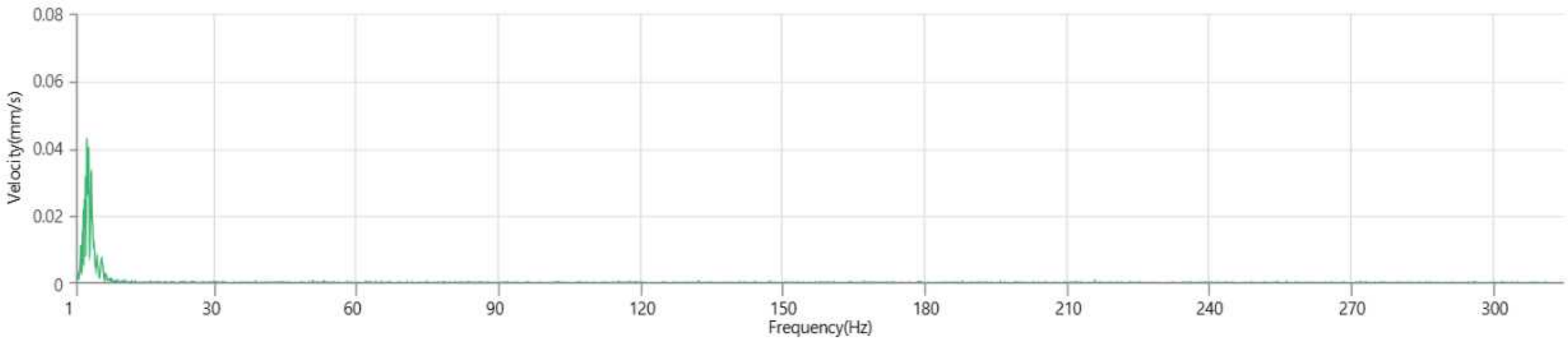
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

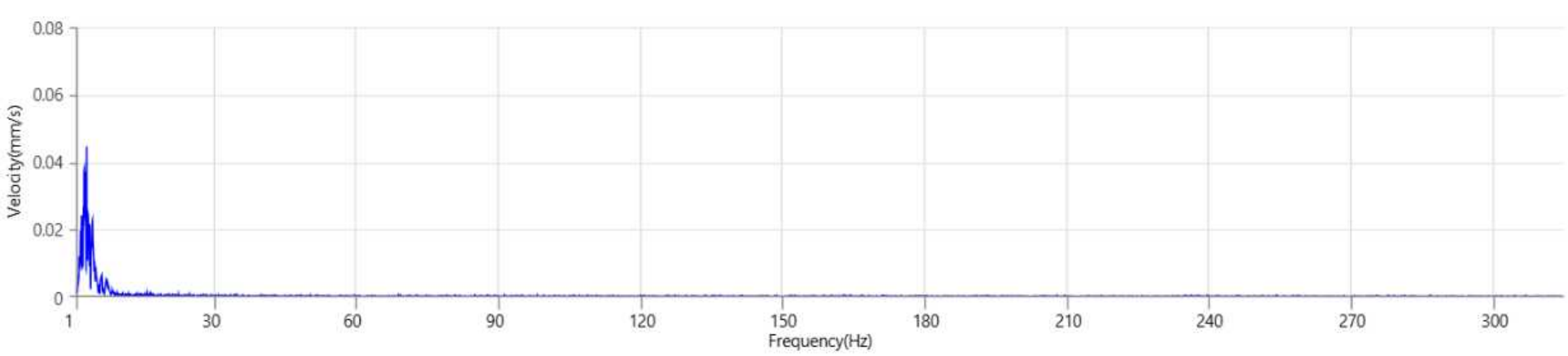
Tran - Dominant Frequency 2.8 Hz, Amplitude 0.060 mm/s (Peak Particle Velocity: 0.662 mm/s)



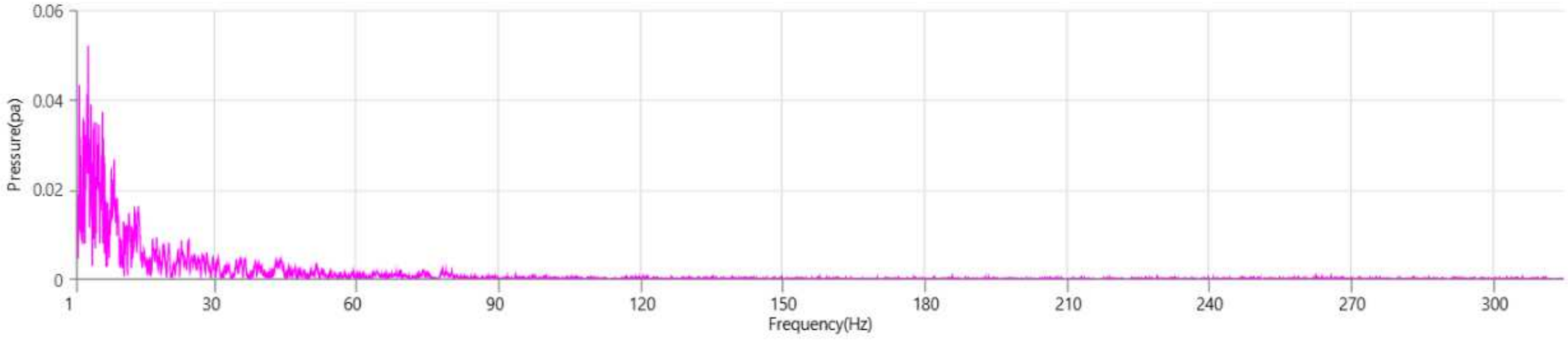
Vert - Dominant Frequency 3.2 Hz, Amplitude 0.043 mm/s (Peak Particle Velocity: 0.457 mm/s)



Long - Dominant Frequency 3.2 Hz, Amplitude 0.044 mm/s (Peak Particle Velocity: 0.394 mm/s)



MicL - Dominant Frequency 3.5 Hz, Amplitude 0.05 pa (Peak Sound Pressure Level: 1.09 pa)



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Event Report

Date/Time	Long at 14:39:46 July 10, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	13.041 sec (Auto=10Sec) at 2048 sps
Job Number:	1
Operator/Setup:	Operator/factory.MMB

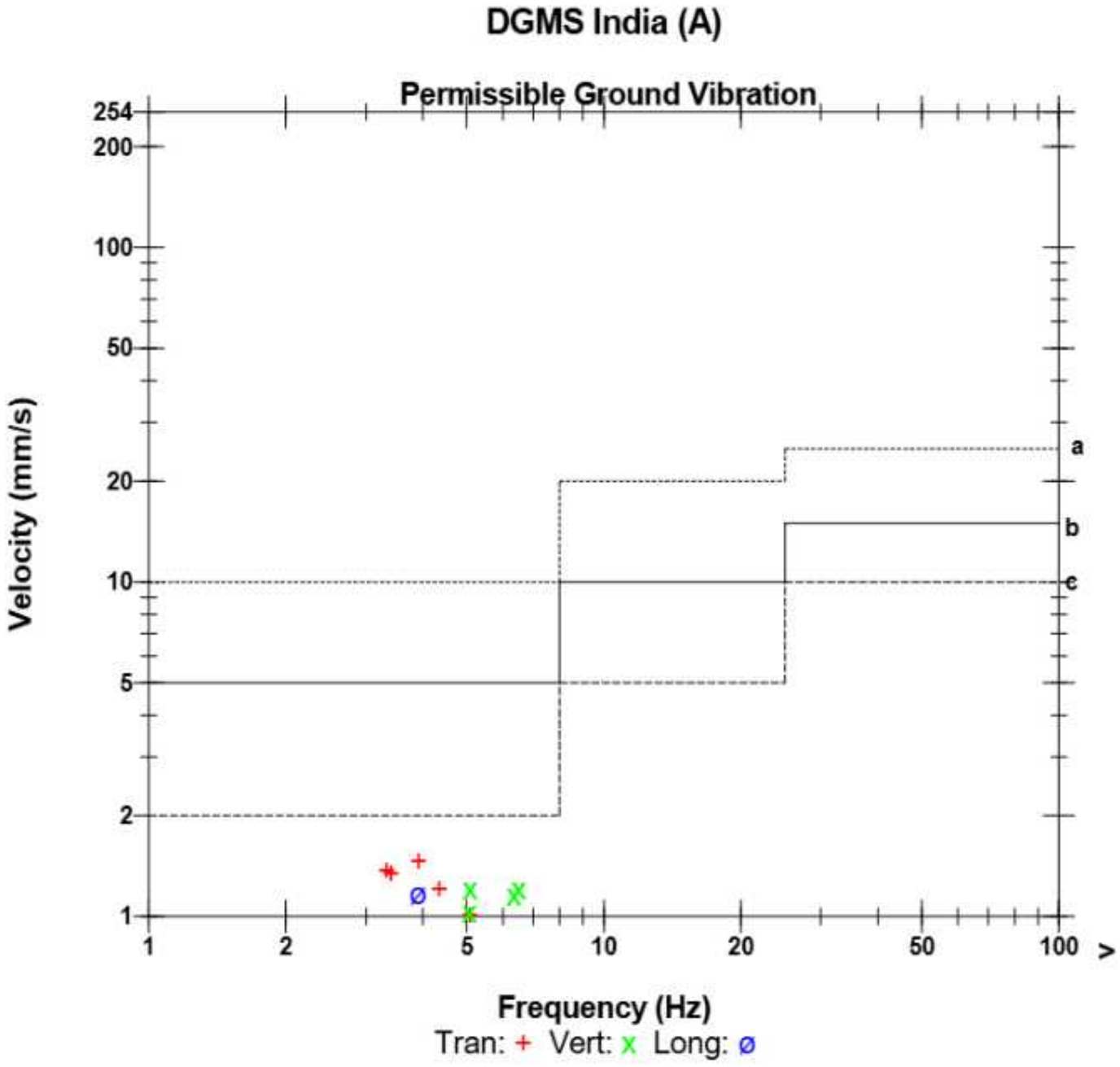
Serial Number	UM15992 V 10-90FB Micromate ISEE
Battery Level	3.4 Volts
Unit Calibration	October 19, 2023 by UES New Delhi
File Name	__TEMP.EVT

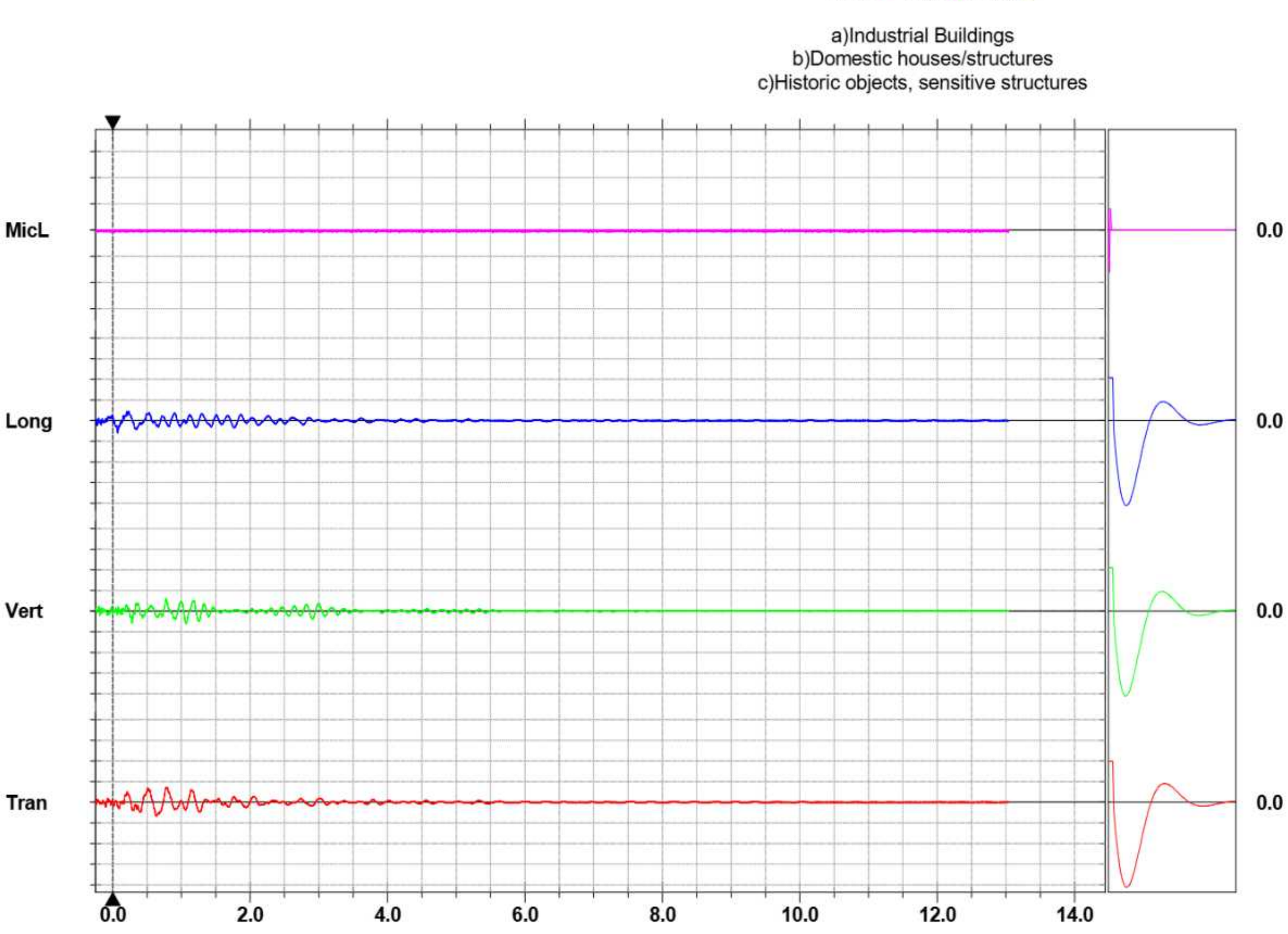
Notes
Location:
Client:
User Name: ORICA
General:

Microphone	Linear Weighting
PSPL	<88 dB(L)
ZC Freq	>200 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	1.458	1.214	1.174	mm/s
ZC Freq	3.9	6.5	3.9	Hz
Time (Rel. to Trig)	0.784	1.065	0.072	sec
Peak Acceleration	0.016	0.018	0.013	g
Peak Displacement	0.063	0.029	0.036	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.5	7.3	Hz
Overswing Ratio	4.6	4.4	4.5	

Peak Vector Sum 1.883 mm/s at 0.780 sec
N/A: Not Applicable





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

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Event Report

Date/Time	Tran at 14:18:01 July 13, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	12.834 sec (Auto=10Sec) at 2048 sps
Job Number:	1
Operator/Setup:	Operator/factory.MMB

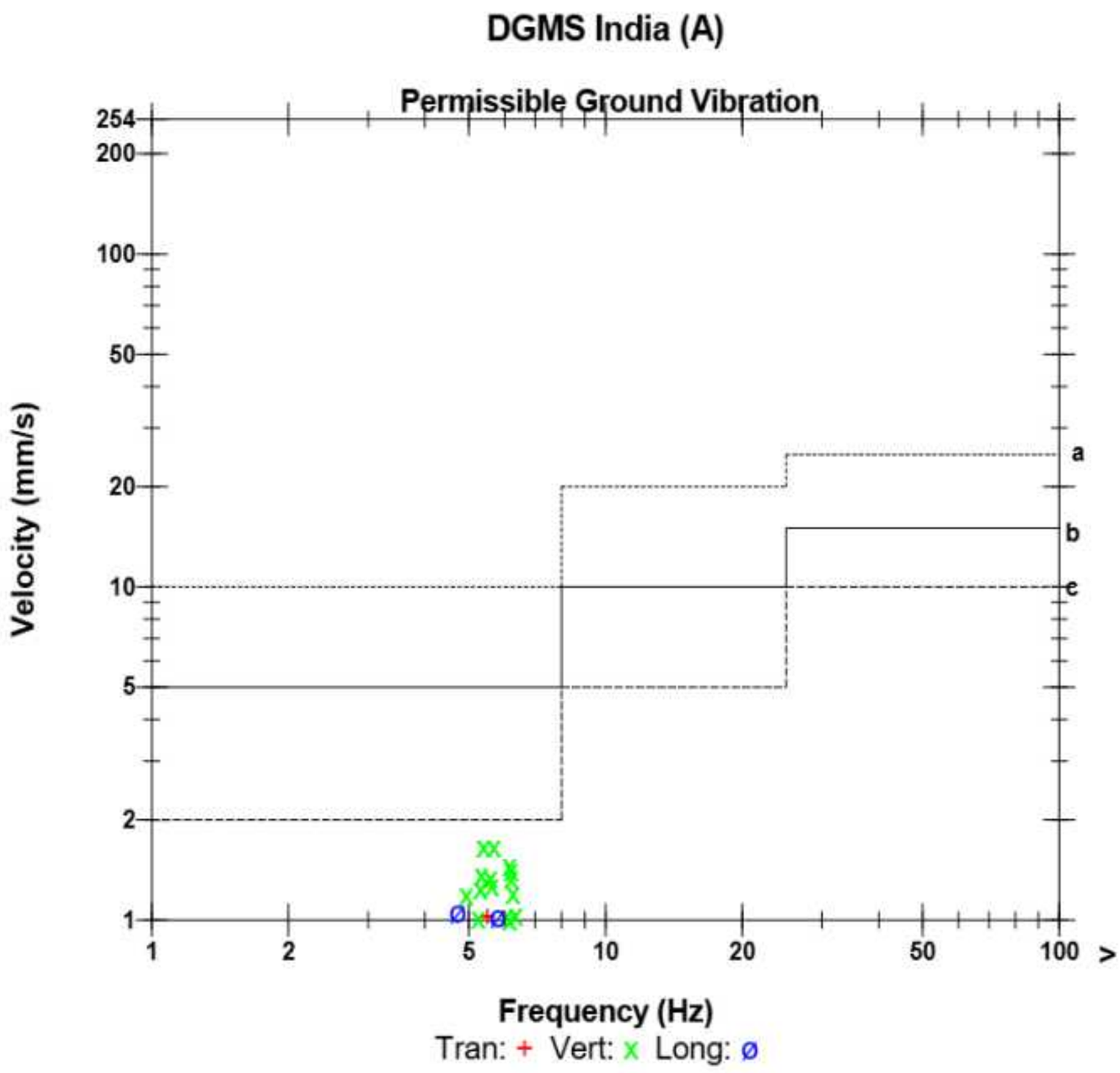
Serial Number	UM15992 V 10-90FB Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	October 19, 2023 by UES New Delhi
File Name	__TEMP.EVT

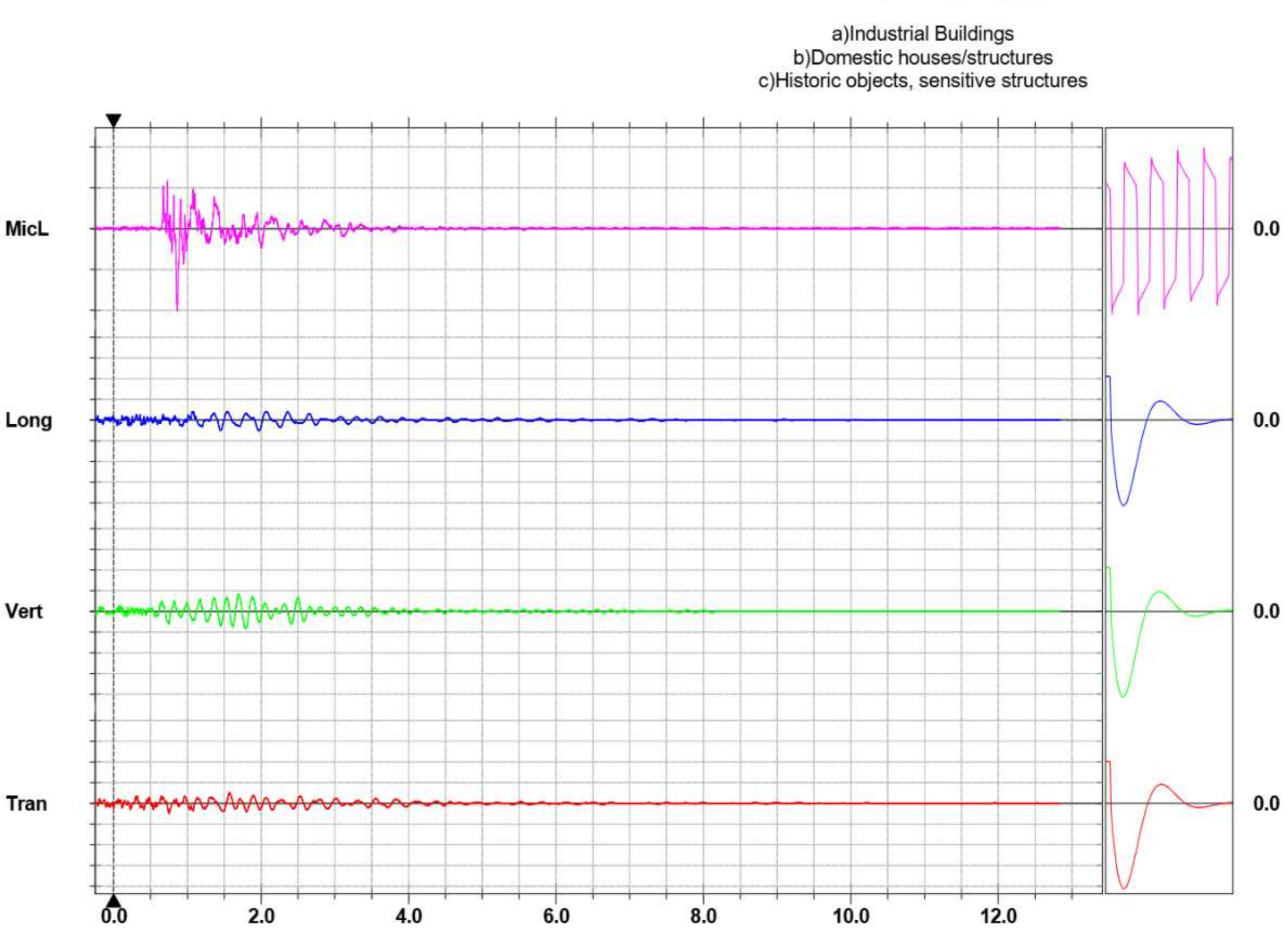
Notes
Location:
Client:
User Name: ORICA
General:

Microphone	Linear Weighting
PSPL	114.1 dB(L) at 0.861 sec
ZC Freq	6.8 Hz
Channel Test	Passed (Freq = 19.7 Hz Amp = 1172 mv)

	Tran	Vert	Long	
PPV	1.033	1.671	1.064	mm/s
ZC Freq	5.5	5.7	4.7	Hz
Time (Rel. to Trig)	1.572	1.690	1.973	sec
Peak Acceleration	0.012	0.016	0.016	g
Peak Displacement	0.029	0.050	0.035	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.5	7.3	Hz
Overswing Ratio	4.5	4.3	4.5	

Peak Vector Sum 1.919 mm/s at 1.793 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 5.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

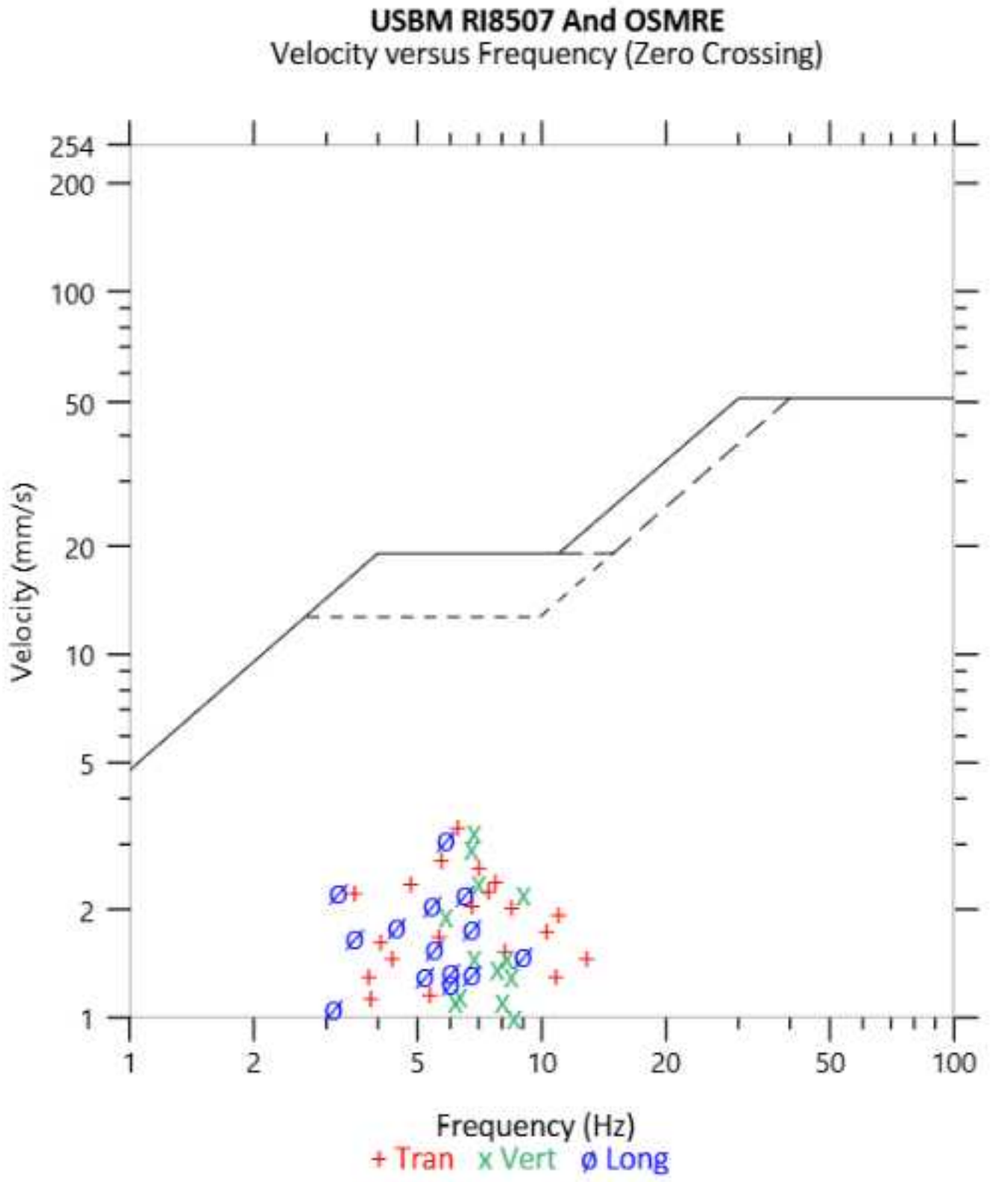
Format © 1995-2015 Xmark Corporation

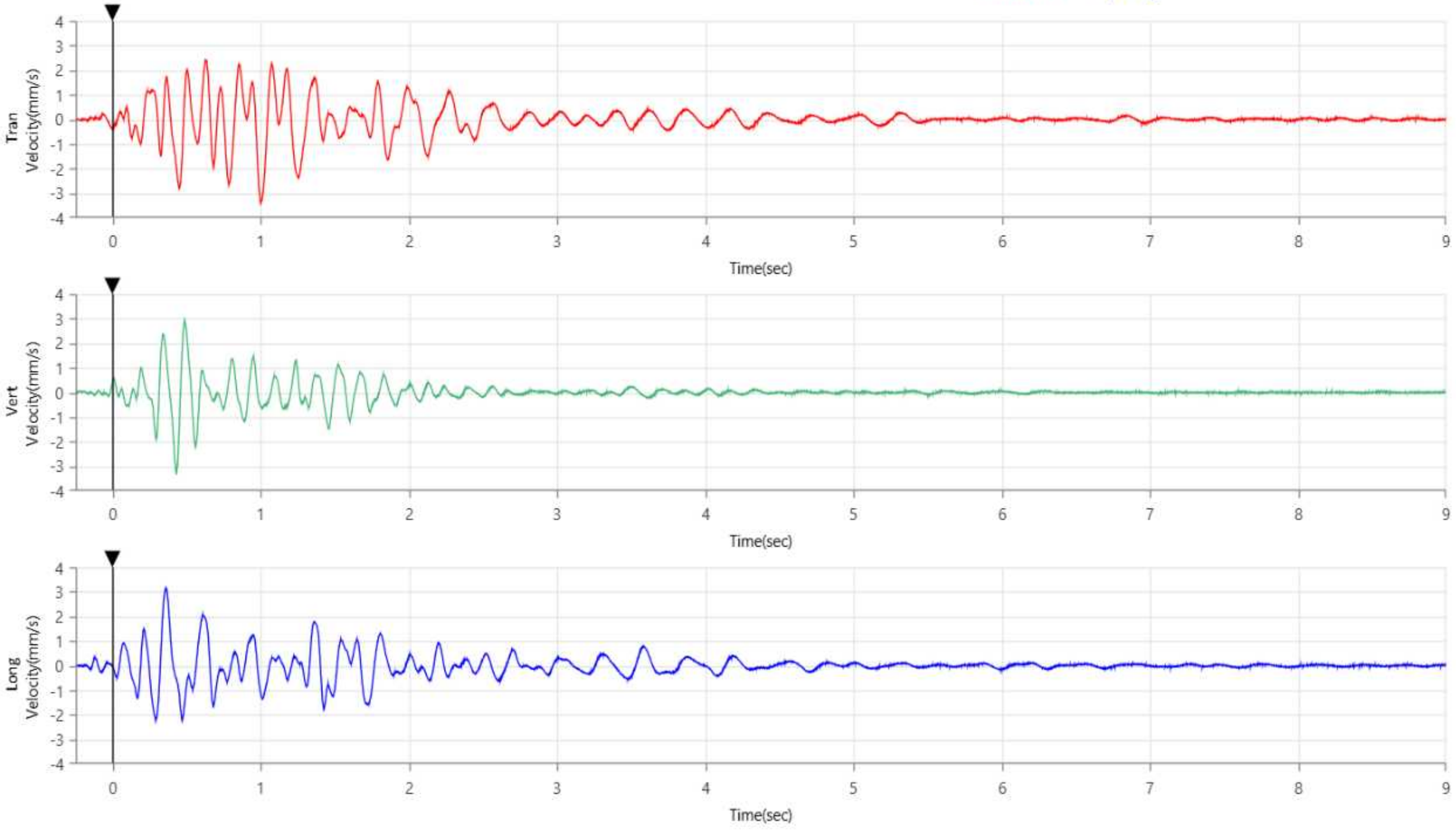
Waveform Trigger Source	Vert at July 16, 2024 13:57:20	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.8 volts
Sample Rate	2048 sps	**Unit Calibration**	January 12, 2024 by UES New Delhi
Setup File Name	factory A.MMB	**Event File Name**	UM15991_20240718135720.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	3.405 mm/s	3.310 mm/s	3.161 mm/s
Zero Crossing Frequency	6.3 Hz	6.9 Hz	5.8 Hz
Time (Relative to Trigger)	0.999 sec	0.429 sec	0.360 sec
Peak Acceleration	0.023 g	0.031 g	0.028 g
Peak Displacement	0.086 mm	0.065 mm	0.080 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.8	4.6	4.7
Peak Vector Sum	3.960 mm/s at 0.435 sec		





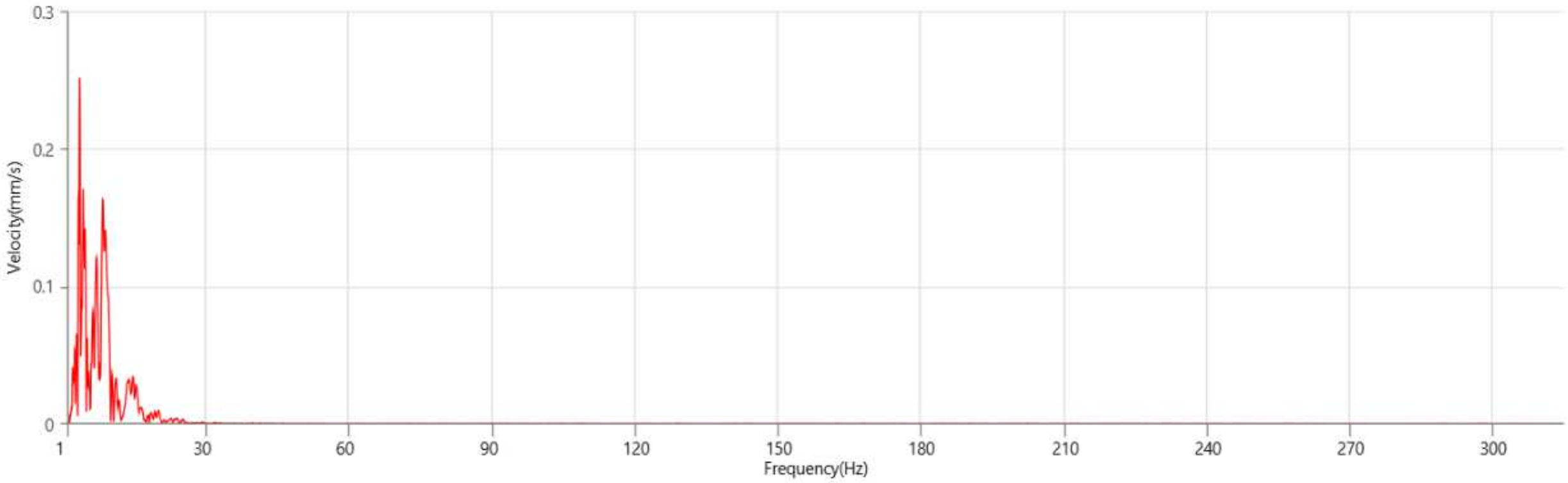
Format © 2021 Xmark Corporation

Waveform Trigger Source	Vert at July 16, 2024 13:57:20	**Serial Number**	UM15991
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.8 volts
Sample Rate	2048 sps	**Unit Calibration**	January 12, 2024 by UES New Delhi
Setup File Name	factory A.MMB	**Event File Name**	UM15991_20240718135720.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	1		

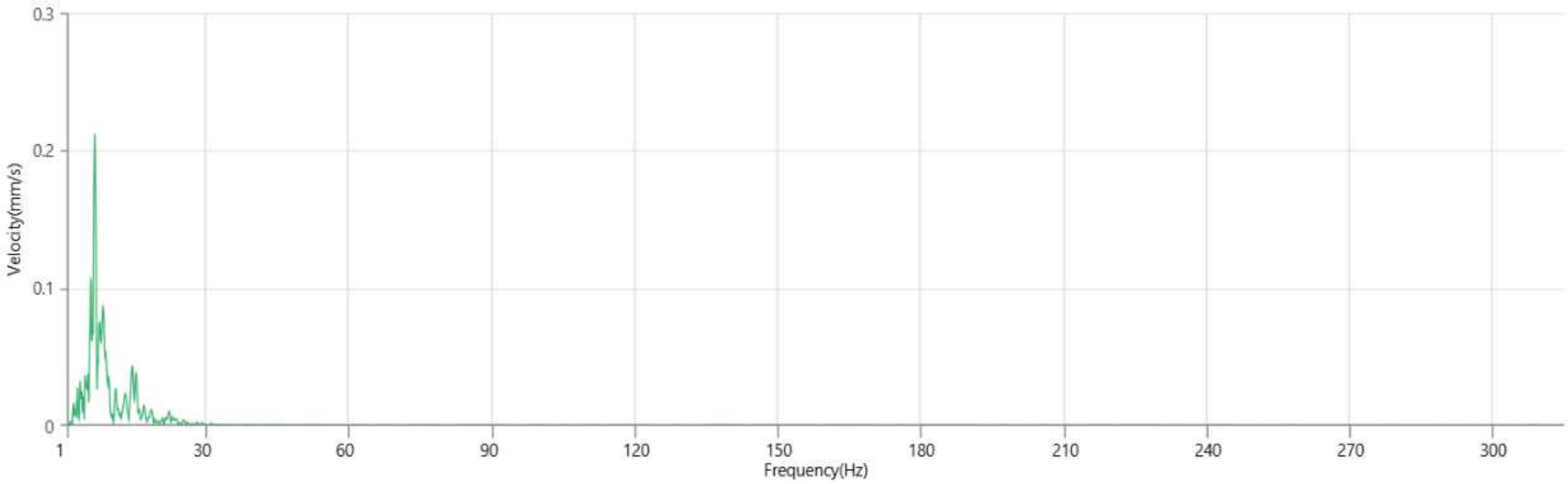
Notes
Location
Client
Company
General Notes

Post Event Notes No text to be displayed.

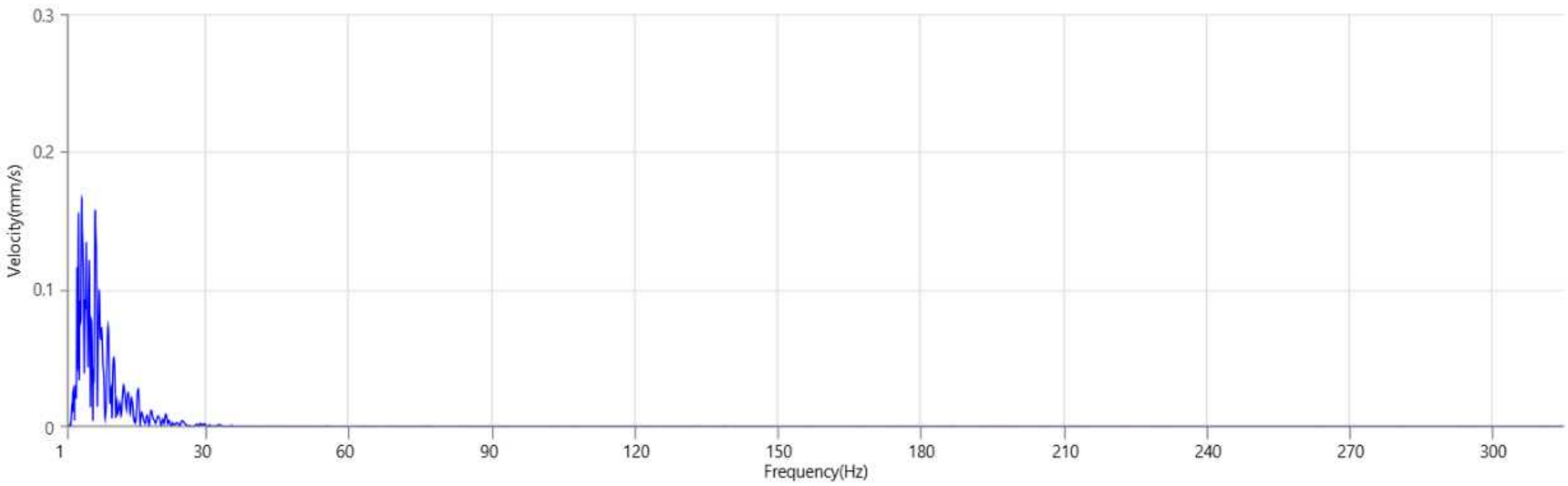
Tran - Dominant Frequency 3.6 Hz, Amplitude 0.251 mm/s (Peak Particle Velocity: 3.405 mm/s)



Vert - Dominant Frequency 6.8 Hz, Amplitude 0.212 mm/s (Peak Particle Velocity: 3.310 mm/s)



Long - Dominant Frequency 4.1 Hz, Amplitude 0.166 mm/s (Peak Particle Velocity: 3.161 mm/s)



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Event Report

Date/Time	Long at 13:59:33 July 18, 2024
Trigger Source	Geo: 0.500 mm/s
Range	Geo: 254.0 mm/s
Record Time	14.868 sec (Auto=10Sec) at 2048 sps
Job Number:	1
Operator/Setup:	Operator/factory.MMB

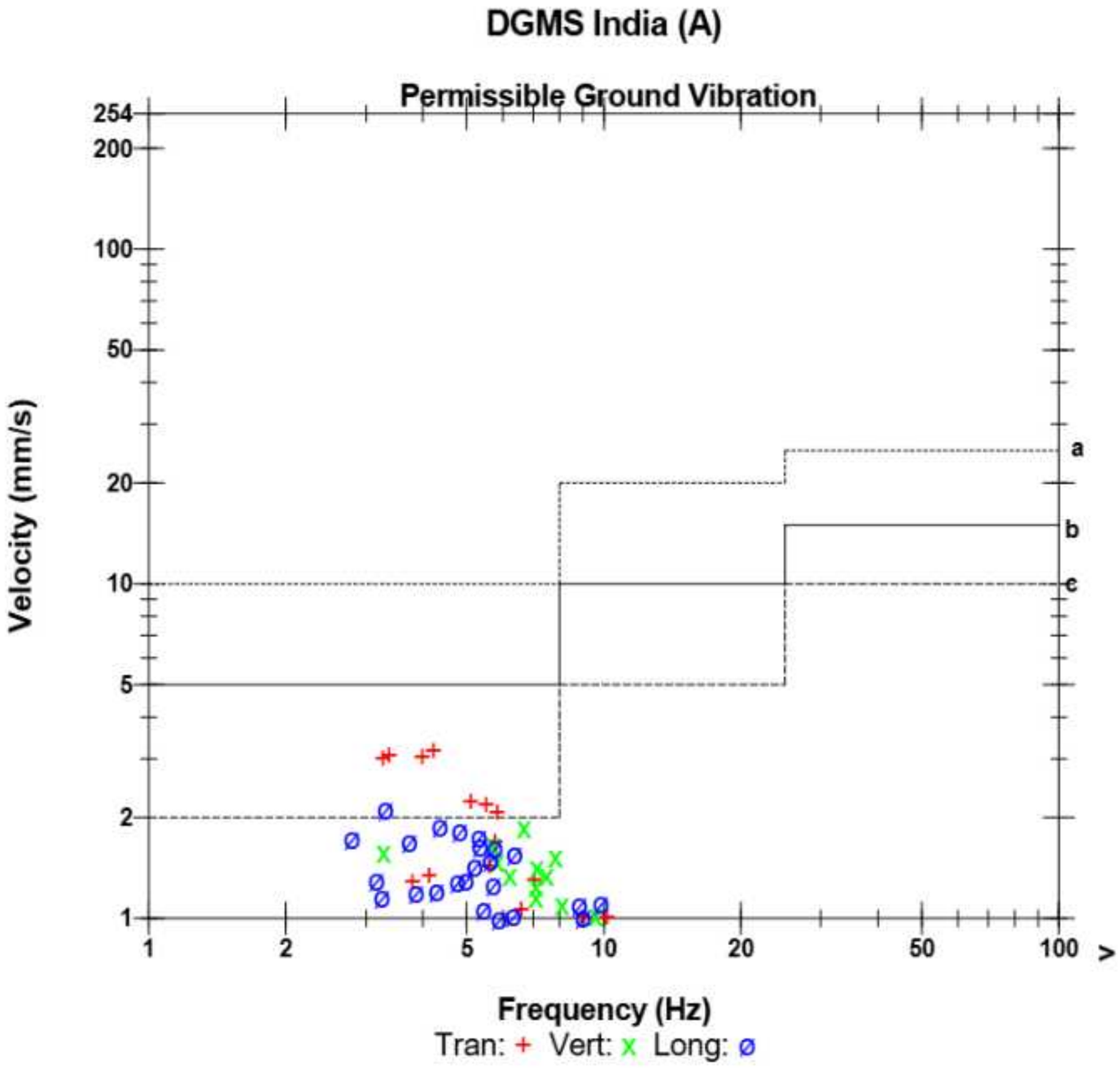
Serial Number	UM15992 V 10-90FB Micromate ISEE
Battery Level	3.7 Volts
Unit Calibration	October 19, 2023 by UES New Delhi
File Name	__TEMP.EVT

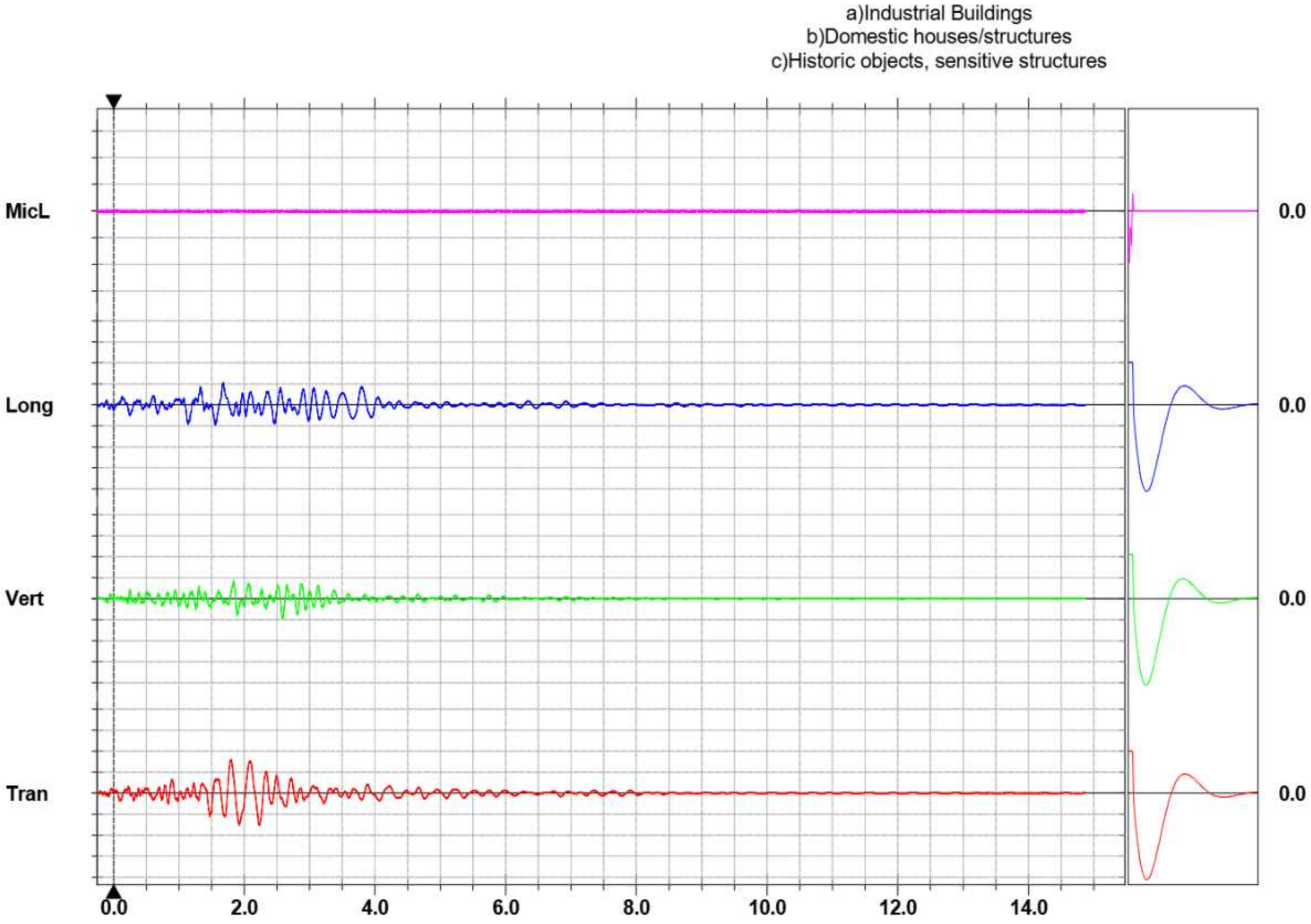
Notes
Location:
Client:
User Name: ORICA
General:

Microphone	Linear Weighting
PSPL	<88 dB(L)
ZC Freq	>200 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	3.168	1.860	2.128	mm/s
ZC Freq	4.2	6.6	3.3	Hz
Time (Rel. to Trig)	1.791	2.585	1.675	sec
Peak Acceleration	0.016	0.018	0.016	g
Peak Displacement	0.141	0.049	0.070	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.5	7.3	Hz
Overswing Ratio	4.5	4.3	4.6	

Peak Vector Sum 3.439 mm/s at 2.082 sec
N/A: Not Applicable





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div Sensor Check
Trigger = ▶----------◀

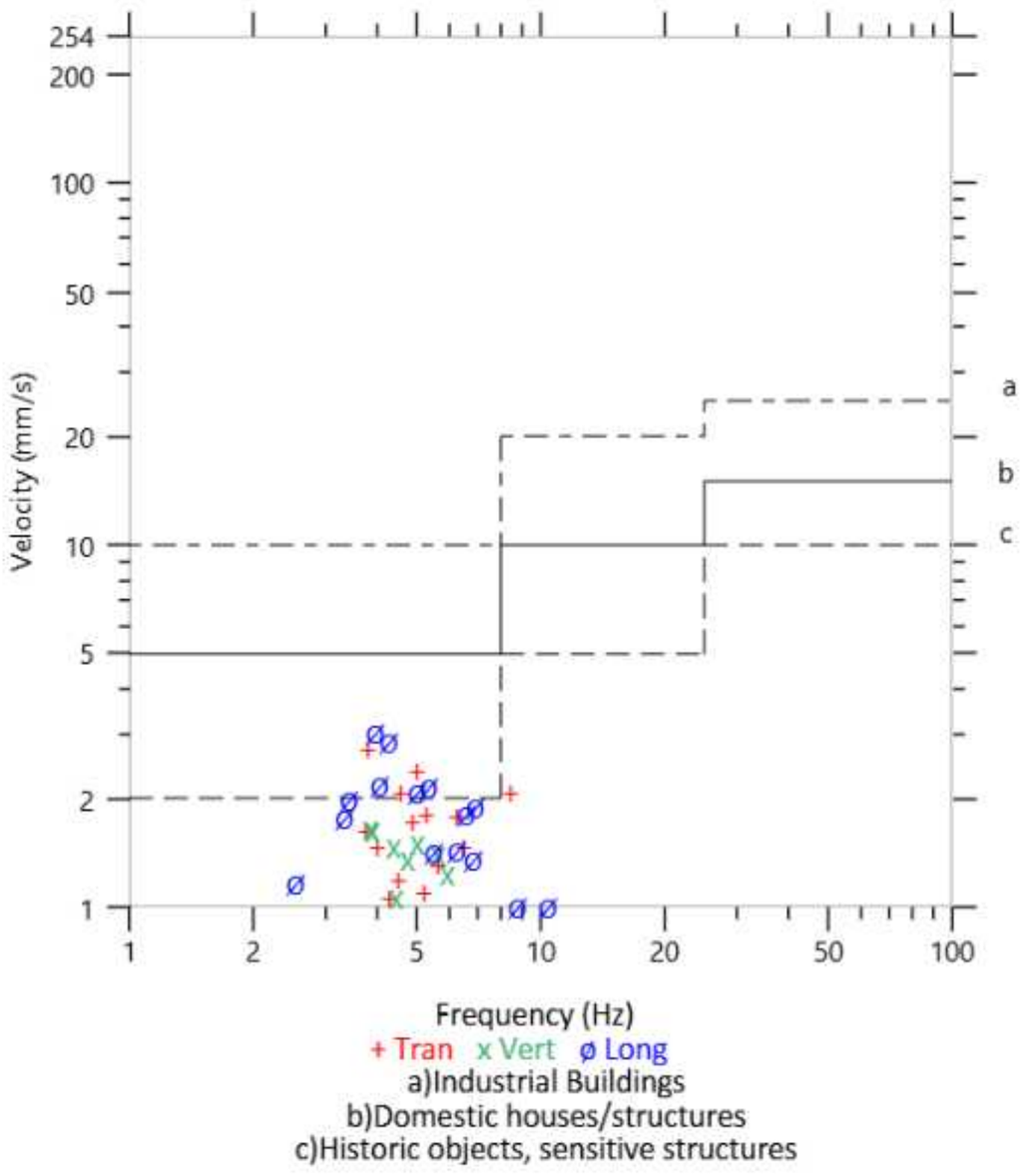
Format © 1995-2015 Xmark Corporation

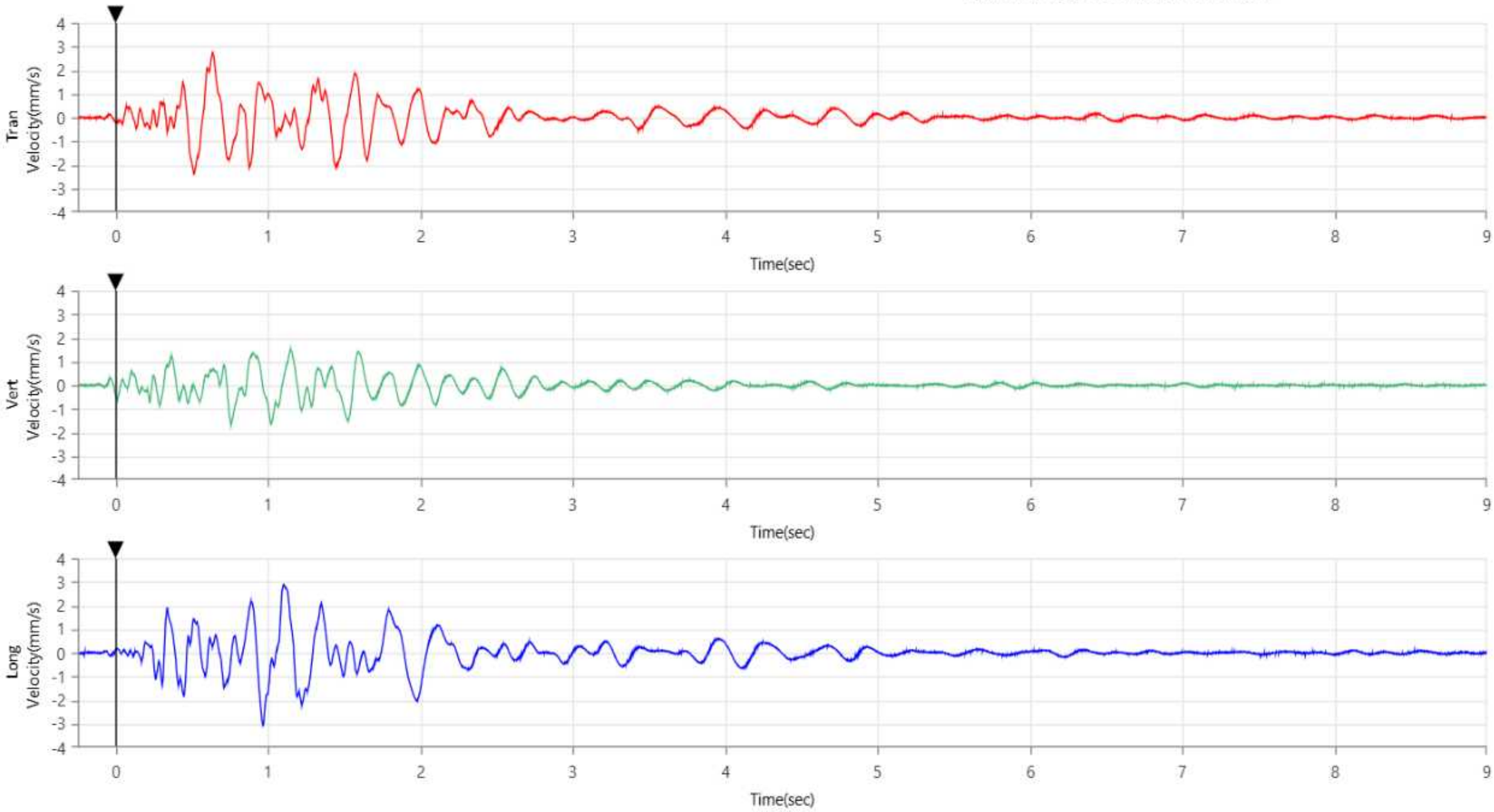
Waveform Trigger Source	Vert at August 2, 2024 14:24:10	**Serial Number**	UM15331
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	December 2, 2023 by UES New Delhi
Setup File Name	SRS.MMB	**Event File Name**	UM15331_20240822142410.IDFW
Operator	Operator	**USB Sensor Support**	Disabled

Notes
Location:
Client: TSL
User Name:
General:

Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	2.759 mm/s	1.671 mm/s	3.082 mm/s
Zero Crossing Frequency	3.8 Hz	3.9 Hz	4.0 Hz
Time (Relative to Trigger)	0.635 sec	0.757 sec	0.966 sec
Peak Acceleration	0.016 g	0.018 g	0.030 g
Peak Displacement	0.100 mm	0.053 mm	0.097 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.1 Hz	7.3 Hz	7.3 Hz
Overswing Ratio	4.4	4.6	4.5
Peak Vector Sum	3.259 mm/s at 0.965 sec		





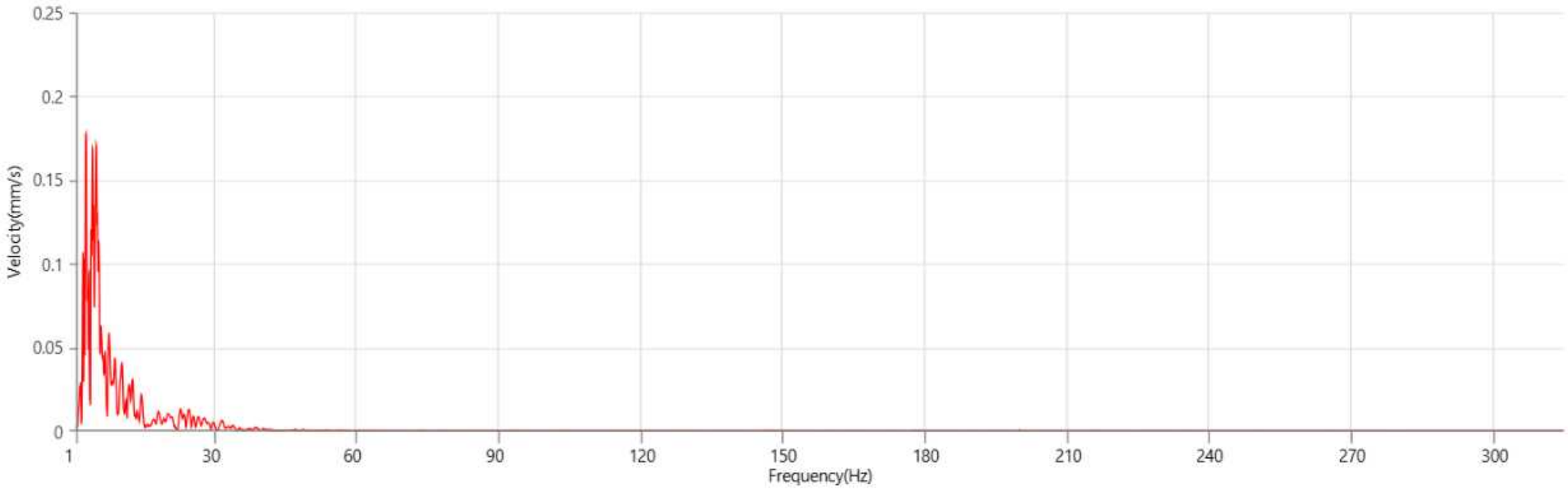
Format © 2019 Xmark Corporation

Waveform Trigger Source	Vert at August 2, 2024 14:24:10	**Serial Number**	UM15331
Trigger Level(s)	Geo 0.500 mm/s	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	December 2, 2023 by UES New Delhi
Setup File Name	SRS.MMB	**Event File Name**	UM15331_20240822142410.IDFW
Operator	Operator	**USB Sensor Support**	Disabled

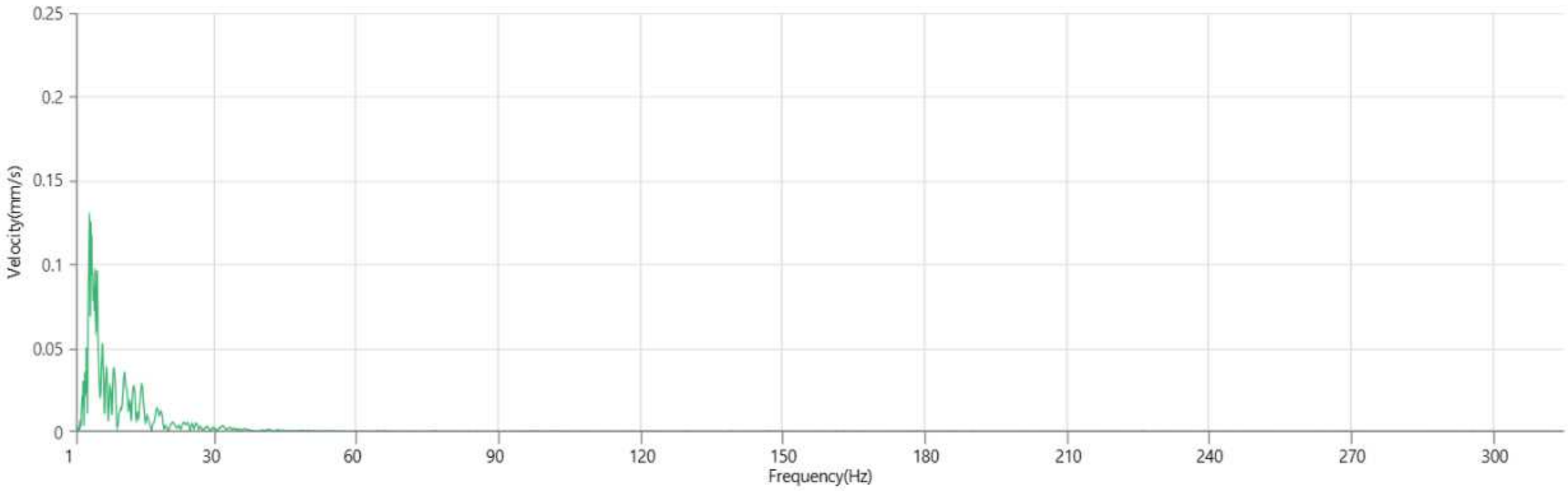
Notes
Location:
Client: TSL
User Name:
General:

Post Event Notes No text to be displayed.

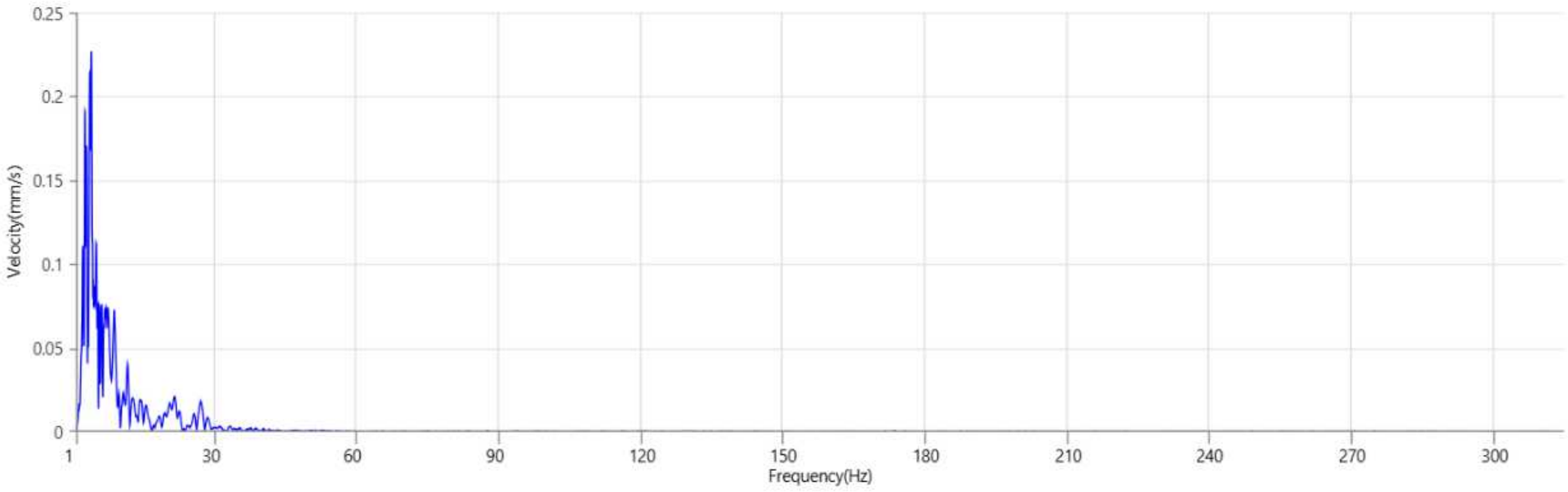
Tran - Dominant Frequency 3.1 Hz, Amplitude 0.178 mm/s (Peak Particle Velocity: 2.759 mm/s)



Vert - Dominant Frequency 3.8 Hz, Amplitude 0.129 mm/s (Peak Particle Velocity: 1.671 mm/s)



Long - Dominant Frequency 4.2 Hz, Amplitude 0.224 mm/s (Peak Particle Velocity: 3.082 mm/s)



Format © 2019 Xmark Corporation

Waveform Trigger Source	Long at August 14, 2024 13:52:06
Trigger Level(s)	Geo 0.909 mm/s,Mic 2.00 pa
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)
Sample Rate	2048 sps
Setup File Name	TATA STEEL.MMB
Operator	Operator

Serial Number	UM15994
Model Number	Micromate ISEE 10.90FB
Battery Level	3.6 volts
Unit Calibration	January 29, 2024 by UES New Delhi
Event File Name	UM15994_20240826145206.IDFW
USB Sensor Support	Disabled

Notes
Location:
Client: TSL
User Name:
General:

GPS Location	**Latitude**	**Longitude**
Source Location	000 0.000 N	000 0.000 W
Sensor Location	000 0.000 N	000 0.000 W
Distance	0.0 m	

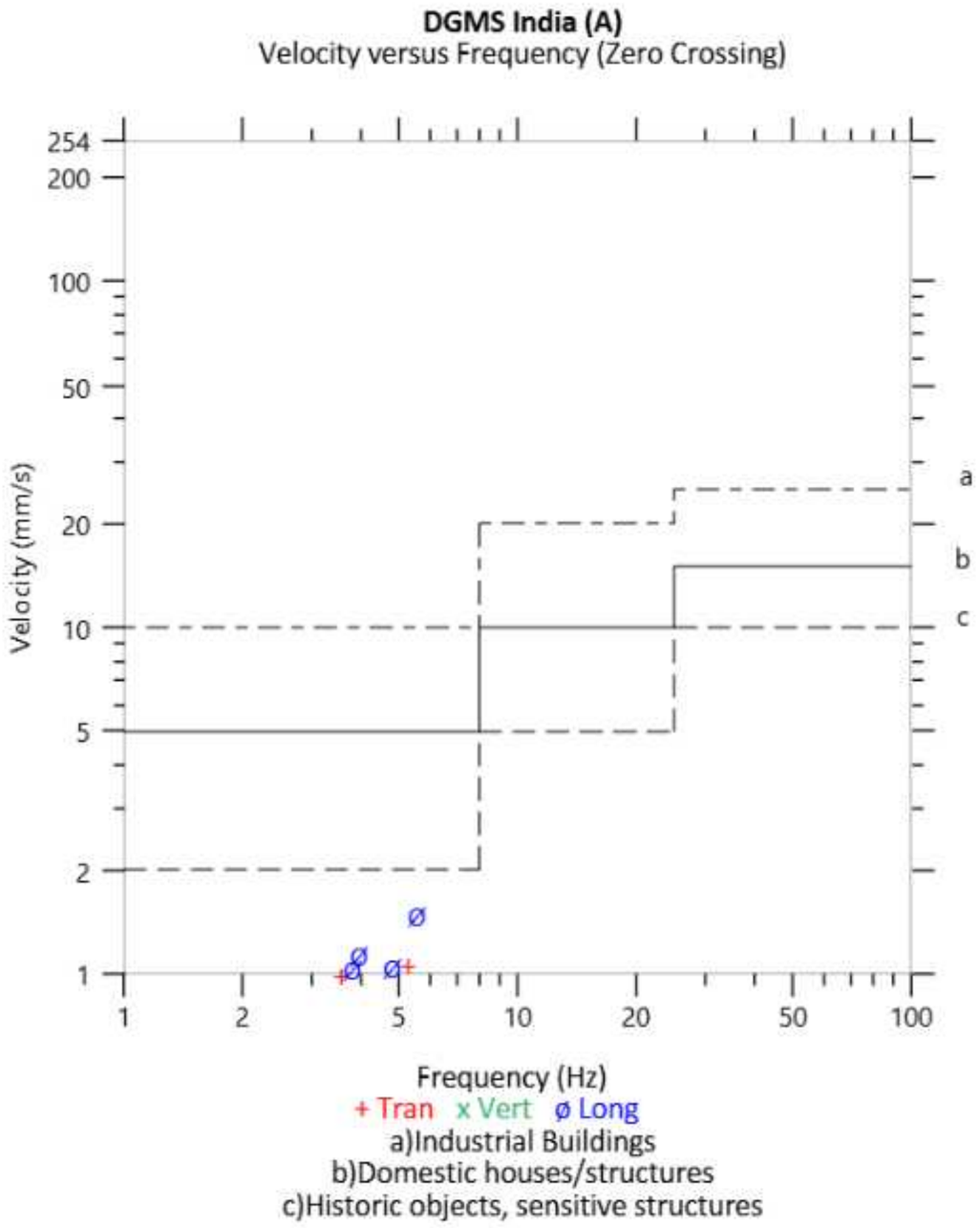
Extended Notes No text to be displayed.
Post Event Notes No text to be displayed.

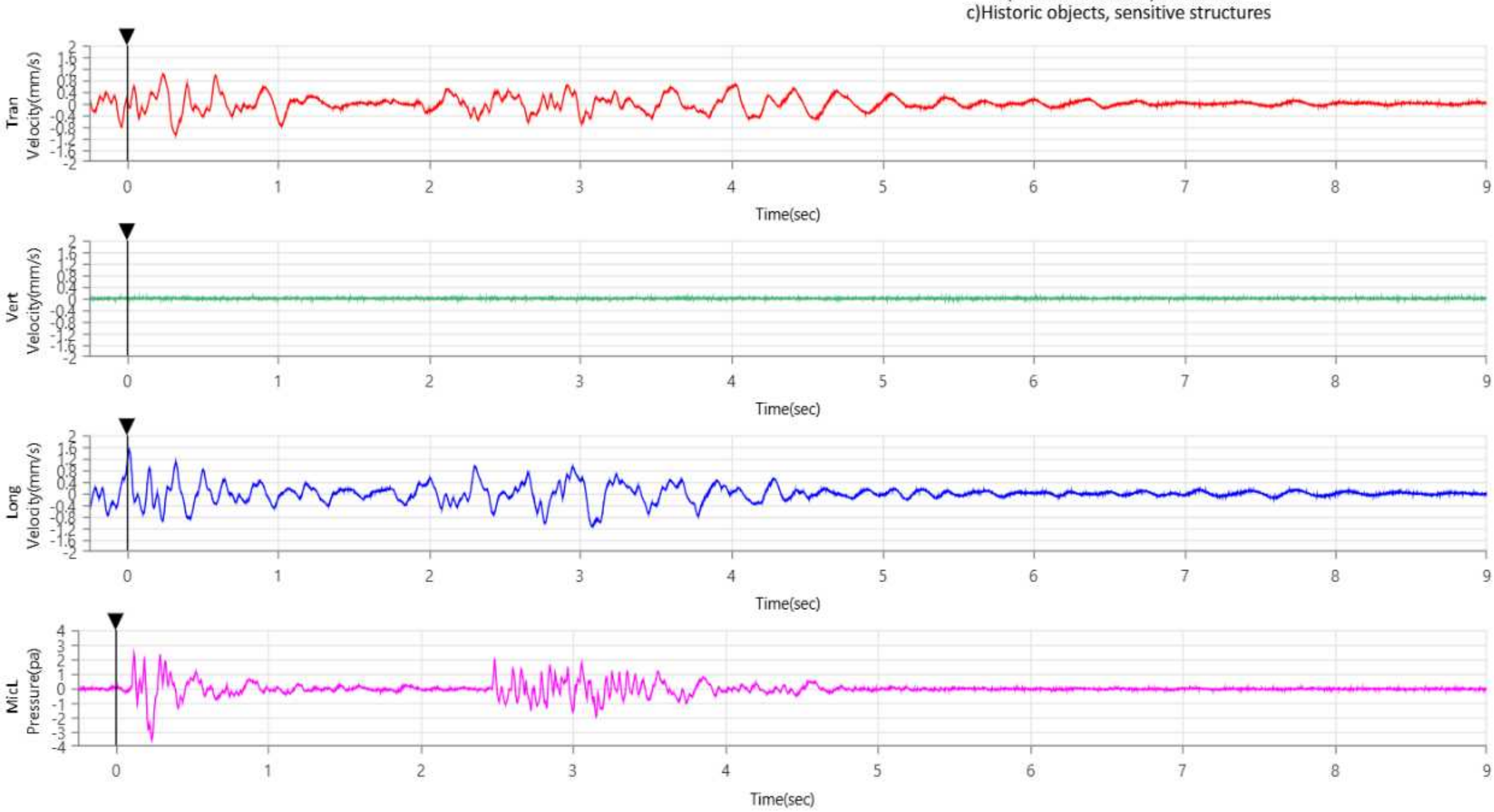
Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.080 mm/s	<0.127 mm/s	1.521 mm/s
Zero Crossing Frequency	5.3 Hz	>100 Hz	5.6 Hz
Time (Relative to Trigger)	0.321 sec	0.220 sec	0.014 sec
Peak Acceleration	0.012 g	0.012 g	0.016 g
Peak Displacement	0.034 mm	0.000 mm	0.051 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.4	4.4	4.5

Peak Vector Sum 1.526 mm/s at 0.014 sec

ISEE Linear Microphone

Peak Sound Pressure Level	3.58 pa
Time (Relative to Trigger)	0.237 sec
Zero Crossing Frequency	6.5 Hz
Sensor Check	✓ Passed
Frequency	20.5 Hz
Test Amplitude	1362 mv





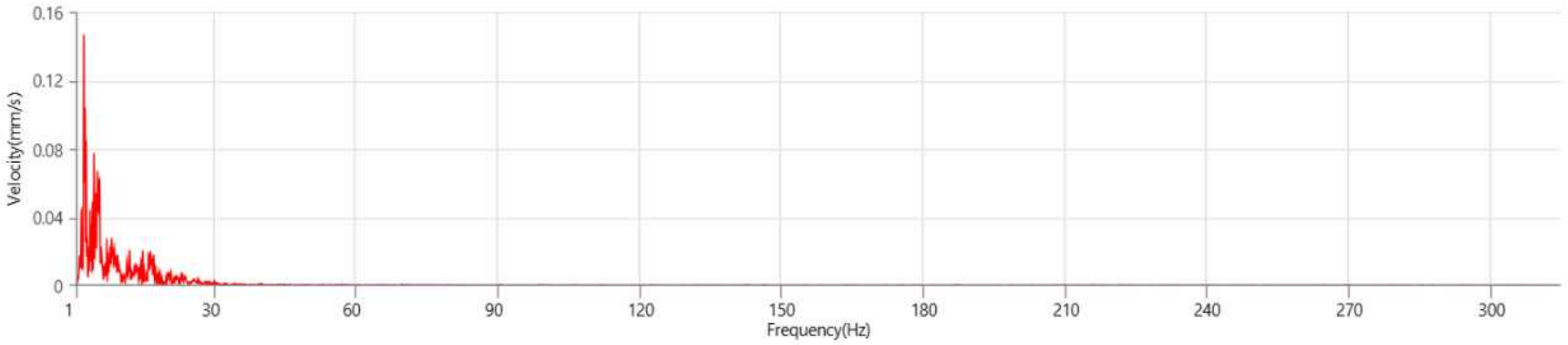
Format © 2019 Xmark Corporation

Waveform Trigger Source	Long at August 14, 2024 13:52:06	**Serial Number**	UM15994
Trigger Level(s)	Geo 0.909 mm/s,Mic 2.00 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.6 volts
Sample Rate	2048 sps	**Unit Calibration**	January 29, 2024 by UES New Delhi
Setup File Name	TATA STEEL.MMB	**Event File Name**	UM15994_20240826145206.IDFW
Operator	Operator	**USB Sensor Support**	Disabled

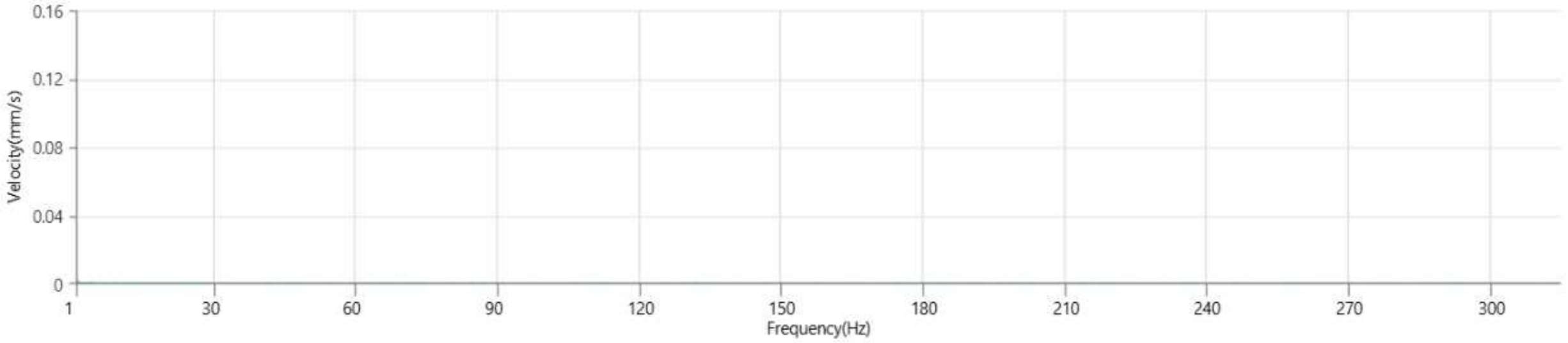
Notes		**GPS Location**	**Latitude**	**Longitude**
Location:		**Source Location**	000 0.000 N	000 0.000 W
Client:	TSL	**Sensor Location**	000 0.000 N	000 0.000 W
User Name:		**Distance**	0.0 m	
General:				

Extended Notes No text to be displayed.
Post Event Notes No text to be displayed.

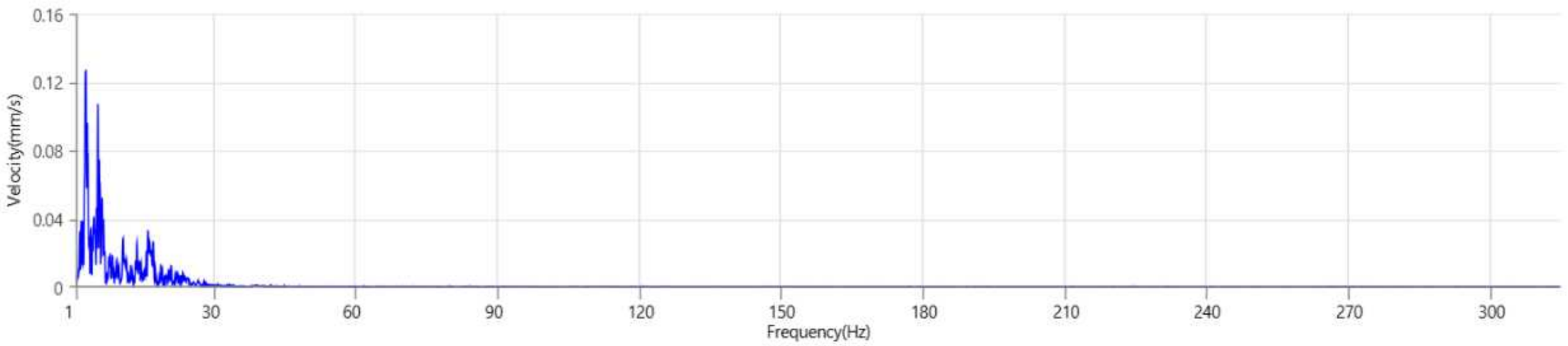
Tran - Dominant Frequency 2.6 Hz, Amplitude 0.146 mm/s (Peak Particle Velocity: 1.080 mm/s)



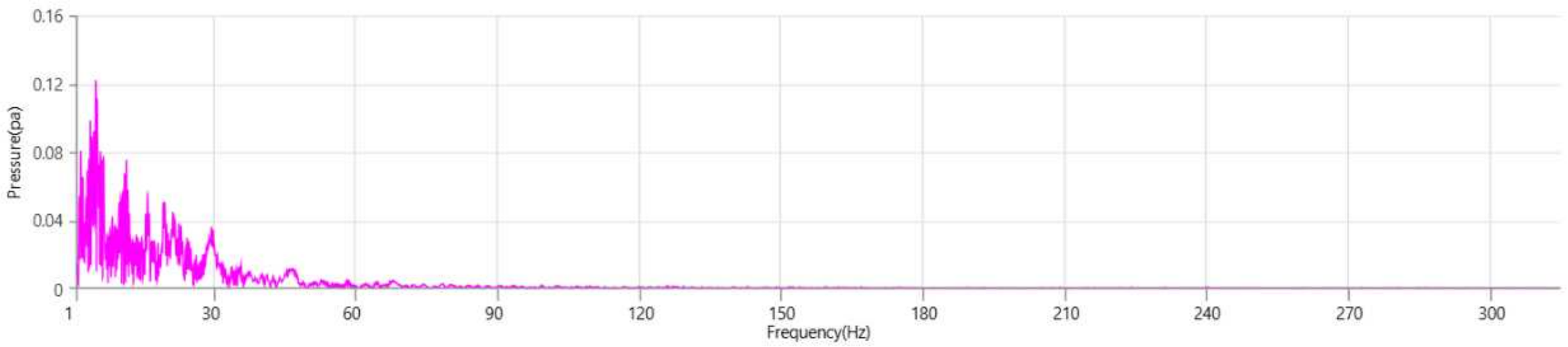
Vert - Dominant Frequency 1.2 Hz, Amplitude 0.001 mm/s (Peak Particle Velocity: 0.047 mm/s)



Long - Dominant Frequency 3.1 Hz, Amplitude 0.127 mm/s (Peak Particle Velocity: 1.521 mm/s)



MicL - Dominant Frequency 5.1 Hz, Amplitude 0.12 pa (Peak Sound Pressure Level: 3.58 pa)



Format © 2019 Xmark Corporation

Waveform Trigger Source	Long at August 30, 2024 13:50:08
Trigger Level(s)	Geo 0.909 mm/s,Mic 2.00 pa
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)
Sample Rate	2048 sps
Setup File Name	TATA STEEL.MMB
Operator	Operator
Job Number	7

Serial Number	UM15994
Model Number	Micromate ISEE 10.90FB
Battery Level	3.7 volts
Unit Calibration	January 29, 2024 by UES New Delhi
Event File Name	UM15994_20240814134708.IDFW
USB Sensor Support	Disabled

Notes

Location:	
Client:	TATA STEEL
User Name:	
General:	

	GPS Location	**Latitude**	**Longitude**
	Source Location	000 0.000 N	000 0.000 W
	Sensor Location	000 0.000 N	000 0.000 W
	Distance	0.0 m	
	Scaled Distance	26.8 (200.0 m, 55.6 kg)	

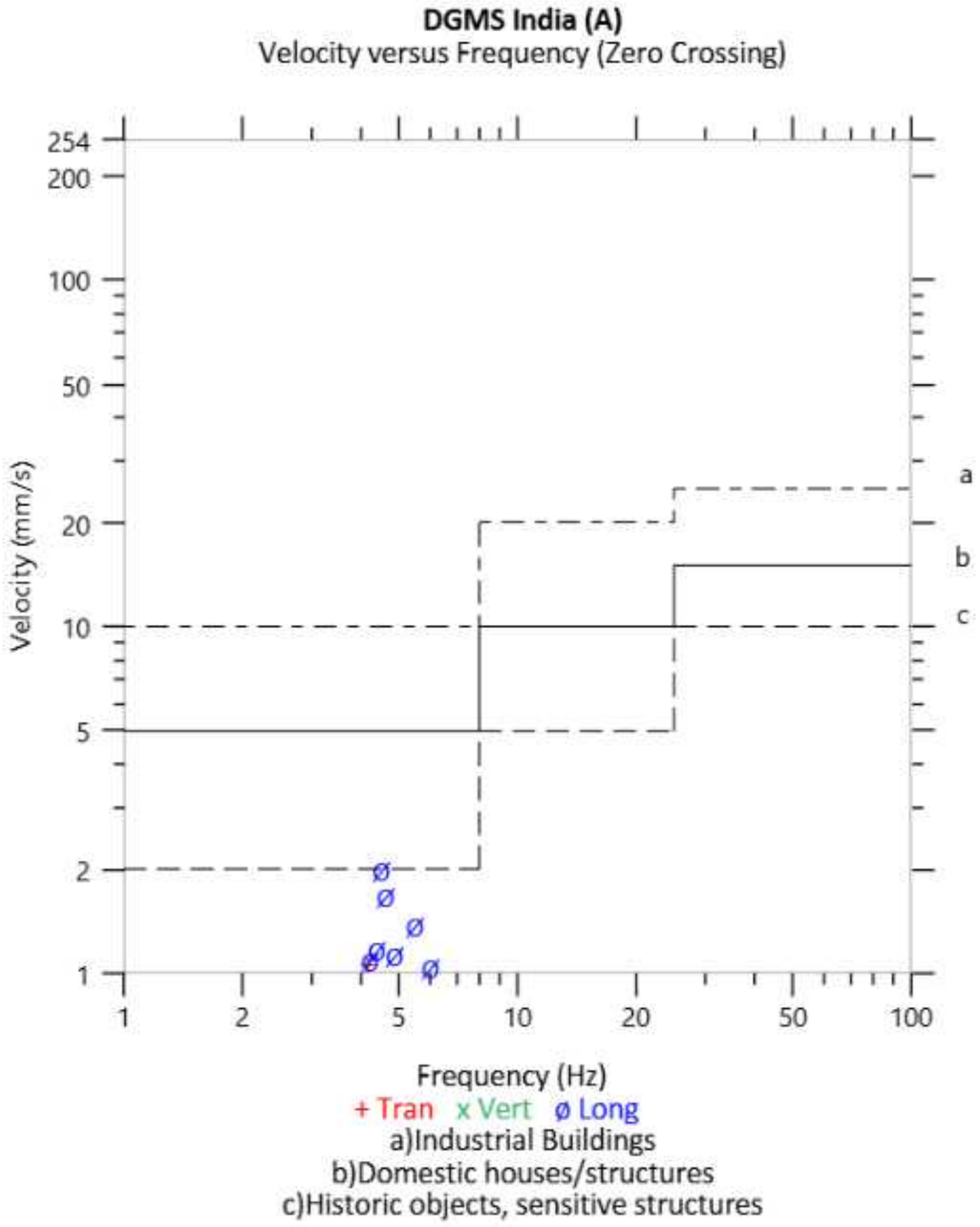
Extended Notes No text to be displayed.

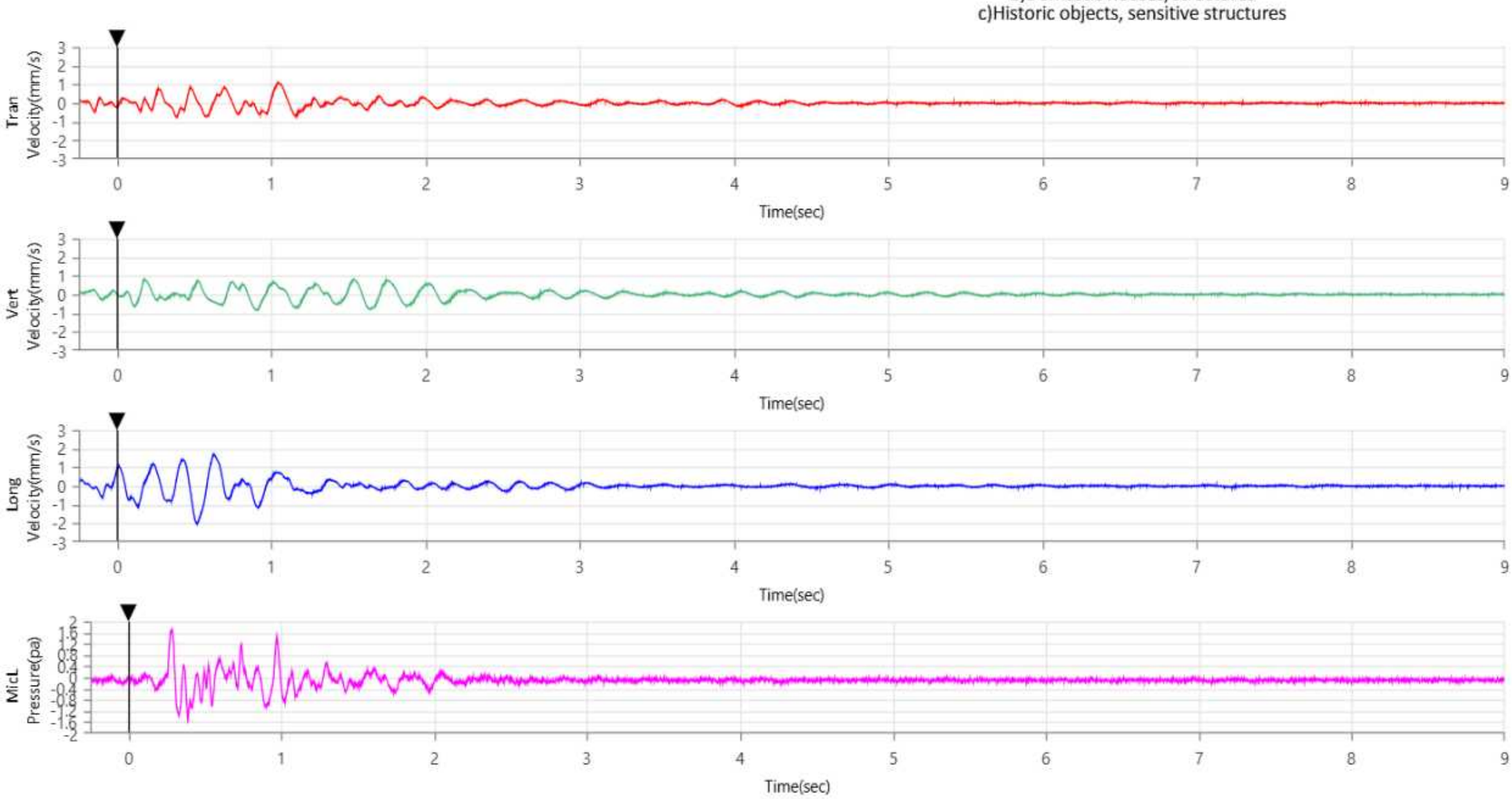
Post Event Notes No text to be displayed.

Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.072 mm/s	0.828 mm/s	2.002 mm/s
Zero Crossing Frequency	4.2 Hz	4.4 Hz	4.5 Hz
Time (Relative to Trigger)	1.043 sec	0.905 sec	0.514 sec
Peak Acceleration	0.010 g	0.012 g	0.013 g
Peak Displacement	0.039 mm	0.029 mm	0.069 mm
Sensor Check	✓ Passed	✓ Passed	✓ Passed
Frequency	7.3 Hz	7.5 Hz	7.3 Hz
Overswing Ratio	4.4	4.4	4.5
Peak Vector Sum	2.110 mm/s at 0.518 sec		

ISEE Linear Microphone

Peak Sound Pressure Level	1.69 pa
Time (Relative to Trigger)	0.287 sec
Zero Crossing Frequency	9.8 Hz
Sensor Check	✓ Passed
Frequency	19.7 Hz
Test Amplitude	1203 mv





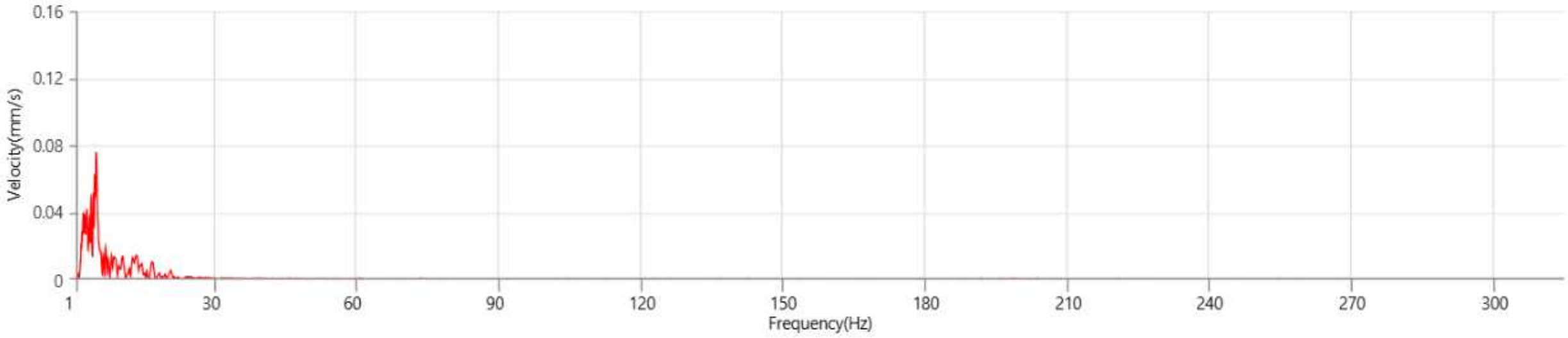
Format © 2019 Xmark Corporation

Waveform Trigger Source	Long at August 30, 2024 13:50:08	**Serial Number**	UM15994
Trigger Level(s)	Geo 0.909 mm/s,Mic 2.00 pa	**Model Number**	Micromate ISEE 10.90FB
Pre-Trigger/Record Time	0.25 sec/9.0 sec (Auto)	**Battery Level**	3.7 volts
Sample Rate	2048 sps	**Unit Calibration**	January 29, 2024 by UES New Delhi
Setup File Name	TATA STEEL.MMB	**Event File Name**	UM15994_20240814134708.IDFW
Operator	Operator	**USB Sensor Support**	Disabled
Job Number	7		

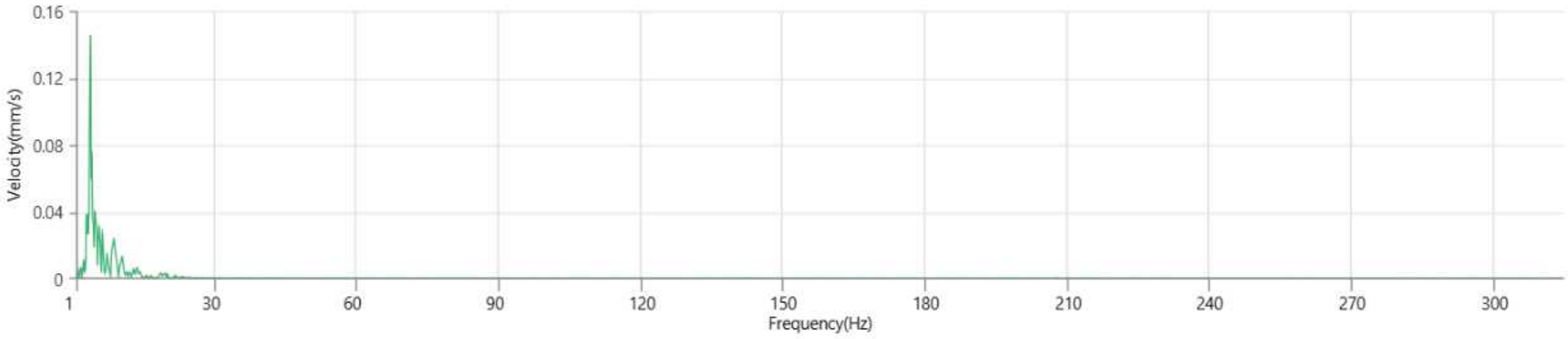
		GPS Location	**Latitude**	**Longitude**
Notes		**Source Location**	000 0.000 N	000 0.000 W
Location:		**Sensor Location**	000 0.000 N	000 0.000 W
Client:	TATA STEEL	**Distance**	0.0 m	
User Name:		**Scaled Distance**	26.8 (200.0 m, 55.6 kg)	
General:				

Extended Notes No text to be displayed.
Post Event Notes No text to be displayed.

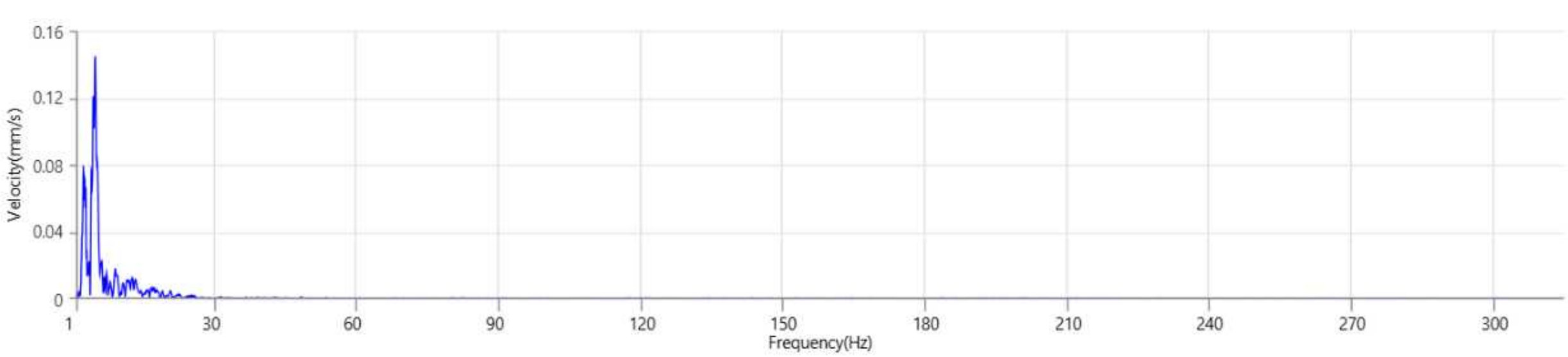
Tran - Dominant Frequency 5.2 Hz, Amplitude 0.076 mm/s (Peak Particle Velocity: 1.072 mm/s)



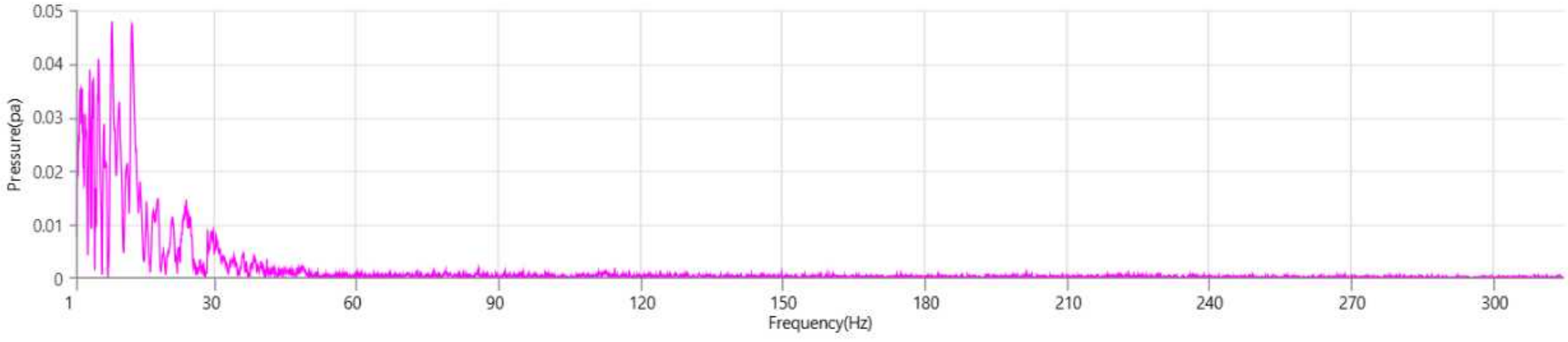
Vert - Dominant Frequency 4.0 Hz, Amplitude 0.146 mm/s (Peak Particle Velocity: 0.828 mm/s)



Long - Dominant Frequency 5.0 Hz, Amplitude 0.144 mm/s (Peak Particle Velocity: 2.002 mm/s)



MicL - Dominant Frequency 8.6 Hz, Amplitude 0.05 pa (Peak Sound Pressure Level: 1.69 pa)



Format © 2019 Xmark Corporation

ANNEXURE-XXIV

Summarized Noise Monitoring Report					
Noamundi Iron Ore Mine of M/s Tata Steel Limited					
Period: April-24 to September-24					
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**	
				Day	**Night**
Noamundi Iron Mine	Near Hospital Premises	April-24	dB(A)	46.7	38.6
		May-24	dB(A)	48.2	37.9
		June-24	dB(A)	48.2	37.9
		July-24	dB(A)	47.2	38.6
		August-24	dB(A)	46.1	37.6
		September-24	dB(A)	46.3	38.1
	Near Training Centre	April-24	dB(A)	51.3	41.9
		May-24	dB(A)	52.6	42.1
		June-24	dB(A)	52.6	42.1
		July-24	dB(A)	52.7	41.3
		August-24	dB(A)	53.1	39.2
		September-24	dB(A)	51.9	41.6
	Near Township	April-24	dB(A)	52.8	53.6
		May-24	dB(A)	49.3	38.6
		June-24	dB(A)	49.3	38.6
		July-24	dB(A)	53.6	41.8
		August-24	dB(A)	54.1	42.6
		September-24	dB(A)	53.9	41.8
	Near GM Office	April-24	dB(A)	64.1	52.8
		May-24	dB(A)	68.1	56.2
		June-24	dB(A)	68.1	56.2
		July-24	dB(A)	54.1	43.6
		August-24	dB(A)	53.9	41.2
		September-24	dB(A)	51.2	38.7
	Near Plant Area	April-24	dB(A)	69.3	58.2
		May-24	dB(A)	71.6	64.9
		June-24	dB(A)	72.1	68.3
		July-24	dB(A)	68.3	57.1
		August-24	dB(A)	71.1	58.3
		September-24	dB(A)	67.4	56.1
	Near Sangramsai Colony	April-24	dB(A)	71.6	62.8
		May-24	dB(A)	72.1	68.3
		June-24	dB(A)	51.6	42.7
		July-24	dB(A)	51.2	42.7
		August-24	dB(A)	52.6	41.9
		September-24	dB(A)	54.1	37.6
	Norms Day (6 AM – 10 PM) Night (10 PM – 6 AM)	**Industrial**		**75.0**	**70.0**
		Commercial		**65.0**	**55.0**
		Residential		**55.0**	**45.0**

Dump Stabilization Photographs



OB Dump



OB Dump



Vetiver grass



Coir mat

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**10/01/2024**
Time	:	**12:48:57 PM**
Validity upto	:	**09/07/2024**

Certificate SL. No.	:	JH00600110003388
Registration No.	:	JH05AT3302
Date of Registration	:	15/Apr/2013
Month & Year of Manufacturing	:	April-2013
Valid Mobile Number	:	******4658
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	JH0060011
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.66

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Surface Run-off Control Measures



Retaining wall



Garland Drain



Settling Pond



Gully Plug

Safety Zone Plantation









The Divisional Forest Officer,
Chaibasa Forest Division.
Chaibasa.
West Singhbhum.

GM/LO/1279 /441-B/24
Date:12.11.2024

Sub: Quarterly Progress Report of compliance for the quarter from July'24 to September'24 of Site-Specific Wildlife Conservation Plan of Noamundi Iron Mine.

Dear Sir,

The Site- Specific Wildlife Conservation Plan for Noamundi Iron Mine was approved by the Principal Chief Conservator of Forest, Wildlife and Chief Wildlife Warden, Jharkhand, Ranchi vide memo no. 1251 dated 28.08.2020.

We are herewith submitting Quarterly Progress Report of compliance for the quarter from July'24 to September'24.

This is for your kind information and to note our compliance against the approved Site-Specific Wildlife Conservation Plan.

Thanking you,

Yours sincerely,
For Tata Steel Limited

Chief (Mine Planning & Projects), OMQ

Encl: As above

TATA STEEL LIMITED
Mines Division Noamundi 833 217 India
Tel 91 9234301340 Fax 91 6596 290737
Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001 India
Tel 91 22 66658282 Fax 91 22 66657724
Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com

Quarterly progress report for the quarter from July'24 to September'24.

Point wise compliance of the conditions of Site-specific Wildlife Conservation Plan approval vide letter no. 1251 dated 28.08.2020 in favour of Tata Steel Limited of Noamundi Iron mine in West Singhbhum District of Jharkhand.

CHAPTER- IV

To be implemented by Project Authorities.

Sl. No.	Conditions	Compliance
(A)	**Wild Animal Rescue and Release**	
1	(a) Payment towards cost of establishing wild animal Rescue team including services of One Veterinary Doctor@60000/-, One paramedics/Paravet@15000/- and three daily wages worker@6689.6x3=20069/-per month stationed at Chaibasa for lease period under the supervision of DFO, Chaibasa. Expenditure will be incurred based on demand note and direction received from the DFO, Chaibasa. (For rescue and treating wild animals)	We have established wild animal rescue team under the guidance of Veterinary Doctor (Dr. Faisal Niaz), daily wage worker Sriram Hembrom, Sikur Laguri.
	(b)Equipment for wild animal rescue Double barrel dart gun (Dan inject) @5.5 lakh, Portable cage @30000x2=60000/-, Nylon net@30000/, stretcher@20000x2=40000/-, First aid kit for staff-20000/- Medicine for tranquilization etc. 20000/, and Training of forest officials-2.00 lakh as per specification from DFO, Chaibasa.	Double Barrel Dart Gun (Dan Inject), JMDBCASE Hard case for projector model JMDB, CO2 container and other accessories have been handed over to DFO, Chaibasa Forest Division on 04.09.2023 vide letter no. GM/LO/784/441-B/23 Dated 04.09.2023. This Tranquilizing Gun will be used by Chaibasa Forest Division, Chaibasa. 03 (Three) wild animal rescue Nylon net have been handed over to RFO, Noamundi vide letter no. GM/LO/340/441-B Dt. 02.11.2022. 02(two) Animal Stretcher and 04(four) sets of first aid kit has been provided to RFO' office, Noamundi vide letter no. GM/LO/264/441-B/22 Dt. 29.08.2022

	(c) One vehicle for housing cage, dart gun etc. as per direction received from the DFO, Chaibasa.	For Animal rescue, one vehicle -Tata 407 Gold bearing Registration no. JH 06P 1274 stationed at Noamundi has been deployed at the disposal of animal rescue team, Driver – Bhimsen Laguri. Painted the vehicle as "Wildlife Rescue Vehicle, Chaibasa Forest Division, Chaibasa, Courtesy by Tata Steel". 
	(d) Operational cost Rs.1.00 lakh per year	Incidental operational cost is being borne by us.
(B)	**Forest Conservation, fire protection and GIS Cell**	
2	a) Establishment of a GIS Cell at Division headquarters. (Including software and other accessories)	All necessary software and hardware as per direction of DFO's office have been purchased and installed in GIS Cell, 86" Multimedia LED display board, Video Conferencing system. Cordless Mic, camera etc. Blinds, Signage board at GIS Cell vide letter no. GM/LO/ 220/441-B/22 Dt. 12.07.2022. 01 (one) HP Desktop Computer and 01 (one) HP Printer have been handed over to DFO's office vide letter no. GM/LO/181/441-B/21 Dt. 11.08.2021. Workstation for GIS, PC and ARCGIS software Dongle with Licence Key: EFL438019559 have been handed over to DFO's office vide letter no. GM/LO/40/441-B/22 Dt. 07.02.2022. 01 (one) Plotter cum Scanner of HP have been handed over vide letter no. GM/LO/131/441-B/22 Dt. 12.05.2022. 04 (Four) Air Conditions have been installed vide letter no. GM/LO/131/441-B/22 Dt. 12.05.2022. Broadband connectivity installed at GIS cell and wifi router, dual band network cable and net connection provided. Payment has made to beneficiary Net Onair Networks Pvt. Ltd.

		01(one) LG 32" LED Monitor, Battery, Invertor, LT changeover, Generator wiring, MCB fittings etc. have been installed vide RFO letter no. 361 Dt. 20.11.2022. RFO, Noamundi has issued a demand note vide letter no. 25 dated 05.01.2023 for procurement of cartridges for plotter/printer. Payment have been made to beneficiary. P.C. Point through RTGS in the month of January'23.    
	(b) Wages of two skilled persons one GIS expert @ 35000/- and one computer operator@9589/- per month, Expenditure will be incurred based on demand note and direction received from the DFO, Chaibasa.	We have hired Computer Operator (Mr. Abhinav Kumar Mishra) and GIS expert (Mr. Harsh Mishra) for GIS Cell.
	(c) Office furniture and accessory to house GIS Cell and forest fire management centre as per specification from respective office.	Office furniture such as 32 (Thirty-two) office Chairs, conference table, 05(five) Executive chairs and tables for GIS Cell / forest fire management centre have been delivered to DFO's office vide letter no. GM/LO/286/441-B/21 dt. 03.11.2021, GM/LO/05/441-B/22 dt. 05.01.2022 and GM/LO/131/441-B/22 Dt. 12.05.2022.

	(d) Ten (10) motorcycles to be procured by UA for RFO Office @ 125000x10 nos. as per specification from respective office for patrolling.	10 (Ten) motorcycles have been procured, registered in the name of state forest dept., and handed over to Range office, Noamundi vide letter no. GM/LO/101/441/21 Dt. 23.02.2021.  Sl. No. | Make of Model | Registration No. 1 | Bajaj Pulsar 180 DTS-i | JH06P1319 2 | Bajaj Pulsar 180 DTS-i | JH06P1251 3 | Bajaj Pulsar 180 DTS-i | JH06P9593 4 | Bajaj Pulsar 180 DTS-i | JH06P1781 5 | Bajaj Pulsar 180 DTS-i | JH06P7516 6 | Bajaj Pulsar 180 DTS-i | JH06P0457 7 | Bajaj Pulsar 180 DTS-i | JH06P3498 8 | Bajaj Pulsar 180 DTS-i | JH06P7041 9 | Bajaj Pulsar 180 DTS-i | JH06P1345 10 | Bajaj Pulsar 180 DTS-i | JH06P8223
	e) One fire protection squad stationed at Range Forest Office, Noamundi with 10 members with hired vehicle for 5 five months for the year @ Rs. 6.50 lakhs each over the plan, Expenditure will be incurred based on demand note and direction received from the RFO, Noamundi.	10 (Ten) manpower with a hired vehicle are provided to Range Office Noamundi from February for 5 months. Payment made towards engaging vehicle for firefighting squad stationed at Range Forest office as per demand note to beneficiary.
	f) Purchase of firefighting equipment with 10 nos. of fire blowers@60000/-, Bush cutter-10@Rs. 25000/-, Firefighting suit-10@Rs.7000/-. As per specification from DFO, Chaibasa.	10(ten) no. Fire blowers and 10(ten) nos. Bush cutters have been handed over to Range Forest office, Noamundi vide letter no. GM/LO/1018/441/21 Dt. 23.02.2021. 10 (ten) no. sets of Firefighting suits consisting of Jacket& trouser, hood, helmet, gloves, and boots have been handed over to Range Forest office, Noamundi, vide letter no. GM/LO/190/441-B/21 Dt. 18.08.2021.

	(g) One anti-depredation squad stationed at Range Forest Office, Noamundi with 5 members@ 6689.6 per year over the plan period, Expenditure will be incurred based on demand note and direction received from the DFO, Chaibasa.	Anti-depredation squad with 5(five) members have been deployed and stationed at Range Forest Office, Noamundi they are – Parmeshwar Sinku, Sursingh Bobonga, Chokro Champia, Ravindra Gope and Mohan Gope.
	(h) Procurement of anti-depredation items like crackers, torch etc., @1.0 lakh per year each for the plan period of 10 years Expenditure will be incurred based on demand note and direction received from the DFO, Chaibasa.	Crackers have been delivered to RFO, Noamundi. 10 (ten) no. Torches (LED Search light) have been handed over to DFO's office vide letter no. GM/LO/182/441-B/21 Dt. 11.08.2021. 20 (Twenty) no. Torches (LED Search light) have been handed over to DFO's office vide letter no. GM/LO/341/441-B/22 Dt. 02.11.2022.
	(i) Provision for use of Drones fitted with cameras for monitoring of wild animals in stress in forest area. As per the specification from DFO, Chaibasa.	We are in the process of procuring Drone.
	(j) Procurement of night vision binoculars - 03 pieces, Handheld GPS -03 pcs., Digital camera-01 piece. As per the specification from DFO, Chaibasa.	03 (three) nos. Handheld GPS (GARMIN Montana 680) have been handed over to DFO's office vide letter no. GM/LO/182/441-B/21 Dt.11.08.2021. 01 (one)Night vision binocular have been handed over to DFO's office vide letter no. GM/LO/170/441-B/21 Dt.03.05.2022 and 02(two) night vision binocular vide letter no. GM/LO/219/441-B/22 Dt. 12.07.2022. 01(one) Digital Camera have been handed over to DFO's office vide letter no. GM/LO/341/441-B/22 Dt. 02.11.2022.  

	(k) Providing one DG set, Computer, printer to Division office and Range office. As per the specification from DFO, Chaibasa.	01 (one) DG set (Kirloskar koel green) have been handed over to DFO's office vide letter no. GM/LO/103/441-B/21 Dt. 18.06.2021. 02 (Two) nos. All in one Desktop computer, 02 (two) nos. A4 size colour Printer cum scanner/copier have been handed over to DFO's office vide letter no. GM/LO/265/441-B/22 Dt. 29.08.2022.
	(l) Operational cost for maintaining motorcycle and firefighting equipment. Expenditure will be incurred based on demand note and direction received from the DFO, Chaibasa.	Complied upon receiving direction from DFO. RFO have issued demand note vide letter no. 249 dated 24.07.23 towards maintenance of ten Motorcycles. Payment has been made to beneficiary.
C	**Monitoring and supervision of site-specific plan**	
3	a) 2 vehicles procured by UA (one Vehicle for DFO, Chaibasa @20.00 lakh & one for RFO, Noamundi@15.00 lakh each for monitoring of Site-Specific Wildlife Scheme as per specification from respective office.	02 (Two) vehicles vide letter no. GM/LO/840-1/441/20 Dt. 06.10.2020 ref. no. 1483 dated 15.09.2020 and bearing Registration No. JH06N-2331, Scorpio S7 and JH06N-9744, Scorpio S11, handed over to DFO's office Chaibasa.
	b) Payment of Wages for 2 daily wages driver @2.30 lakh per year for 10 years, Expenditure will be incurred as per demand note from DFO, Chaibasa.	One driver (Turi Laguri) deployed at RFO, Noamundi and one driver (Bhimsen Laguri) appointed and deployed with Animal rescue vehicle as per directive received by DFO.
	c) POL @ 10 litres per day for 300 days per year for 10 years x 2 vehicle as per demand note from DFO, Chaibasa	POL are provided as and when demanded by office of DFO Chaibasa and RFO Noamundi respectively.
	(d) Cost for vehicle repair etc @50000/- per year per vehicle for 10 years as per demand note from respective office.	Cost of vehicle repair are paid by User agency as and when required.
	(e) Contingency @2.00 lakhs/year x 10 years Expenditure will be incurred by UA as per demand note from DFO, Chaibasa	Payment has been paid to beneficiary Aranyak Creations, towards making of video, documentary on CAMPA scheme vide demand note 769 dated 26.04.2023 for an amount of Rs. 1,41,600.00.
D	**Public Awareness and education**	
4	(a) Construction of Nature interpretation centre at Chaibasa with bore bell with pump.	Site drawings and detailed engineering are being developed by CEE. Architectural drawings for the Nature Interpretation Centre at Chaibasa have prepared by CEE, Ahmedabad. Foundation stone had laid on 30.01.2022. Construction of NIC along with Auditorium has been completed and handed over. NIC was inaugurated on 10.07.2024.
	(b) Mini library, visual display multimedia system (LED TV to runs wildlife/nature documentary.	

	(c) Live hedge fencing with entrance gate.	 
	(d) Aesthetic plantation/Medicinal Garden/lotus pond etc.	
	(e)2 Unskilled @6689.6x2=13379.20/- and one computer operator@9589/- per month	
	(f) Running expenditure like electricity bill etc. as per the actual bill received.	 
	(g) D.G. set @ 5.00 lakh as per demand note from respective office.	
	(h) Installation of 8 KW Solar Panels	 
5	(a) Public awareness by organising wildlife week, Run for wildlife, Wildlife painting and essay competition etc. in collaboration and direction from DFO, Chaibasa @6.0 lakh per years. Expenditure will be incurred as per the demand note of DFO, Chaibasa.	Wildlife week was celebrated in the month of October'23. A mass awareness and mobilization amongst people on the various themes, programme was organised for wildlife week at Chaibasa Run for wildlife, painting/ banner and essay competition in school/ college, wall paintings on wildlife theme at school, Chaibasa. Birds watching and listing at Bidri, Photography competition, debate at Kolhan University/ Tata College. RFO, Noamundi have issued demand note vide letter no. 410 dated 29.10.23 and 411 dated 29.10.23. Payments have been made to beneficiaries through RTGS.

		 
	(b) Signages at strategic places.	Visual signages have been procured and installed at sites.  
(E)	**Capacity building**	
6	Training and capacity building of front-line staff and daily wages engage in wildlife rescue Expenditure will be incurred as per the demand note of DFO, Chaibasa.	Arrangement was made as direction received from DFO. Organised Mission LiFE at Chaibasa under the direction of State Forest Dept in the month of May'23 to Jun'23. Street Play were organised at different places, Payment were made to beneficiary AKP Enterprises.

		 
(F)	**Mitigative measures to protect Sambhar Deer, Elephant, Wild Boar, Hare and other wildlife to avoid Human- Wildlife Conflict**	
7	(a) Installation of ANIDERS: An Animal Intrusion Detection & Repellent System is proposed to effectively solve Human- Wildlife Conflict. It works as a Smart Scarecrow. Solar powered, Uses IR sensors and alarm system to repel. Makes multiple sounds and light pattern. Uses GSM for real time communication. Installation of such system for 18 KMs (1 Km per Forest Fringe village Boundary) ; 6 active system and 6 passive system per km; @ Rs. 31500 per Active system; @ Rs. 12,100 per Passive system	ANIDERS have been Installed at village Angardiha and has been communicated to DFO's office vide letter no. GM/LO/978/21 Dt. 25.01.2021. More such ANIDERS will be installed after selection of appropriate place for installation. 
	(b) Maintenance for above system	
(G)	**Strengthening of infrastructure for forest and wildlife protection: Upgradation of forest check post @Bada Jamda**	

8	(a) Automated Barrier, Wheel mounted barrier	Solar Panel set with UPS, 04 nos. CCTV, 01 no. PoE NVR, 01 no. 32" LED, 01 no. 9U Rack, 02 nos. Automated barrier set, and 04 nos. wheel mounted barrier have been installed at Bada Jamda Check Post on 26.10 2021.
	(b) CCTV 4 nos.	
	(c) Solar Panel of 4 kwh	

CHAPTER- V

Interventions to be implemented by Forest Department.

Sl. No.	Condition	Compliance
1	Payment against activities to be undertaken by State Forest department under the approved Site-Specific Wildlife Conservation Plan in to State CAMPA Fund.	Deposited online an amount of Rs. 14,98,70,000/- (Rupees fourteen crore ninety-eight lakh seventy thousand only) through RTGS vide ref.no. HDFCR52020122865852467 dated 28.12.2020 into State CAMPA fund, Jharkhand, Account no. 150725810480176, IFSC CORP0000371 vide letter no. GM/LO/965/441-B/21 Dt. 12.01.2021 and ref. no. 1694 dated 12.10.2020.

This is for kind information and to note our compliance against the approved Site-Specific Wildlife Conservation Plan.

Workers Using PPEs





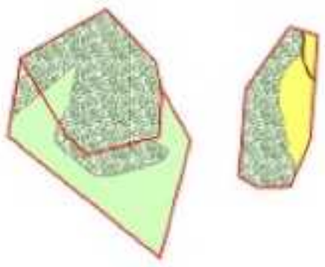
ANNEXURE-XXXI

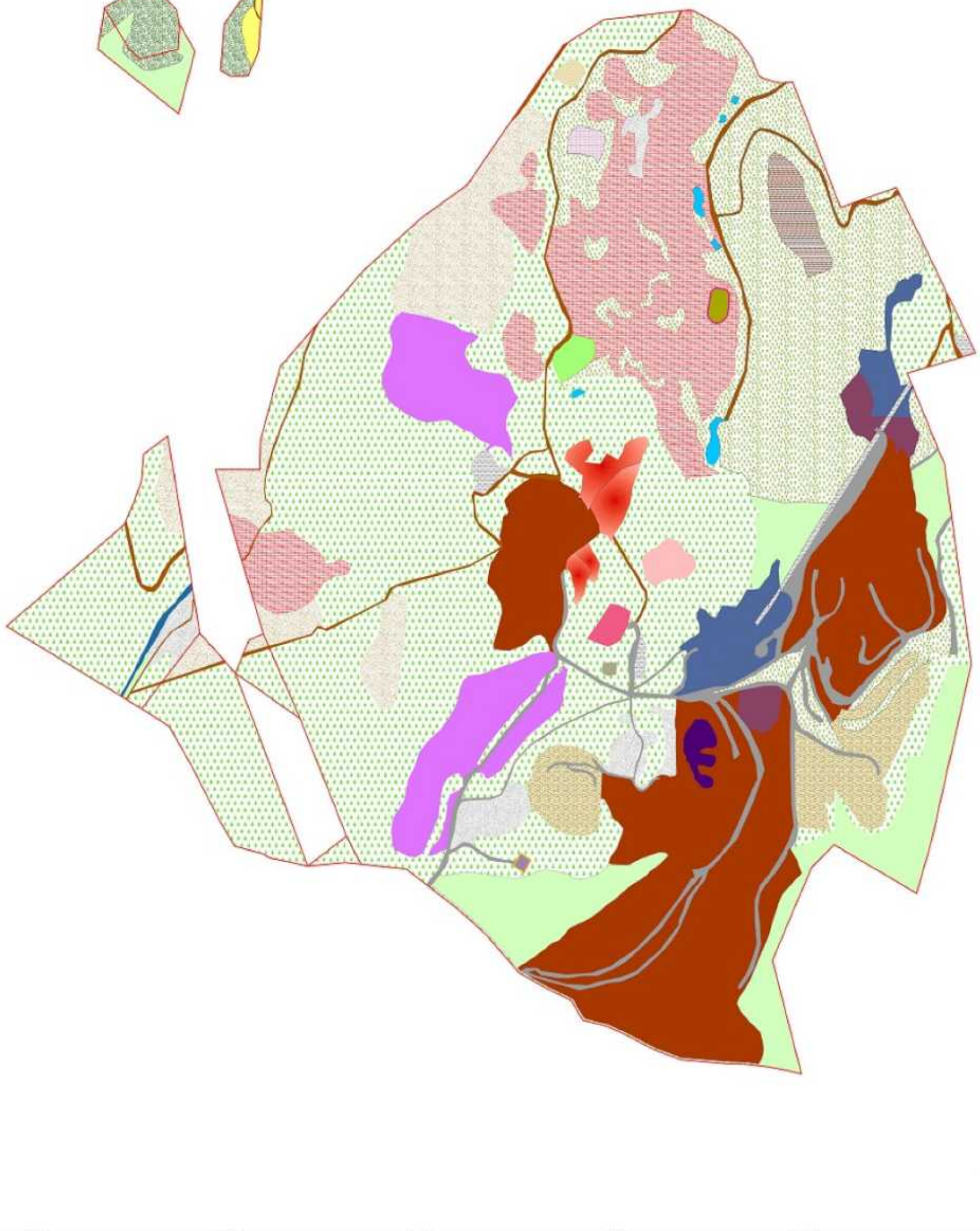
Environment Expenditure at Noamundi Iron Mine
FY 2023-24

Sl No.	Details	Expenditure (Lakhs)
1	General housekeeping at HEMM shed & upkeeping of recycling pit at mega center	4.50
2	Air pollution control measures such as closed conveyors and DFDS in C&S plant	21.70
3	Operation & maintenance of STPs, ETPs & WTP	252.00
4	Development of Nursery, gardens, saplings plantation & maintenance in and around Noamundi	294.14
5	Operation and maintenance of Wet drilling system	18.00
6	Environment monitoring in and around Noamundi	9.83
7	Operation & maintenance of CAAQMS & Digital display board	24.72
8	Practice of controlled blasting Methods	156.00
9	Ground vibration and rock fragmentation study	2.17
10	Soil stability study	30.00
11	Construction and maintenance of Slime dam	458.18
12	Housekeeping & Maintenance of Rapid Loading System, stackers, bins over laying conveyors at Railway siding areas.	243.77
13	Operation & Maintenance of dry-fog, mist cannon system & mobile water tanker at railway sidings	29.13
14	Operation & maintenance of municipal solid waste (Collection, segregation, development of compost) in colony & Other area	100.82
15	Construction & maintenance of Retaining Wall	20.00
16	Construction & maintenance of Surface Run-off management measures (Construction of settling pond, Check dams, garland drains, gully plugs etc.)	50.00
	Total Expenditure	**1714.96**

ANNEXURE 7







LAND USE/LAND COVER MAP OF OF NOAMUNDI IRON ORE MINES OF M/s TATA STEEL LTD



SCALE:-1:5,000

Meters

0 125 250 500 750 1,000 1,250

LEGEND

ML BOUNDARY

LANDUSE/LAND COVER

LEVEL-I	LEVEL-II	LEVEL-III	LEGEND	AREA IN HA	AREA IN %
AGRICULTURAL	CROP LAND	CROPLAND		1,717	0.149
BUILT-UP LAND	ADMINISTRATIVE	OTHER INFRASTRUCTURE		38.723	3.31
	EDUCATIONAL	SCHOOL		3.336	0.285
	INFRASTRUCTURE	EQUIPMENT MAINTENANCE		2.048	0.187
		INFRASTRUCTURE AREA		6.809	0.583
		MAGAZINE		0.329	0.028
		POWER HOUSE		3.855	0.330
	PUMP	FUEL/PUMP		5.361	0.031
	SETTLEMENT	COLONY INFRASTRUCTURE		103.545	8.855
		RURAL SETTLEMENT		3.306	0.283
	TRANSPORT	INNER ROAD		33.630	2.899
		OTHER ROAD		14.913	1.286
INDUSTRIAL	PLANT	PLANT		38.286	1.732
		SIDING PLANT		8.238	0.693
MINING AREA	DUMP	DUMP		41.988	3.747
	MINING	OTHER		8.175	0.700
	QUARRY	QUARRY		163.964	14.127
	SLIME DAM	INPIT SLIME DAM		5.811	0.243
		SLIME DAM		69.713	6.113
RECREATIONAL	RECREATIONAL AREA	PARK/PLAY GROUND		5.578	0.233
		STADIUM		5.380	0.14
VEGETATION COVER	FOREST	FOREST COVER AREA		78.197	6.691
	NON FOREST	PLANTATION		138.483	11.949
		TREE COVER AREA		275.271	23.709
		VEGETATION		33.726	2.907
WASTE LAND	WASTE LAND	LAND WITH SCRUB		55.305	4.514
		LAND WITHOUT SCRUB		17.316	1.488
WATER BODY	WATER BODY	PARA		1.107	0.105
		WATER BODY		1.807	0.218
TOTAL AREA				1,160.060	100.000

MAP PREPARED FOR THE YEAR ENDING ON 31.03.2021

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

Prepared by:
Geo Consultants Pvt. Ltd
(Authorized Organization of OSAC)

Plot No:853, Govinda Prasad, Mahavir Nagar (Mallisal Lane),
In front of Reliance Fresh (Radhika Complex)
Cuttack Road, Laxmisagar, Bhubaneswar-751006, Odisha

Date: 31.07.2024

OMQ/EMP/02/ /2024

DECLARATION

Formation of Environment Management Cell

Location: Ore Mines & Quarry Division which includes following locations→

1. Noamundi Iron Mine, over 1160.06 Ha located at Mahul, Balijore, Korta, Noamundi, Sarbil &Balijori villages, West Singhbhum District, Jharkhand.
2. Katamati Iron Mine, over 403.3238 Ha. At village Deojhar & Thakurani RF, Keonjhar District, Odisha.
3. Joda East Iron Mines, over 671.093 Ha. Located in village Joda, Kamarjoda, Banspani, Khuntpani &Baitarani RF in Barbil Taluka, Keonjhar District, Odisha.
4. Khondbond Iron & Mn. Mines, over 978 Ha. Located in village Khondbandh, Tehsil Barbil, Keonjhar District, Odisha.
5. Vijaya-II Iron Ore Mines, over 155.078 Ha. Located in village Ghatkuri, Tehsil: Noamundi, West Singhbhum District, Jharkhand.
6. Kalamang West (Northern Part) Block Iron Ore Mines, over 92.875 Ha. Located at village Gandalpada, Keonjhar District in villages Kalamang & Ghodabudani, Sundargarh Districts, Odisha.
7. Neelachal Iron Ore Mines, over 874.290 Ha. Located at Keonjhar & Sundargarh Districts, Odisha.
8. Gandhalpada Iron Ore Mine, over 241.10 Ha. At atGandhalpada, Guali and Barpada Villages, Barbil Tehsil, Keonjhar District, Odisha.

A separate Environment Management Cell has been formed, with suitable qualified personnel, under the control of Chief Mine Planning & Projects, who reports directly to the General Manager of Ore Mines & Quarry Division. The environment Management Cell will ensure compliance of following Acts & Rules but not limited to:

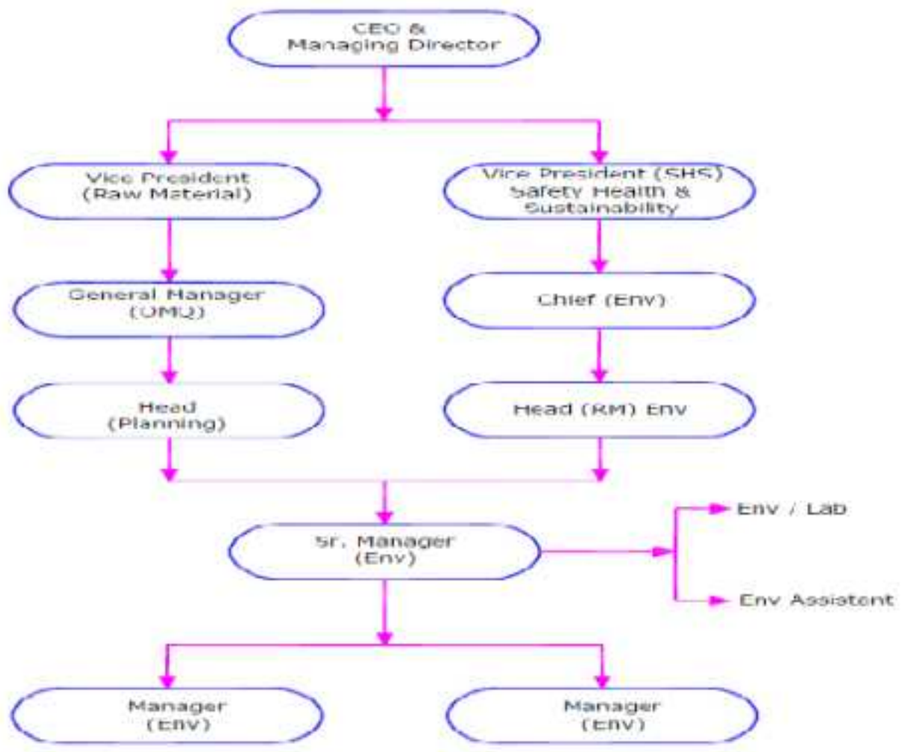
1. The Environment (Protection) Act, 1986.
2. Environmental Impact Assessment Notification, 14th Sep-2006.
3. Wildlife Protection Act 1972
4. Air (Prevention and Control of Pollution) Act, 1981
5. Water (Prevention and Control of Pollution) Act1974
6. Noise Pollution (Regulation and Control Act) 1990
7. Public Liability and Insurance Act 1991
8. The Forest (Conservation) Act. 1980
9. Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016.
10. E-waste Management Rules, 2022
11. Bio-medical Waste Management Rules, 2016
12. Battery Waste Management Rules, 2022

13. Plastic Waste Management Rules, 2022

The Environment Management Cell Consists of Following Personnels:

1. Shri. Awnish Kumar (Chief-Mine Planning & Projects)
2. Shri. Mukesh Kumar Prasad (Head-Environment Management)
3. Shri. Pinku Kumar (Head- Mine Planning)
4. Shri. Vivek Kumar Agarwal (Senior Area Manager- Planning)
5. Shri. Abinash Das (Area Manager- Environment)
6. Shri. Gaurav Dubey (Area Manager- Environment)
7. Shri. Roshan Singh (Area Manager- Horticulture)
8. Shri. Gaurav Mukherjee (Area Manager- Planning)
9. Shri. Vishal Kumar Singh (Area Manager- Planning)
10. Shri. Debasish Das (Senior Manager- Environment)
11. Shri. Sudhanshu Ranjan (Manager- Environment)
12. Shri. Shubham Singh (Manager-Environment)
13. Shri. Rishi Raj Kashyap (Manager-Environment)
14. Shri. Jarsaniya Harshkumar Dayabhai (Assistant Manager- Environment)
15. Shri. Ramendra Kumar (Officer- Environment)
16. Shri. Jhasketan Pradhan (Senior Environment Assistant)
17. Shri. Soumyak Palei (Environment Assistant)
18. Shri. Pragyan Prakash Mohanto (Environment Assistant)
19. Shri. Ganesh Karua (Environment Assistant)
20. Shri. Bharat Pan (Environment Assistant)
21. Shri. Gurucharan Laguri (Environment Assistant)
22. Shri. Gayatri Behera (Environment Chemist)

The detailed Organogram is as follows:



f: Tata Steel Limited

Awnish Kumar

Chief- Mine Planning & Projects (OMQ)

Date: 20/01/2024

TATA STEEL LIMITED
BOMBAY HOUSE, 24, HOMI MODY STREET, FORT,
MUMBAI - 400001
MUMBAI
MAHARASHTRA
INDIA
27AAACT2803M2ZA(GSTIN Number)

Policy No : 0304009684
Renewal : 01
Endorsement : 00

Dear Sir / Madam,

We thank you for choosing **Tata AIG General Insurance Company Ltd**. as your preferred insurer. Your Policy No. Is 0304009684 01 00.

We are glad that you have chosen our product **PUBLIC LIABILITY ACT** and given us an opportunity to be your risk carrier for this Product.

'Casualty Line' caters to most of the Enterprises / Industries in India, whether Large, Medium or Small. As one of the India's most established insurance companies, we understand these unique needs of coverage. At Tata AIG we care for you and would strive to offer convenience coupled with a range of products that cater continously to your ever increasing needs.

Enclosed please find your policy docket based on the information furnished by you in the Proposal.

We look forward to a long and mutually beneficial relationship and providing you wider range of benefits in the years to come.

Yours Sincerely,
For Tata AIG General Insurance Company Limited

Authorized Signatory

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park,Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

PUBLIC LIABILITY ACT POLICY
POLICY SCHEDULE

Agent/Broker Name -DIRECT

Agent/Broker License Code - NA:Agent/Broker :Contact No - 24*7 Tollfree Helpline 1800-266-7780

Attaching to and forming part of Policy No.	0304009684 01 00
Name of Insured Owner:	TATA STEEL LIMITED
Business:	Principally including but not limited to; Manufacture of Steel & Steel related finished products (such as Coils, Sheets, Billets, Pipes, Burnt to shape & fabricated equipments, Tubes, Bearings, Wires, Packaging substrates, Agricultural tools tackles & equipment, etc.); design, manufacture and supply of high precision equipment for various industrial sectors; sale of By-Products of steel making, foundry-grade pig iron, mining of chrome and manganese ore to the production and sale of ferro-alloys and minerals; Captive mining of Coal, Iron Ore, etc.; Water Distribution, Power production & distribution, Integrated township management, real estate, and operations and maintenance design, construction and turnkey services as well as comprehensive EPC services; Erection & Commissioning of plant and equipment, logistics services, port operations, shipping, warehouse, industrial consulting, New Material Business (HDPE, PVC, GFX3 Paint, Conveyors and Idlers) and any other activities including the new activities taken up during the policy period and supporting activities anywhere in the world. • Please also refer to http://www.tatasteel.com and the Business activities as per MoA and respective subsidiaries website.
Address:	BOMBAY HOUSE, 24, HOMI MODY STREET, FORT, MUMBAI - 400001 MUMBAI MAHARASHTRA INDIA 27AAACT2803M2ZA(GSTIN Number) Place of supply -MAHARASHTRA State code -27
Territorial limits:	Anywhere in India

Policy Period: **From:** 01/01/2024 12:00 AM/ PM
To Midnight of: 31/12/2024 12:00 AM/ PM

Indemnity limit:Rs 50,000,000.00 in respect of any one accident and not exceeding 3 times thereof in the aggregate during the policy period.

Service Tax Registration No:

Premium	₹ 13,000.00
UGST/SGST @9 %	₹ 1,170.00
CGST @9 %	₹ 1,170.00

Contribution to the Environment Relief Fund:₹ 13,000.00

Date of Proposal and declaration:20/01/2024

In witness whereof the undersigned being duly authorized by the company and on behalf of the company has hereto set his hand at MUMBAI on 20/01/2024

The stamp duty of 0.25 paid in cash or demand draft or by pay order,vide Receipt/Challan no: LOA/CSD/01/2023/4269 dated the 25/10/2023

For Tata AIG General Insurance Company Limited

Authorized Signatory

Date :20/01/2024
Place :MUMBAI

Policy Servicing Office
Tata AIG General Insurance Company Limited
2ND FLOOR, CITI TOWER, 61, DR. S.S.RAO ROAD,, NEXT TO M.G.M HOSPITAL, PAREL(E), MUMBAI - 400012,MUMBAI,MAHARASHTRA,MUMBAI-400012
Tel No:22-22-62606600

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park,Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

RECEIPT

Receipt No. : 102001064963200

Receipt Date : 01/01/2024

Policy No : 0304009684 01 00

Received with thanks from TATA STEEL LTD a sum of ₹ **28,340.00** (Rupees Twenty Eight Thousand Three Hundred Forty And Paise Zero Only)

Sr. No.	Policy Number	Total Premium (₹)	Utilized from the receipt for policy (₹)	Balance (₹)
1	0304009684 01 00	28,340.00	28,340.00	0.00

Note:

1. This is a computer generated receipt and does not require a signature.
2. Upon issuance of this Receipt, all previously issued temporary receipts, if any, related to this Policy shall be considered null and void.
3. Amounts received by cheque shall be subject to realisation.
4. Any amount received in excess of the Premium is being/shall be refunded by the Company.

GSTIN : 27AABCT3518Q1ZW - MAHARASHTRA Service Accounting Code : 997139

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park,Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

LIABILITY INSURANCE POLICY
(UNDER PUBLIC LIABILITY INSURANCE ACT 1991)

1.OPERATIVE CLAUSE

Whereas the Insured Owner named in the schedule hereto and carrying on business described in the said schedule has applied to the Tata AIG General Insurance Company Limited (hereinafter called the Company) for the indemnity hereinafter contained and has made a written proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein and has paid the premium and statutory contribution towards the Environment Relief Fund as per the provisions of the Public Liability Insurance Act and the rules framed thereunder.

NOW THIS POLICY WITNESSETH that subject to the terms, exceptions and conditions contained herein or endorsed hereon, the company will indemnify the insured owner against the statutory liability arising out of accidents occurring during the currency of the policy due to handling hazardous substances as provided for in the said Act and the Rules framed thereunder.

2.DEFINITIONS:

a)"ACT" unless otherwise specifically mentioned shall mean the Public Liability Insurance Act 1991 as amended from time to time;

b) "Accident" means an accident involving a fortuitous, sudden or unintentional occurrence while handling any hazardous substance resulting in continuous, intermittent or repeated exposure to death of, or injury to any person or damage to any property but does not include an accident by reason only of war or radioactivity;

c) "Handling" in relation to any harzardous substance means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance;

d) "Hazardous Substance" means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act, 1986, and exceeding such quantity as may be specified, by notification, by the Central Government;

e)"Owner" means a person who owns, or has control over handling any hazardous substance at the time of accident and includes:
- i) in the case of a firm any of its partners;
- ii) in the case of an association, any of its members, and
- iii) in the case of a company, any of its directors, managers, secretaries or other officers who is/are directly in charge of, and is/are responsible to the company for the conduct of the business of the company;

f) "Turnover" shall mean
- i) Manufacturing units-Annual Gross Sales of all goods including all levies and taxes
- ii) Godowns/ warehouse owners-Total Annual rental receipts.
- iii)Transport Operators-Total Annual freight receipts.
- iv)Others-Total Annual gross receipts.

3. EXCLUSIONS:

(1) arising out of wilful or intentional non-compliance of any Statutory provisions.

(2) in respect of fines, penalties, punitive and/or exemplary damages.

(3) arising under any other legislation except in so far as provided for in Section 8 Sub Section (1) and (2) of the Act.

(4) in respect of damage to property owned, leased or hired or under hire purchase or on loan to the Insured or otherwise in the Insured Owner's control, care or custody.

(5) directly or indirectly occasioned by, happening through or in consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military or usurped power;

(6) directly or indirectly caused by or contributed to by.

(a) ionising radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel

(b) the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

4. CONDITIONS:

(1) The Insured owner shall give written notice to the Company as soon as reasonably practicable of any claim made against the Insured Owner or of any specific event or circumstance that may give rise to a claim. The Insured Owner shall immediately give to the Company copies of notice of applications forwarded by the Collector and all

such additional information and or assistance that the company may require.

(2) No admission, offer, promise or payments shall be made or given by or on behalf of the Insured owner under this policy without the written consent of the Company.

(3) The Company shall not be liable for any claim for relief made after five years from the date of occurrence of the accident.

(4) The Insured Owner shall keep record of annual turnover, and at the time of renewal of insurance declare such turnover and all other details as may be required by the Company. The Company shall at all reasonable times have full rights to call for and examine such records.

(5) If at the time of happening of any accident resulting in a claim under this policy there be any other insurance covering the same liability, then the Company shall not be liable to pay or contribute more than its ratable proportion of such liability.

(6) This policy may be cancelled by the Insured Owner by giving 30 days notice in writing to the company in which event the Company will retain premium at short period scale subject to there not having occurred an accident during the policy period which may give rise to a claims(s), failing which no refund of premium shall be allowable.

(7) This Policy may also be cancelled by the Insurer by giving 30 days notice in writing to the Insured Owner in which event the Company shall be liable to repay on demand a ratable proportion of the premium for the unexpired term from the date of cancellation.

(8) If the Company shall disclaim liability to the Insured Owner for any claim hereunder and such claim shall not within 12 calendar months from the date of such disclaimer have been made the subject matter of a suit in a competent court of law, then the claim for the practical purposes shall be deemed to have been abandoned and shall not thereafter be recoverable hereunder or be made the subject matter of any suit.

(9) The Company shall not be liable to make any payment in respect of any claim if such claim shall be in any manner fraudulent or supported, by any person on behalf of the Insured Owner and/or if the insurance has been continued in consequence of any material misstatement or non-disclosure of any material information by or on behalf of the Insured Owner. In such a case if the Company pays any amount to the claimant due to any statutory provision such amount shall be recoverable from the Insured Owner.

(10) The Policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been assigned in the Act and the Rules framed thereunder or in this Policy shall bear such specific meaning.

(11) Any dispute regarding interpretation of the terms, conditions and exclusions of this Policy shall be determined in accordance with the law and practice of a court of competent jurisdiction within India.

GRIEVANCE REDRESSAL POLICY

Grievance Lodgment Stage

The Company is committed to extend the best possible services to its customers. However, if you are not satisfied with our services and wish to lodge a complaint, please feel free to contact us through below channels:

Call us 24X7 toll free helpline 1800 266 7780
Email us at customersupport@tataaig.com

Write to us at : Customer Support, Tata AIG General Insurance Company Limited
A-501 Building No.4 IT Infinity Park, Dindoshi, Malad (E), Mumbai - 400097
Visit the Servicing Branch mentioned in the policy document

Nodal Officer

Please visit our website at www.tataaig.com to know the contact details of the Nodal Officer for your servicing branch.
After investigating the grievance internally and subsequent closure, we will send our response within a period of 10 days from the date of receipt of the complaint by the Company or its office in Mumbai. In case the resolution is likely to take longer time, we will inform you of the same through an interim reply.

Escalation Level 1

For lack of a response or if the resolution still does not meet your expectations, you can write to manager.customersupport@tataaig.com. After investigating the matter internally and subsequent closure, we will send our response within a period of 8 days from the date of receipt of your complaint.

Escalation Level 2

For lack of a response or if the resolution still does not meet your expectations, you can write to the Head-Customer Services at head.customerservices@tataaig.com. After examining the matter, we will send you our response within a period of 7 days from the date of receipt of your complaint. Within 30 days of lodging a complaint with us, if you do not get a satisfactory response from us and you wish to pursue other avenues for redressal of grievances, you may approach Insurance Ombudsman appointed by IRDA under the Insurance Ombudsman Scheme. Given below are details of the Insurance Ombudsman located at various centers.

List of Insurance Ombudsman Offices

Office of the Ombudsman	Address & Contact details	Jurisdiction of Office Union Territory, District
AHMEDABAD	Office of the Insurance Ombudsman, Jeevan Prakash Building, 6th Floor, Tilak Marg, Relief Road, Ahmedabad - 380 001. Tel.: 079 - 25501201/02/05/06 Email: bimalokpal.ahmedabad@ecoi.co.in	Gujarat, Dadra & Nagar Haveli, Daman and Diu.
BENGALURU	Office of the Insurance Ombudsman, Jeevan Soudha Building, PID No. 57-27-N-19 Ground Floor, 19/19, 24th Main Road, JP Nagar, Ist Phase, Bengaluru – 560 078. Tel.: 080 - 26652048 / 26652049 Email: bimalokpal.bengaluru@ecoi.co.in	Karnataka
BHOPAL	Office of the Insurance Ombudsman, Janak Vihar Complex, 2nd Floor, 6, Malviya Nagar, Opp. Airtel Office, Near New Market, Bhopal – 462 003. Tel.: 0755 - 2769201 / 2769202 Fax: 0755 - 2769203 Email: bimalokpal.bhopal@ecoi.co.in	Madhya Pradesh Chattisgarh
BHUBANESHWAR	Office of the Insurance Ombudsman, 62, Forest park, Bhubneshwar - 751 009. Tel.: 0674 - 2596461 /2596455 Fax: 0674 - 2596429 Email: bimalokpal.bhubaneswar@ecoi.co.in	Orissa
CHANDIGARH	Office of the Insurance Ombudsman, S.C.O. No. 101, 102 & 103, 2nd Floor, Batra Building, Sector 17 – D, Chandigarh - 160 017. Tel.: 0172 - 2706196 / 2706468 Fax: 0172 - 2708274 Email : bimalokpal.chandigarh@ecoi.co.in	Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir, Chandigarh
CHENNAI	Office of the Insurance Ombudsman, Fatima Akhtar Court, 4th Floor, 453, Anna Salai, Teynampet, CHENNAI - 600 018. Tel.: 044 - 24333668 / 24335284 Fax: 044 - 24333664 Email : bimalokpal.chennai@ecoi.co.in	Tamil Nadu, Pondicherry Town and Karaikal (which are part of Pondicherry).
DELHI	Office of the Insurance Ombudsman, 2/2 A, Universal Insurance Building, Asaf Ali Road, New Delhi – 110 002. Tel.: 011 - 23239633 / 23237532 Fax: 011 - 23230858 Email: bimalokpal.delhi@ecoi.co.in	Delhi
GUWAHATI	Office of the Insurance Ombudsman, Jeevan Nivesh, 5th Floor, Nr. Panbazar over bridge, S.S. Road, Guwahati – 781001(ASSAM). Tel.: 0361 - 2132204 / 2132205 Fax: 0361 - 2732937 Email : bimalokpal.guwahati@ecoi.co.in	Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland and Tripura
HYDERABAD	Office of the Insurance Ombudsman, 6-2-46, 1st floor, "Moin Court", Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.: 040 - 65504123 / 23312122 Fax: 040 - 23376599 Email : bimalokpal.hyderabad@ecoi.co.in	Andhra Pradesh, Telangana, Yanam and part of Territory of Pondicherry.
JAIPUR	Office of the Insurance Ombudsman, Jeevan Nidhi – II Bldg., Gr. Floor, Bhawani Singh Marg, Jaipur-302 005. Tel.: 0141 - 2740363 Email: Bimalokpal.jaipur@ecoi.co.in	Rajasthan
ERNAKULAM	Office of the Insurance Ombudsman, 2nd Floor, Pulinat Bldg., Opp. Cochin Shipyard, M. G. Road, Ernakulam - 682 015. Tel.: 0484 - 2358759 / 2359338 Fax: 0484 - 2359336 Email : bimalokpal.ernakulam@ecoi.co.in	Kerala, Lakshadweep, Mahe-a part of Pondicherry
KOLKATA	Office of the Insurance Ombudsman, Hindustan Bldg. Annexe, 4th Floor, 4, C.R. Avenue, KOLKATA-700 072. Tel.: 033 - 22124339 / 22124340 Fax : 033 - 22124341 Email: bimalokpal.kolkata@ecoi.co.in	West Bengal, Sikkim, Andaman & Nicobar Islands
LUCKNOW	Office of the Insurance Ombudsman, 6th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow - 226 001. Tel.: 0522 - 2231330 / 2231331 Fax: 0522 - 2231310 Email : bimalokpal.lucknow@ecoi.co.in	Districts of Uttar Pradesh : Laitpur, Jhasi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhabdra, Fatehpur, Pratapgarh, Jaunpur, Varanasi, Gazipur, Jalaun, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareli, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Balrampur, Basti, Ambedkarnagar, Sultanpur, Maharajgang, Santkabirnagar, Azamgarh, Kushinagar, Gorkhpur, Deoria, Mau, Ghazipur, Chandauli, Ballia, Sidharathnagar

MUMBAI	Office of the Insurance Ombudsman, 3rd Floor, Jeevan Seva Annexe, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel.: 022 - 26106552 / 26106960 Fax: 022 - 26106052 Email : bimalokpal.mumbai@ecoi.co.in	Goa, Mumbai Metropolitan Region excluding Navi Mumbai & Thane
NOIDA	Office of the Insurance Ombudsman, Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bans, Sector 15, Distt: Gautam Buddh Nagar, U.P-201301. Tel.: 0120-2514250 / 2514252 / 2514253 Email : bimalokpal.noida@ecoi.co.in	State of Uttaranchal and the following Districts of Uttar Pradesh : Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshehar, Etah, Kanooj, Mainpuri, Mathura, Meerut,Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Farrukhabad, Firozbad, Gautambodhanagar, Ghazaibad, Hardoi, Shahjahanpur, Hapur, Shamli, Rampur, Kashganj, Sambhal, Amroha, Hathras, Kanshiramnagar, Saharanpur
PATNA	Office of the Insurance Ombudsman, 1st Floor,Kalpana Arcade Building, Bazar Samiti Road, Bahadurpur, Patna 800 006. Tel.: 0612-2680952 Email:bimalokpal.patna@ecoi.co.in	Bihar, Jharkhand
PUNE	Bhagwan Sahai Palace , 4th Floor, Main Road, Naya Bans, Sector 15, G.B. Nagar, Noida. NOIDA – 201301 Tel: 0120-2514250/51/53 Email: bimalokpal.noida@gbic.co.in	Maharashtra, Area of Navi Mumbai and Thane excluding Mumbai Metropolitan Region

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park,Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

ANNEXURE-I

Status of Remediation Plan: Noamundi Iron Mine

Sl No.	Component	Proposed Activity	Description	Location	Qty	Compliance Status
1	Remediation Plan- Air & Noise Environment	Fugitive Dust control & Noise attenuation	Installation of Wind-shield cum Noise barrier	Within lease (Bottom Bin Railway siding)	1500m boundary	Purchase Order placement is in progress
2	Remediation Plan- Air Environment	Fugitive dust control	Develop green zone along prominent wind direction	Within project area	16 ha.	Continuous work and plantation is in progress. Nearly 11276 saplings were planted in FY:2023-24
3	Remediation Plan-Biological Environment	Increase green cover	Rapid forest development (Miyawaki plots)	Within lease	1 ha.	This is a continuous job. Plantation is done over an area of 0.48 ha till FY'24.
4	Remediation Plan- Air & Noise Environment	Surface water run-off management	Construction of check dams, gully plugs & garland drains	Within lease	2 check dams; 10 gully plugs; 1000m garland drain	2 Nos of Check dams constructed. 1200m length garland drain constructed. Other gully plug work in progress.

ANNEXURE-II

Status of Natural Resource Augmentation Plan: Noamundi Iron Mine

SL No.	Proposed Activity	Description	Location	Total Quantity	Compliance Status
1	Tree Plantation	Development of fruit-bearing trees plot at village	Hesapi Dwarsahi	40 acres	Work completed
2	Avenue plantation	Development of Greenbelt by road-side plantation	Mahudi to Bhangaon, Noamundi to Kutingta, Noamundi to Jamda	15000 meters	Plantation over 15000 meters completed routine maintenance work is in progress
3	Rain- water harvesting	Construction and maintenance of Rain-water harvesting pond structure in villages	Noamundi Basti, Mahudi, Meralgara, Deogaon	8 nos. of ponds	Work completed Noamundi basti- 02, Meralagara- 02, Deogaon- 02, Mahudi-02

ANNEXURE-III

Status of Community Resource Augmentation Plan: Noamundi Iron Mine

SL No.	Proposed Activity	Description	Location	Total Quantity	Compliance Status
1	Provision of solar light	Installation of solar lights in village areas	Mahudi, Sialjoda, Meralghra, Balijodi	23 nos.	Work completed & Installed Solar Lights.
2	Provision of solar powered borewell	Installation of solar-powered bore-well in schools	Mahudi, Sialjoda, Meralghra	3 nos.	Work completed
3	Drinking water	Installation of RO plants in surrounding school	Mahudi, Noamundi Basti, Sarbil, Bhangaon, Legaon, Lepang, Jampani.	7 nos.	Work completed
4	Health facility	Sponsoring Eye-camps in collaboration with Shankar Netralaya	Jaganathpur, Sarbil	2 camps	Eye camp organized.
5	Agriculture	Installation of lift irrigation	Kumirta	1 no.	Work completed.
6	Agriculture	Construction of check dams along with feeder canals	Kutinga, Kotgarh	2 nos.	Work completed.
7	Infrastructure development	Construction of Munda/Manki Bhavan	Dukasai, Baljora, Gundijoda, Meralgara	4 structures	Work completed.

Continuous Ambient Air Quality Monitoring Station

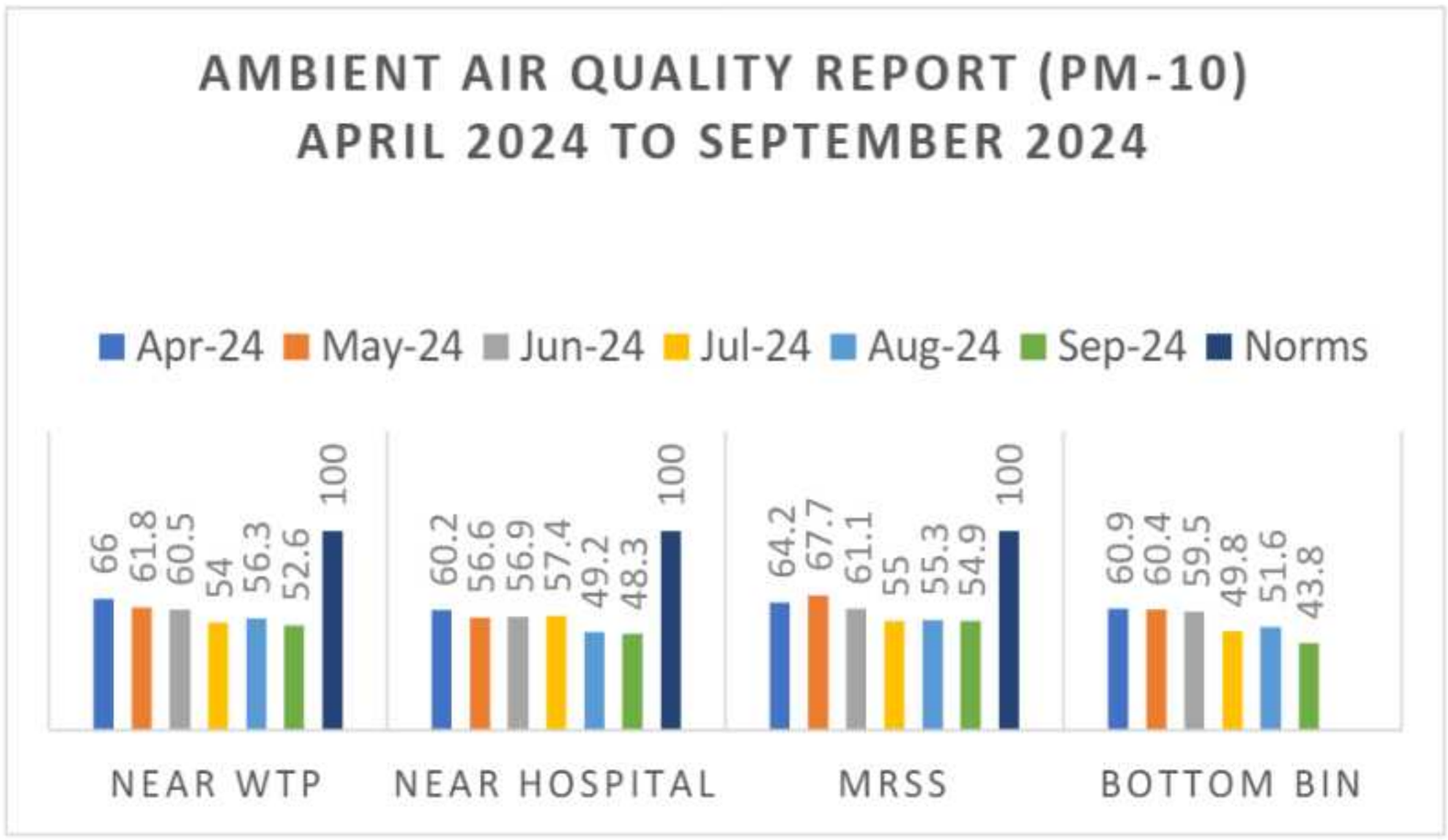


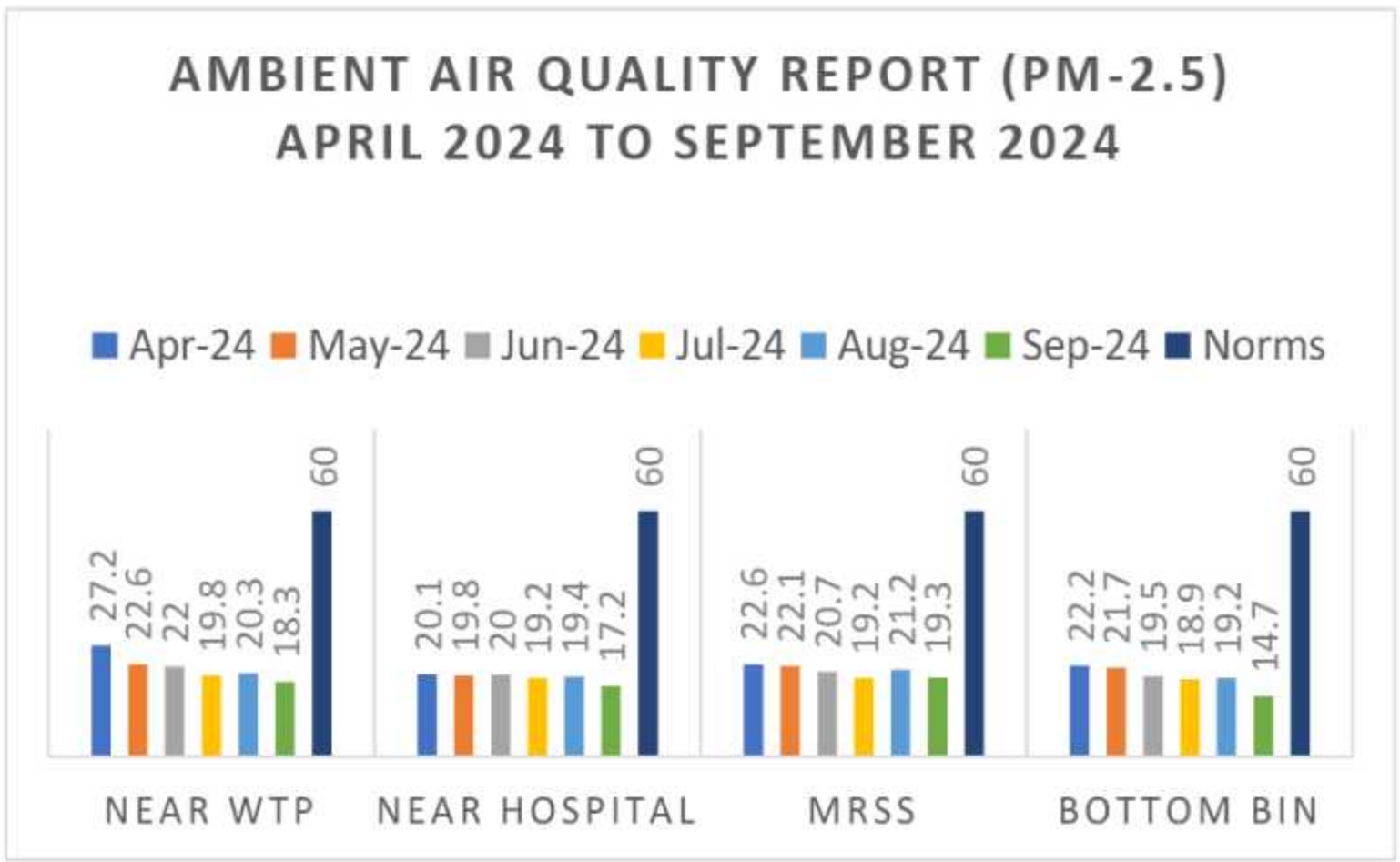




ANNEXURE-XI

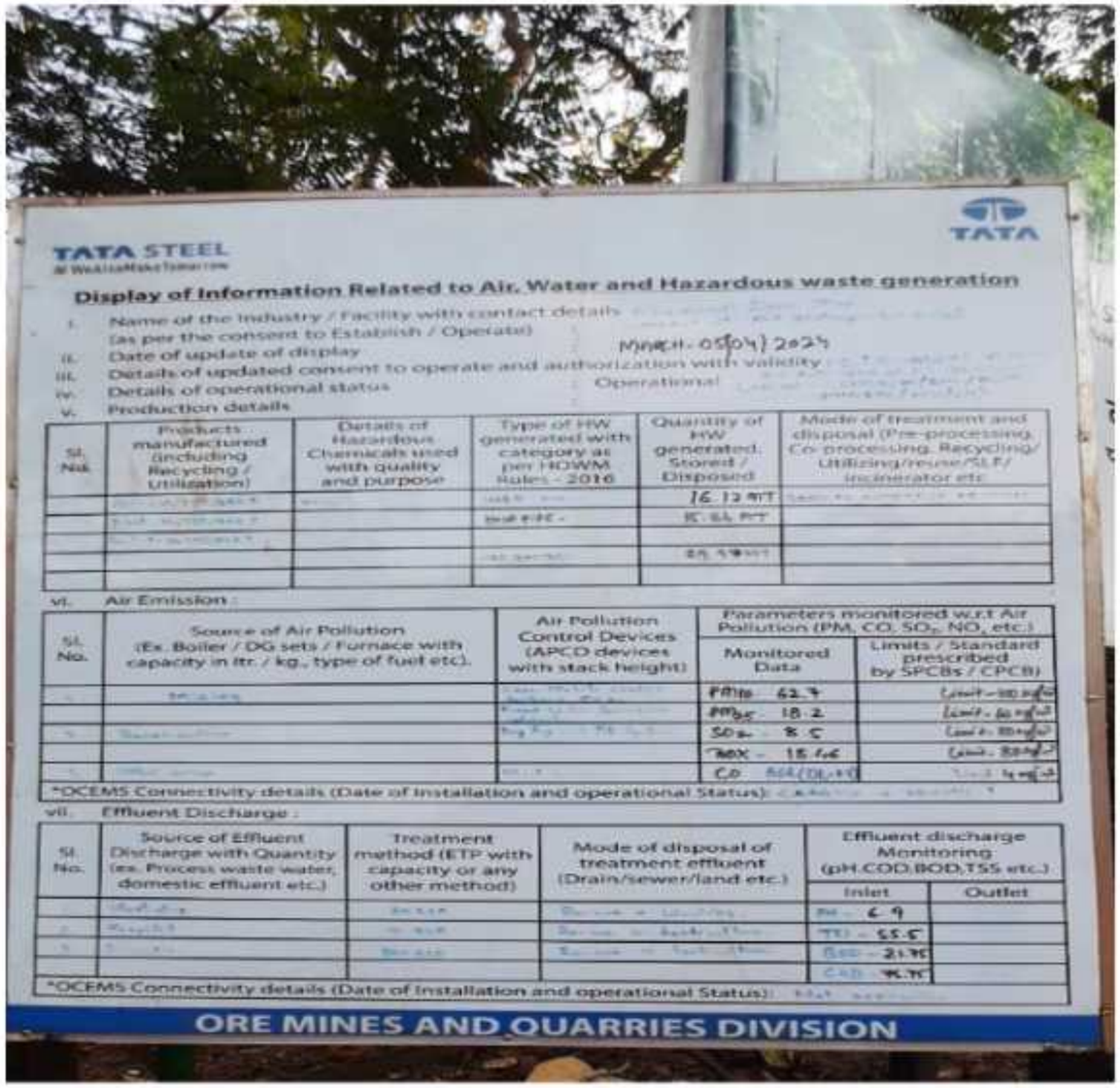
Summarised Ambient Air Quality Monitoring Report								
Noamundi Iron Ore Mine of M/s Tata Steel Limited								
Period: April-24 to September-24								
Mine location	**Sampling location**	**Month**	**Range**	**Results in µg/m³**				
				PM_{10}	**$PM_{2.5}$**	**SO_2**	**NOx**	**CO**
Noamundi Iron Ore Mine	Near WTP	Apr-24	Avg.	66.0	27.2	11.2	21.6	BDL (DL – 0.5)
		May-24	Avg.	61.8	22.6	11.9	21.2	BDL (DL – 0.5)
		Jun-24	Avg.	60.5	22.0	10.5	20.6	BDL (DL – 0.5)
		Jul-24	Avg.	54.0	19.8	10.3	20.7	BDL (DL – 0.5)
		Aug-24	Avg.	56.3	20.3	11.2	21.7	BDL (DL – 0.5)
		Sep-24	Avg.	52.6	18.3	9.3	19.1	BDL (DL – 0.5)
	Near Hospital	Apr-24	Avg.	60.2	20.1	10.8	22.7	BDL (DL – 0.5)
		May-24	Avg.	56.6	19.8	10.9	20.5	BDL (DL – 0.5)
		Jun-24	Avg.	56.9	20.0	10.4	21.0	BDL (DL – 0.5)
		Jul-24	Avg.	57.4	19.2	9.4	18.9	BDL (DL – 0.5)
		Aug-24	Avg.	49.2	19.4	9.8	18.9	BDL (DL – 0.5)
		Sep-24	Avg.	48.3	17.2	8.4	16.7	BDL (DL – 0.5)
	MRSS	Apr-24	Avg.	64.2	22.6	11.0	21.4	BDL (DL – 0.5)
		May-24	Avg.	67.7	22.1	10.8	20.5	BDL (DL – 0.5)
		Jun-24	Avg.	61.1	20.7	10.7	20.5	BDL (DL – 0.5)
		Jul-24	Avg.	55.0	19.2	9.2	18.9	BDL (DL – 0.5)
		Aug-24	Avg.	55.3	21.2	11.3	22.1	BDL (DL – 0.5)
		Sep-24	Avg.	54.9	19.3	12.8	19.2	BDL (DL – 0.5)
	Bottom Bin	Apr-24	Avg.	60.9	22.2	11.5	21.6	BDL (DL – 0.5)
		May-24	Avg.	60.4	21.7	10.8	21.7	BDL (DL – 0.5)
		Jun-24	Avg.	59.5	19.5	9.7	19.3	BDL (DL – 0.5)
		Jul-24	Avg.	49.8	18.9	10.5	20.1	BDL (DL – 0.5)
		Aug-24	Avg.	51.6	19.2	11.3	20.0	BDL (DL – 0.5)
		Sep-24	Avg.	43.8	14.7	9.2	16.8	BDL (DL – 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
Norms
66
61.8
60.5
54
56.3
52.6
60.2
56.6
56.9
57.4
49.2
48.3
64.2
67.7
61.1
55
55.3
54.9
60.9
60.4
59.5
49.8
51.6
43.8
NEAR WTP
NEAR HOSPITAL
MRSS
BOTTOM BIN

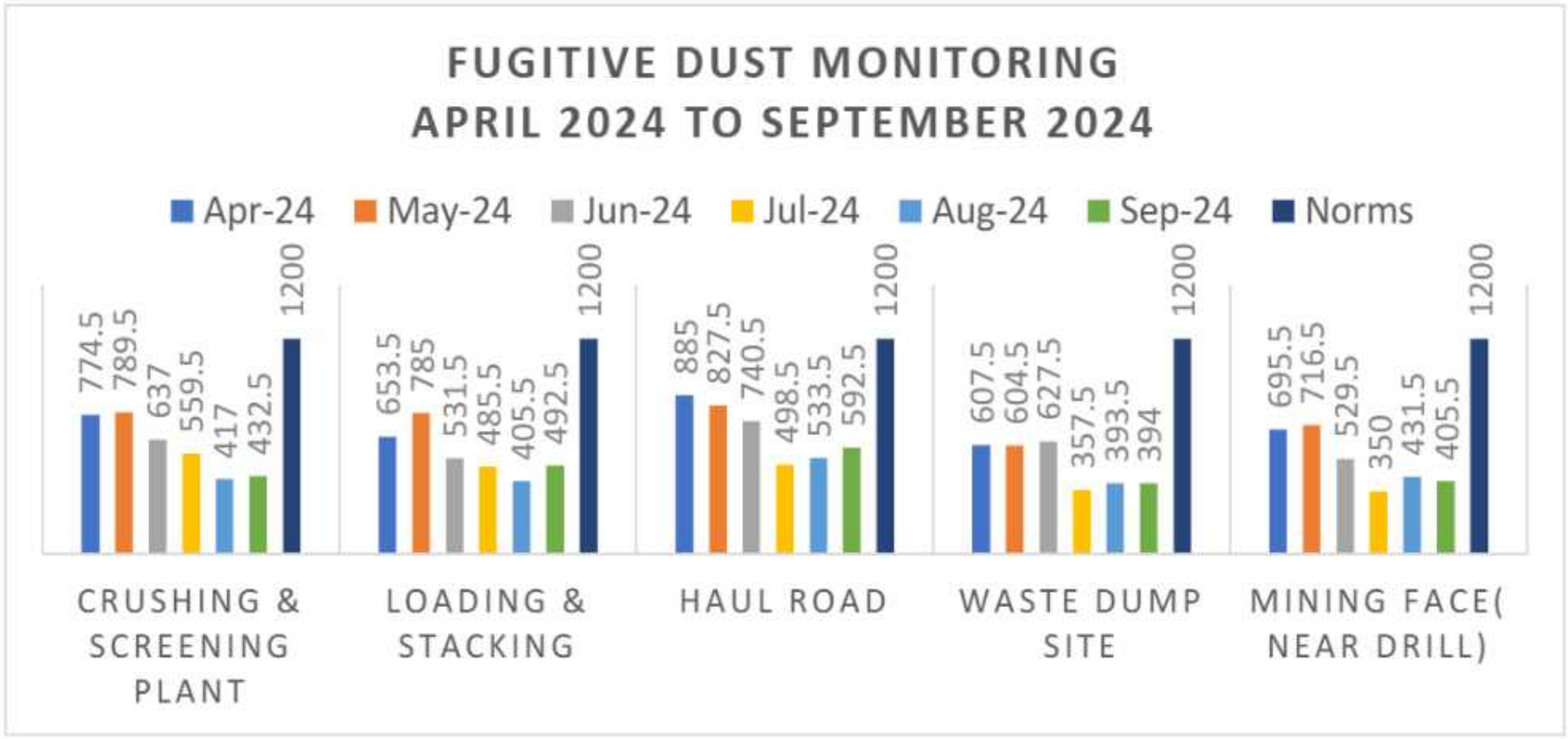

AMBIENT AIR QUALITY REPORT (PM-2.5)
APRIL 2024 TO SEPTEMBER 2024
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Norms
27.2
22.6
22
19.8
20.3
18.3
60
20.1
19.8
20
19.2
19.4
17.2
60
22.6
22.1
20.7
19.2
21.2
19.3
60
22.2
21.7
19.5
18.9
19.2
14.7
60
NEAR WTP
NEAR HOSPITAL
MRSS
BOTTOM BIN

Display Board





ANNEXURE-XIII



Summarized Fugitive Dust Monitoring Report					
Noamundi Iron Ore Mine of M/s Tata Steel Limited					
Period: October-23 to March-24					
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**	**Norms**
Noamundi Iron Mine	Crushing & Screening Plant	Apr-24	µg/m^3	774.5	1200
		May-24	µg/m^3	789.5	1200
		Jun-24	µg/m^3	637	1200
		Jul-24	µg/m^3	559.5	1200
		Aug-24	µg/m^3	417	1200
		Sep-24	µg/m^3	432.5	1200
	Loading & Stacking	Apr-24	µg/m^3	653.5	1200
		May-24	µg/m^3	785	1200
		Jun-24	µg/m^3	531.5	1200
		Jul-24	µg/m^3	485.5	1200
		Aug-24	µg/m^3	405.5	1200
		Sep-24	µg/m^3	492.5	1200
	Haul Road	Apr-24	µg/m^3	885	1200
		May-24	µg/m^3	827.5	1200
		Jun-24	µg/m^3	740.5	1200
		Jul-24	µg/m^3	498.5	1200
		Aug-24	µg/m^3	533.5	1200
		Sep-24	µg/m^3	592.5	1200
	Waste Dump Site	Apr-24	µg/m^3	607.5	1200
		May-24	µg/m^3	604.5	1200
		Jun-24	µg/m^3	627.5	1200
		Jul-24	µg/m^3	357.5	1200
		Aug-24	µg/m^3	393.5	1200
		Sep-24	µg/m^3	394	1200
	Mining Face (Near Drill)	Apr-24	µg/m^3	695.5	1200
		May-24	µg/m^3	716.5	1200
		Jun-24	µg/m^3	529.5	1200
		Jul-24	µg/m^3	350	1200
		Aug-24	µg/m^3	431.5	1200
		Sep-24	µg/m^3	405.5	1200

Air Pollution Control Devices



Fixed Sprinklers



Mist canons



Mobile Sprinklers



Dry-fog System

Piezometer


Latitude : 22.14674°
Longitude : 85.49607°
Elevation : 518.00 m
Accuracy : 2.40 m
Pitch : 90.0°(-0.00°)
Date : 05/07/2024
Time : 10:00:55 AM


Latitude : 22.14676°
Longitude : 85.49603°
Elevation : 518.00 m
Accuracy : 1.94 m
Pitch : 90.0°(-0.00°)
Date : 05/07/2024
Time : 10:01:51 AM

ANNEXURE-XIX

Summarized Surface Water Quality Monitoring Report					
Noamundi Iron Ore Mine of M/s TATA Steel Limited					
Period: April 2024 to September 2024					
Location		**Balijhore Nallah (upstream)**		**Balijhore Nallah (Downstream)**	
Parameters		**May 2024**	**August 2024**	**May 2024**	**August 2024**
I	**Discipline : Biological**				
1	Coliform	Absent	Absent	Absent	Absent
II	**Discipline : Chemical**				
2	pH value	6.71	6.91	6.84	7.16
3	Colour	24	18	21	16
4	Dissolved Oxygen	6.7	6.5	6.3	6.2
5	Total Suspended Solid (as TSS)	26	21	21	18
6	BOD (3 days at 27°C)	2.61	2.73	2.54	2.67
7	Chemical oxygen demand	7.93	6.51	6.82	6.18
8	Total Dissolved Solids (TDS)	1387	1429	1196	1376
9	Copper (as Cu)	0.06	0.07	0.04	0.06
10	Chloride (as Cl)	182	194	161	173
11	Sulphate (as SO4)	141.68	152.39	127.39	147.68
12	Nitrate (as NO3)	27.41	32.91	16.43	26.46
13	Fluoride (as F)	0.52	0.43	0.46	0.38
14	Cyanide (as CN)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)	BLQ (LOQ-0.005)
15	Phenolic compounds (as C6H5OH)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
16	Anionic Detergent	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
III	**Discipline : Chemical**				
17	Iron (as Fe)	0.42	0.43	0.37	0.39
18	Cadmium (as Cd)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)	BLQ (LOQ-0.002)
19	Selenium (as Se)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
20	Arsenic (as As)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
21	Lead (as Pb)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
22	Zinc (as Zn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)
23	Hexa Chromium (as Cr+6)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
24	Mercury (as Hg)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)	BLQ (LOQ-0.001)
25	Manganese (as Mn)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)	BLQ (LOQ-0.02)

ANNEXURE-XV

Surface Water Flow Rate Measurement Report				
Noamundi Iron Ore Mine of M/s tata Steel Limited				
Period: April 2024 to September 2024				
Mine Location	**Sample Location**	**Month**	**Unit**	**Results**
Noamundi iron Mine	Balijhore Nalla	April 2024	Cu.m/hr	295.24
		May 2024	Cu.m/hr	315.38
		June 2024	Cu.m/hr	425.62
		July 2024	Cu.m/hr	624.96
		August 2024	Cu.m/hr	830.25
		September 2024	Cu.m/hr	720.14
	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-XVI

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

	Parameters	Noamundi Basti	Noamundi Bazar	Mahudi Village	Bottom Bin
		MAY-2024			
I	**Biological Testing 1. Water**				
1	*Escherichia coli*	Absent	Absent	Absent	Absent
II	**Chemical Testing 1. Water**				
2	Alkalinity (as $CaCO_3$)	187.26	156.27	173.81	193.74
3	Anionic surface active agents (as MBAS)	BDL(DL– 0.01)	BDL(DL– 0.01)	BDL(DL– 0.01)	BDL(DL– 0.01)
4	Colour	1	1	1	1
5	Cyanide (as CN)	BDL(DL– 0.005)	BDL(DL– 0.005)	BDL(DL– 0.005)	BDL(DL– 0.005)
6	Chloride (as Cl)	28.76	23.61	23.91	17.43
7	Calcium (as Ca)	41.92	51.64	48.31	54.68
8	Free residual chlorine	BDL (DL – 0.1)	BDL (DL – 0.1)	BDL (DL – 0.1)	BDL (DL – 0.1)
9	Fluoride (as F)	0.18	0.21	0.21	0.27
10	Magnesium (as Mg)	13.68	13.97	13.67	12.63
11	Nitrate (as NO_3)	8.16	8.16	6.31	BDL(DL-2)
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	6.72	6.91	7.21	7.19
14	Phenolic compounds (as C_6H_5OH)	BDL(DL– 0.001)	BDL(DL– 0.001)	BDL(DL– 0.001)	BDL(DL– 0.001)
15	Sulphate (as SO_4)	9.21	8.16	13.57	11.62
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable
17	Total dissolved solids	463	453	486	483
18	Turbidity	0.4	0.2	0.7	0.4
19	Total hardness (as $CaCO_3$)	161.27	181.46	182.54	188.57
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)
21	Aluminium (as Al)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
22	Boron (as B)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
23	Copper (as Cu)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
24	Cadmium (as Cd)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)	BDL (DL - 0.002)
25	Iron (as Fe)	0.17	0.24	0.21	0.27
26	Lead (as Pb)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
27	Manganese (as Mn)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
28	Mercury (as Hg)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)	BDL (DL – 0.001)
29	Selenium (as Se)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)	BDL (DL - 0.01)
30	Total Chromium (as Cr)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
31	Zinc (as Zn)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)	BDL (DL - 0.02)
32	Polynuclear aromatic hydrocarbon (PAH)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)	BDL (DL - 0.03)
33	Mineral Oil	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)	BDL(DL-0.001)

	Parameters	Noamundi Basti	Noamundi Bazar	Mahudi Village	Bottom Bin
		MAY 2024			
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)
ii	Beta HCH	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)
iv	Delta- HCH	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)
vi	Aldrin	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)
viii	Butachlor	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)
x	o,p′-DDE	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)
xii	o,p′-DDD	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)
xiv	p,p′- DDT	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)
xvi	Atrazine	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)
xviii	Paraoxon methyl	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)
xx	Malaoxon	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)
xxii	Chlorpyrifos	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL (DL - 0.03)

	Parameters	**Noamundi Basti**	**Noamundi Bazar**	**Mahudi Village**	**Bottom Bin**
		AUGUST-2024			
I	**Biological Testing 1. Water**				
1	*Escherichia coli*	Absent	Absent	Absent	Absent
II	**Chemical Testing 1. Water**				
2	Alkalinity (as $CaCO_3$)	181.54	169.52	197.26	187.41
3	Anionic surface active agents (as MBAS)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)	BLQ(LOQ– 0.01)
4	Colour	2	2	4	2
5	Cyanide (as CN)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)	BLQ(LOQ– 0.005)
6	Chloride (as Cl)	31.24	24.96	32.67	17.67
7	Calcium (as Ca)	46.68	47.39	54.19	46.31
8	Free residual chlorine	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)	BLQ (LOQ – 0.1)
9	Fluoride (as F)	0.21	0.24	0.21	0.16
10	Magnesium (as Mg)	13.58	12.67	12.87	12.47
11	Nitrate (as NO_3)	6.17	4.81	4.73	4.91
12	Odour	Agreeable	Agreeable	Agreeable	Agreeable
13	pH	7.18	7.16	6.92	7.16
14	Phenolic compounds (as C_6H_5OH)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)	BLQ(LOQ– 0.001)
15	Sulphate (as SO_4)	8.91	8.29	7.81	6.27
16	Taste	Agreeable	Agreeable	Agreeable	Agreeable

17	Total dissolved solids	462	462	461	468
18	Turbidity	0.4	0.3	0.4	0.2
19	Total hardness (as $CaCO_3$)	172.47	170.51	188.33	166.99
II	**Chemical Testing 2. Residues In Water**				
20	Arsenic (as As)	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)
22	Boron (as B)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
23	Copper (as Cu)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
24	Cadmium (as Cd)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)	BLQ (LOQ - 0.002)
25	Iron (as Fe)	0.17	0.26	0.19	0.09
26	Lead (as Pb)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)
27	Manganese (as Mn)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
28	Mercury (as Hg)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)	BLQ (LOQ – 0.001)
29	Selenium (as Se)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)	BLQ (LOQ - 0.01)
30	Total Chromium (as Cr)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
31	Zinc (as Zn)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)	BLQ (LOQ - 0.02)
32	Polynuclear aromatic hydrocarbon (PAH)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)	BLQ (LOQ - 0.03)
33	Mineral Oil	BLQ (LOQ -0.001)	BLQ (LOQ -0.001)	BLQ (LOQ - 0.001)	BLQ (LOQ -0.001)

	Parameters	**Noamundi Basti**	**Noamundi Bazar**	**Mahudi Village**	**Bottom Bin**
		AUGUST-2024			
II	**Chemical Testing 2. Residue In Water**				
35	**Pesticide Residues Organochlorine**				
i	Alpha-HCH	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)
iii	Gamma - HCH (Lindane)	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)
v	Alachlor	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)
vii	Dieldrin	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)
ix	p,p′-DDE	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)
xi	p,p′-DDD	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)
xiii	o,p′- DDT	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)

xv	Monocrotophos	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)
xvii	Parathion methyl	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)
xix	Malathion	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)
xxi	Ethion	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)

ANNEXURE-XVII

Summarized Ground Water Level Report			
Noamundi Iron Ore Mine of M/s Tata Steel Limited			
Period: April-24 to September-24			
Months	Locations wise Ground Water Level in Mtrs. (BGL)		
	Noamundi Basti	Noamundi Petrol Pump	Mahudi Village
Apr'24	5.01	5.03	5.78
May'24	5.2	5.1	5.9
Jun'24	5.09	4.97	5.62
Jul'24	4.41	4.28	4.63
Aug'24	4.11	3.74	4.01
Sep'24	3.51	3.32	3.43

ANEXURE-XXI

ETP Report (April 2024 to September 2024) Noamundi Iron Mine

Test Parameter		B/Bin ETP 10 KLD - OUTLET					
		Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**						
1	pH value	7.16	7.31	7.41	7.38	7.16	7.31
2	Oil & Grease	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	73	84	73	76	58	56
4	Ammonical Nitrogen (as N)	28.57	24.93	26.51	28.43	27.46	28.42
5	Total Kjeldahl Nitrogen (as N)	32.58	38.16	34.93	47.29	38.91	37.91
6	BOD (3 days at 27°C)	26	18	21	24	21	18
7	Chemical Oxygen Demand	64	53	64	93	64	82
8	Cyanide (as CN)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues In Water**						
10	Iron (as Fe)	0.96	1.16	1.18	1.14	1.18	0.91
11	Manganese (as Mn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**						
1	Fecal coliform	84	106	128	141	64	63
II	**Chemical Testing Pollution & Environment**						
2	Colour	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS	<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
8	Fluoride (as F)	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	Sulphide (as S)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	92%	92%	92%	94%	94%	94%
12	Hexavalent 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)
13	Dissolved Phosphate (as P)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

ETP Report (April 2024 to September 2024)Noamundi Iron Mine

Test Parameter		Hospital ETP 15 KLD - OUTLET					
		Apr'24	May'24	Jun'24	Jul'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**						
1	pH value	6.94	7.14	7.21	7.26	6.93	6.97
2	Oil & Grease	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	46	53	47	46	21	28
4	Ammonical Nitrogen (as N)	24.52	28.46	27.46	28.43	32	37
5	Total Kjeldahl Nitrogen (as N)	31.93	31.29	34.87	38.56	37	42
6	BOD (3 days at 27°C)	18	18	16	18	21	24
7	Chemical Oxygen Demand	84	42	43	56	63	63
8	Cyanide (as CN)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues In Water**						
10	Iron (as Fe)	1.18	1.36	1.38	1.53	0.87	1.16
11	Manganese (as Mn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**						
1	Fecal coliform	172	104	152	141	108	172
II	**Chemical Testing Pollution & Environment**						
2	Colour	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS	<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-	BLQ (LOQ-0.1)

						0.1)	
8	Fluoride (as F)	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	Sulphide (as S)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	92%	92%	94%	92%	94%	94%
12	Hexavalent 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)
13	Dissolved Phosphate (as P)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

Location :-

30 KLD ETP at Mega Center

Record for the Month April-2024

Sl. No.	Date	No. of vehicles washed	Quantity of Oil & Greak recovered in Kg
1	1-04-2024	3	0.21
2	2-04-2024	2	0.2
3	3-04-2024	2	0.2
4	4-04-2024	1	0.2
5	5-04-2024	2	0.21
6	6-04-2024	1	0.1
7	7-04-2024	2	0.2
8	8-04-2024	3	0.21
9	9-04-2024	3	0.21
10	10-04-2024	2	0.2
11	11-04-2024	2	0.2
12	12-04-2024	3	0.2
13	13-04-2024	3	0.21
14	14-04-2024	1	0.13
15	15-04-2024	2	0.15
16	16-04-2024	1	0.15
17	17-04-2024	1	0.16
18	18-04-2024	1	0.14
19	19-04-2024	2	0.16
20	20-04-2024	2	0.17
21	21-04-2024	1	0.17
22	22-04-2024	1	0.16
23	23-04-2024	2	0.17
24	24-04-2024	2	0.17
25	25-04-2024	1	0.16
26	26-04-2024	1	0.18
27	27-04-2024	2	0.18
28	28-04-2024	2	0.16
29	29-04-2024	1	0.16
30	30-04-2024	2	0.19
		Total	5.31

Location

30 KLD ETP at Mega Center

Record for the Month May - 2024

Sl. No	Date	No. of Vehicles Washed	Quantity of Oil & Grease recovered in kg
1	1-05-2024	1	0.17
2	2-05-2024	1	0.18
3	3-05-2024	2	0.18
4	4-05-2024	2	0.18
5	5-05-2024	1	0.16
6	6-05-2024	1	0.17
7	7-05-2024	3	0.2
8	8-05-2024	2	0.2
9	9-05-2024	3	0.2
10	10-05-2024	3	0.21
11	11-05-2024	3	0.22
12	12-05-2024	2	0.22
13	13-05-2024	2	0.2
14	14-05-2024	1	0.16
15	15-05-2024	1	0.18
16	16-05-2024	2	0.19
17	17-05-2024	1	0.18
18	18-05-2024	1	0.14
19	19-05-2024	1	0.16
20	20-05-2024	2	0.16
21	21-05-2024	1	0.13
22	22-05-2024	1	0.15
23	23-05-2024	1	0.15
24	24-05-2024	2	0.16
25	25-05-2024	1	0.14
26	26-05-2024	1	0.14
27	27-05-2024	2	0.16
28	28-05-2024	2	0.16
29	29-05-2024	1	0.17
30	30-05-2024	1	0.18
31	31-05-2024	1	0.14
	Total		5.34

Location :- 30 KLD ETP at Megacenter

Record for the Month June-2024

Sl. No.	Date	No. of Vehicles Washed	Quantity of Oil & Grease Recovered in kg
1	1/06/2024	1	0.16
2	2/06/2024	2	0.16
3	3/06/2024	1	0.13
4	4/06/2024	2	0.15
5	5/06/2024	2	0.15
6	6/06/2024	1	0.14
7	7/06/2024	1	0.14
8	8/06/2024	1	0.14
9	9/06/2024	2	0.16
10	10/06/2024	2	0.16
11	11/06/2024	3	0.2
12	12/06/2024	2	0.2
13	13/06/2024	2	0.2
14	14/06/2024	2	0.2
15	15/06/2024	3	0.21
16	16/06/2024	3	0.22
17	17/06/2024	3	0.2
18	18/06/2024	1	0.16
19	19/06/2024	2	0.18
20	20/06/2024	2	0.19
21	21/06/2024	2	0.18
22	22/06/2024	1	0.14
23	23/06/2024	1	0.16
24	24/06/2024	1	0.16
25	25/06/2024	1	0.14
26	26/06/2024	2	0.16
27	27/06/2024	2	0.16
28	28/06/2024	1	0.13
29	29/06/2024	1	0.12
30	30/06/2024	1	0.12
		Total	4.92

Location :- 30 KLD ETP
at Mega Cente

Record for the Month July - 2024

SL. No.	DATE	No. of vehicles washed	Quantity of Oil & Grease recovered in kg
1	1-07-2024	2	0.15
2	2-07-2024	1	0.1
3	3-07-2024	1	0.14
4	4-07-2024	1	0.14
5	5-07-2024	2	0.16
6	6-07-2024	2	0.16
7	7-07-2024	2	0.16
8	8-07-2024	1	0.13
9	9-07-2024	1	0.13
10	10-07-2024	2	0.12
11	11-07-2024	1	0.12
12	12-07-2024	1	0.14
13	13-07-2024	1	0.16
14	14-07-2024	2	0.15
15	15-07-2024	2	0.15
16	16-07-2024	1	0.13
17	17-07-2024	2	0.15
18	18-07-2024	1	0.12
19	19-07-2024	1	0.12
20	20-07 2024	1	0.12
21	21-07-2024	2	0.14
22	22-07-2024	2	0.16
23	23-07-2024	1	0.13
24	24-07-2024	1	0.13
25	25-07-2024	1	0.13
26	26-07-2024	3	0.2
27	27-07-2024	3	0.2
28	28-07-2024	2	0.2
29	29-07-2024	1	0.12
30	30-07-2024	2	0.21
31	31-07-2024	3	0.22
		Total	4.59

Location :- 30KLD ETP
at Mega Center.

Record for the Month August-2024

SL.No.	Date	No. of vehicles washed	Quantity of Oil & grease recovered in kg
1	1-08-2024	2	0.21
2	2-08-2024	1	0.16
3	3-08-2024	2	0.18
4	4-08-2024	2	0.17
5	5-08-2024	2	0.19
6	6-08-2024	1	0.14
7	7-08-2024	2	0.16
8	8-08-2024	2	0.16
9	9-08-2024	1	0.14
10	10-08-2024	1	0.14
11	11-08-2024	2	0.16
12	12-08-2024	1	0.14
13	13-08-2024	1	0.15
14	14-08-2024	1	0.16
15	15-08-2024	2	0.2
16	16-08-2024	2	0.21
17	17-08-2024	3	0.2
18	18-08-2024	3	0.2
19	19-08-2024	1	0.16
20	20-08-2024	3	0.2
21	21-08-2024	2	0.2
22	22-08-2024	2	0.21
23	23-08-2024	1	0.16
24	24-08-2024	1	0.19
25	25-08-2024	2	0.21
26	26-08-2024	3	0.22
27	27-08-2024	3	0.23
28	28-08-2024	3	0.23
29	29-08-2024	1	0.18
30	30-08-2024	1	0.14
31	31-08-2024	3	0.23
		Total	5.63

Location : 30 KLD ETP at Mega Centre

Record for the Month September - 2024

Sl:No	Date	No. of Vehicle washed	Quantity of Oil & grease recovered in kg
1	01-09-2024	2	0.16
2	02-09-2024	2	0.14
3	03-09-2024	1	0.13
4	04-09-2024	1	0.13
5	05-09-2024	2	0.15
6	06-09-2024	1	0.14
7	07-09-2024	1	0.14
8	08-09-2024	2	0.17
9	09-09-2024	2	0.16
10	10-09-2024	1	0.16
11	11-09-2024	3	0.2
12	12-09-2024	3	0.2
13	13-09-2024	2	0.2
14	14-09-2024	3	0.2
15	15-09-2024	3	0.21
16	16-09-2024	3	0.25
17	17-09-2024	3	0.22
18	18-09-2024	1	0.16
19	19-09-2024	2	0.18
20	20-09-2024	2	0.19
21	21-09-2024	2	0.18
22	22-09-2024	1	0.14
23	23-09-2024	2	0.16
24	24-09-2024	1	0.16
25	25-09-2024	3	0.24
26	26-09-2024	2	0.22
27	27-09-2024	2	0.16
28	28-09-2024	1	0.13
29	29-09-2024	1	0.12
30	30-09-2024	1	0.12
		Total	5.12

ANNEXURE-XXII

STP Report (April 2024 to September 2024) Noamundi Iron Mine

	Test Parameter	Measurement Unit	New Town Ship STP 50 KLD - Outlet					
			Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**							
1	pH value	-	6.48	6.42	6.57	6.64	6.57	6.38
2	Oil & Grease	mg/l	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	mg/l	82	73	76	54	48	51
4	Ammonical Nitrogen (as N)	mg/l	21.93	18.76	19.48	19.24	18.27	21.46
5	Total Kjeldahl Nitrogen (as N)	mg/l	24.58	26.43	28.19	26.58	24.93	28.29
6	BOD (3 days at 27°C)	mg/l	16	16	18	16	18	21
7	Chemical Oxygen Demand	mg/l	107	114	109	118	76	92
8	Cyanide (as CN)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	mg/l	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues in Water**							
10	Iron (as Fe)	mg/l	0.76	0.68	0.87	0.86	0.94	0.82
11	Manganese (as Mn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**							
1	Faecal coliform	MPN/100 ml	148	126	116	148	62	177
II	**Chemical Testing Pollution & Environment**							
2	Colour	Hazen units	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	°C	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS		<850	<850	<850	<850	<850	<850
7	Free Ammonia	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-	BLQ (LOQ-

	(as NH_3)						0.1)	0.1)
8	Fluoride (as F)	mg/l	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	Sulphide (as S)	mg/l	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	mg/l	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	%	94%	92%	94%	94%	92%	94%
12	Hexavalent Chromium (as Cr^{+6})	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Dissolved Phosphate (as P)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)

STP Report (April 2024 to September 2024)Noamundi Iron Mine

	Test Parameter	Measurement Unit	Central Camp STP 50 KLD -Outlet					
			Apr'24	May'24	Jun'24	Jal'24	Aug'24	Sep'24
I	**Chemical Testing Pollution & Environment**							
1	pH value	-	7.14	6.93	6.91	7.03	6.98	6.91
2	Oil & Grease	mg/l	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BDL(DL-4)	BLQ (LOQ-4)	BLQ (LOQ-4)
3	Total Suspended Solid (TSS)	mg/l	37	46	37	48	21	38
4	Ammonical Nitrogen (as N)	mg/l	16.24	15.92	19.28	18.76	17.36	19.52
5	Total Kjeldahl Nitrogen (as N)	mg/l	19.46	18.54	21.46	26.43	24.93	28.46
6	BOD (3 days at 27°C)	mg/l	24	16	24	16	18	21
7	Chemical Oxygen Demand	mg/l	73	48	76	48	61	63
8	Cyanide (as CN)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
9	Phenolic Compounds (as C_6H_5OH)	mg/l	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BDL(DL-0.5)	BLQ (LOQ-0.5)	BLQ (LOQ-0.5)
II	**Chemical Testing 2. Residues in Water**							
10	Iron (as Fe)	mg/l	0.87	1.16	1.18	1.14	1.64	1.19
11	Manganese (as Mn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
12	Mercury (as Hg)	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Cadmium (as Cd)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
14	Selenium (as Se)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
15	Lead (as Pb)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
16	Arsenic (as As)	mg/l	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BLQ (LOQ-0.05)	BLQ (LOQ-0.05)
17	Nickel (as Ni)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
18	Zinc (as Zn)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
19	Total Chromium	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
20	Vanadium (as V)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
21	Copper (as Cu)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
I	**Biological Testing 1.Water**							

1	Faecal coliform	MPN/100 ml	94	114	116	84	104	109
II	**Chemical Testing Pollution & Environment**							
2	Colour	Hazen units	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)	0 (Colourless)
3	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Temperature	°C	25^0C	25^0C	25^0C	25^0C	25^0C	25^0C
5	Free residual chlorine	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
6	Particulate size of SS		<850	<850	<850	<850	<850	<850
7	Free Ammonia (as NH_3)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)
8	Fluoride (as F)	mg/l	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	Sulphide (as S)	mg/l	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BDL(DL-0.03)	BLQ (LOQ-0.03)	BLQ (LOQ-0.03)
10	Nitrate Nitrogen	mg/l	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BDL(DL-2)	BLQ (LOQ-2)	BLQ (LOQ-2)
11	Bio Assay Test	%	92%	94%	92%	92%	92%	94%
12	Hexavalent Chromium (as Cr^{+6})	mg/l	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BDL(DL-0.01)	BLQ (LOQ-0.01)	BLQ (LOQ-0.01)
13	Dissolved Phosphate (as P)	mg/l	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BDL(DL-0.1)	BLQ (LOQ-0.1)	BLQ (LOQ-0.1)