



File No.: IA-J-11015/11/2023-IA-II(NCM)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Dated 22/08/2025



To,

Mr. Sandeep Morajkar
M/s. FOMENTO RESOURCES PRIVATE LIMITED
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Subject: **Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santona, Sanguem Taluka, South Goa District, Goa - For Environmental Clearance-reg.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/GA/MIN/529454/2025 dated 05/05/2025 for grant of prior Environmental Clearance (EC) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25B0000GA5877178N
(ii) File No.	IA-J-11015/11/2023-IA-II(NCM)
(iii) Clearance Type	Fresh EC
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Sector	Non-Coal Mining
(vii) Name of Project	Block IV – Kalay Mineral Block
(viii) Location of Project (District, State)	SOUTH GOA, GOA
(ix) Issuing Authority	MoEF&CC
(x) Applicability of General Conditions	No

3. In view of the particulars given in the Para 1 above, the project proposal *interalia* including Form-2 (Part A, B and C)/ EIA & EMP Reports were submitted to the MoEF&CC for an appraisal by the EAC under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by EAC in the meeting held on 25-26/06/2025. The minutes of the

meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above.

5. Observation and Recommendation of the Committee:-

The instant proposal is for Environmental Clearance for the Kalay Mineral Block – Block IV (Auction Block), submitted by M/s Fomento Resources Private Limited, for the mining of iron ore with a production capacity of 0.75 MTPA and waste generation of 3.0 MTPA, over a mine lease area of 152.5073 hectares. The project is located in Village Santana, Sanguem Taluka, South Goa District, Goa.

During the presentation, the Project Proponent and their consultant submitted the KML file to illustrate the site features within the 10 km study area. It was informed that there are three existing pits within the mine lease area. A seasonal nalla traverses the mineral block, flowing from west to east, while the Kalay River flows 0.005 km along the eastern boundary of the lease area at nearest distance. The mineral block is located within Santana village. Bandoli and Kalem villages are located at distances of 0.6 km and 0.7 km, respectively. Two government primary schools, one in Devnamol and the other in Ambeudak, are situated 0.83 km and 0.38 km away from the mine lease boundary. EAC also noted the presence of temple at a distance of 0.3 km from the mine lease area.

The nearest town, Sanvordem, is about 6 km away in the south-west direction. The State Highway SH-7 is situated approximately 1.27 km west of the project site. The Karnataka state boundary lies at an aerial distance of 10.03 km. Kalay Railway Station is 4 km to the east. The Bhagwan Mahaveer Wildlife Sanctuary lies 1.04 km from the eastern boundary. PP has submitted the letter dated 05.07.2023 issued by Deputy Conservator of Forests, Goa, wherein it has been stated that the mineral block located at Sanotana village, Goa, falls outside the notified ESZ boundary of the Bhagwan Wildlife Sanctuary and national Park. The Expert Appraisal Committee (EAC) noted that the final notification declaring the Eco-Sensitive Zone around the Bhagwan Mahaveer Wildlife Sanctuary and National Park in Goa was issued vide S.O. 221(E) dated 23.01.2015. Further vide letter dated 25.10.2023, Regional Office of the Ministry at Bengaluru stated that Kalay Mineral Block area (Auction Bloc) of M/s Fomento Resources Private Limited located at village Santana, Sanquem Taluka, South Goa District, Goa falls outside of ESZ of Bhagwan Mahaveer Wildlife Sanctuary and National Park and ESA of Western Ghats.

The Project Proponent was granted the Letter of Intent on 13.01.2023 for a total area of 179.1826 hectares. Subsequently, the Directorate of Mines and Geology, Government of Goa, through its letter dated 13.03.2023, revised the area of Block IV – Kalay Mineral Block to 152.5073 hectares by excluding 26.6753 hectares falling within the Eco-Sensitive Zone (ESZ).

The project area includes forest land, and the PP has received in-principle Stage-I Forest Clearance for 21.133 hectares of forest land under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980, granted on 12.05.2025 by the competent authority following the Advisory Committee's recommendation on 16.04.2025.

EAC observed that PP has submitted the revised Wildlife Conservation Plan to Chief Wildlife Warden on 05.03.2024 which was also presented by the PP during the 44th EAC meeting (15-16 May 2025). The subject of the letter submitted to Chief Wildlife Warden on 05.03.2024 indicated that plan under Wildlife Act 1972 has been submitted. Accordingly, EAC asked PP to submit the proof of submission of Wildlife Conservation Plan as per Wildlife Amendment Act 2022.

Thereafter, PP submitted the authenticated list of Flora and Fauna as per Wildlife Amendment Act 2022 issued by Office of the DCF dated 13.02.2024. EAC also noted that PP has submitted the revised budget and revised Wildlife Conservation Plan in its ADS reply dated 12.06.2025. PP has informed that the activities and budget outlined in the Wildlife Conservation Plan have been reviewed and duly incorporated into the EIA & EMP. Consequently, the budget has been revised from the earlier amount of Rs.12.5 lakhs to Rs.78.05 lakhs in the updated Wildlife Conservation Plan.

The total water requirement for the project is 300 KLD, of which 255 KLD will be sourced as fresh water and 45 KLD will be treated water. Rainwater and stormwater accumulated in the mine pit will be utilized for dust suppression, workshop needs, wheel wash systems, and greenbelt/plantation purposes. Well water will be used for domestic requirements. The Office of the Executive Engineer and Ground Water Officer, Water Resources Department, Govt of Goa, has granted permission for water withdrawal, which is valid up to 05.06.2026. The permission has been allowed for the drawl of 3,360 cubic meter per day of ground water as required for scientific operation of mine as per the letter dated 16.04.2024, it has been mentioned that the NoC / permission/ Ground water clearance is valid for a period of 02 years. EAC noted the submission of PP and asked to minimize the fresh underground water in the project. EAC was of the opinion that PP can use mine pit water for project activities.

Approval of Mine plan has been obtained from Indian Bureau of Mines on 23.08.2024.

The Public Hearing was conducted on 29.01.2025 wherein various issues raised such as to increase the trucks size, overflow of water from mine pits, to provide drinking water facility for villagers and to provide safety on roads. Public Hearing budget Rs. 33.60Lakh for three consecutive years has been allocated to address the issues raised during Public Hearing.

The Project Proponent collected baseline data between March and May 2023. This included parameters related to ambient air quality (PM₁₀, PM_{2.5}, SO₂, NO), noise levels, and quality of water and soil. All recorded values were found to be within the permissible limits. Additionally, hazardous air pollutants such as ammonia, benzene, benzo-(a)-pyrene, arsenic, and nickel were analyzed and found to be below detectable limits (BDL).

The Project Proponent has proposed the total EMP capital cost of Rs. 168.83 Lacs and Recurring Cost of Rs. 98.31Lacs.

Thereafter, EAC deliberated the ADS points raised vide minutes of the 44th EAC meeting held during 15-16 May 2025. Regarding the No Objection Certificate (NOC) from the Archaeological Survey of India (ASI) for the village temple in Devnamol (Dukarkond), situated 0.3 km from the project site, PP stated that the temple is not classified as a protected monument, hence NOC is not required. The PP provided a list of protected sites under the Goa Ancient Monuments and Archaeological Sites and Remains Act, 1978 (with Rules from 1980), along with information on protected sites from ASI records. According to this list, the Devnamol Temple (Dukarkond) is not designated as a protected monument. Additionally, the PP submitted an application to ASI on June 5, 2025. In reply, ASI issued a letter on June 18, 2025, verifying that the temple is not included among the protected monuments in the South Goa District. EAC noted the submission of PP and advised PP to protect the temple ensuring no drilling/blasting activity within 500 m without special permission from DGMS. PP was also asked to undertake dense plantation around the temple in consultation with local administration/gram panchayat.

With regard to transportation of mined out mineral and compliance of the Hon'ble High Court of Bombay at Goa, order dated 29.06.2024, in Writ Petition (PIL) No. 06/2024 titled Mulakh Khajan Farmers Association vs The Directorate of Mines and Geology, PP submitted that Directorate of Mines and Geology, Goa and Goa State Pollution Control Board have devised a Standard Operating Procedure (SOP) to be followed by the Project Proponent. Accordingly, they have prepared a transportation plan to transport the mined out iron ore from the Kalay Mineral Block to either the Sanvordem or Capxem jetties, located approximately 12 to 14 km from the mine site, via State Highway-7 (SH-7). The transportation route includes an internal haul road of 2.5 km within the lease area and a public road stretch (SH-7) of about 11.5 km, which has a width ranging between 8 to 10 meters. Two route options have been proposed:

Route 1 – From Kalay Mineral Block to Sanvordem/Capxem Jetty via Ambeudoc and Sanvordem Junction;

Route 2 – From Kalay Mineral Block to Sanvordem/Capxem Jetty via Bandoli and Sanvordem Junction.

PP also submitted that they will comply the direction of the Hon'ble High Court and follow the SOP by DMG and SPCB in this regard. EAC noted the submission of PP and advised to ensure zero spillage and covering of trucks with tarpaulin while transportation. EAC also asked PP to undertake regular sprinkling of the route to mitigate dust generation and also road sweeping if necessary. Truck drivers, helpers, Operators, Supervisors, contractor personal should be properly trained on environmental aspects. Record of above training of the personal, supervisor/officials should be submitted to Regional office of MoEF&CC.

Concerning the issues of potential overflow of water from the open mine pit during heavy rainfall and other events since groundwater table has already intersected, PP submitted that they have prepared a comprehensive water management plan. The estimated rainfall volume in the watershed area is 5.00 million m³, while the mine pit offers a storage capacity of 8.50 million m³, eliminating any overflow risk. In extreme events, the available pumping capacity of 58,560 m³/day emergency so as to disallow the overflow of water from the open mine pit during heavy rainfall or other events.

PP also submitted that they have prepared a Comprehensive plan for treatment and disposal of ground water and the same has been submitted to Water Resource Department(WRD), Govt. of Goa for their consultation vide letter dated 06.06.2025. EAC noted the submission of PP and asked about the proposed treatment plan, PP informed that proposed pumping in the pits shall be carried out during the non-monsoon period by way of engaging pumps in terms of the approval accorded for drawl of water from WRD, Government of Goa.

The rainwater accumulated in the mining pit, if any, should be routed through settling ponds and filter beds Project Proponent will operate and maintain Oil and Grease Trap (ETP) for the effluent generated from the Workshop. Domestic wastewater shall be treated in a properly designed septic tank and discharged on land for percolation through soak pit of adequate size within the unit premises. To prevent siltation of rivers/ nallahs/ fields catch drains, toe wall, filter bed, check dam, garland drains, arrest wall and siltation/settling ponds shall be maintained around reject dumps for settlement of suspended particles and to prevent siltation. Pumping schedule for pumping the rain accumulated water from the mining pit shall be maintained and action shall be taken to implement suitable conservation measures to augment ground water resources wherever possible in the area. Monitoring the Ground Water level in the buffer zone in the established network

of existing wells in the buffer zone will be monitored on monthly basis and submitted to Ground Water Officer (WRD) and CGWB. EAC noted the submission of the PP and observed that existing number of settling ponds is inadequate and accordingly advised PP to increase the same in consultation with State WRD and SPCB. EAC also advised PP to obtain necessary permission of State WRD/ SGWA/CGWA in this regard. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.

To safeguard Kalay River which flows just 0.005 km from the eastern boundary of the mine lease area at nearest place, PP presented a detailed safeguard plan which was submitted to Goa State pollution Control Board (GSPCB) and WRD, Govt. of Goa for consultation vide letter dated 06/06/2025. PP stated that the distance of ultimate pit limit of Pit no.1 from the Kalay River is 430 metres and the distance of ultimate pit limit of Pit no.3 from the Kalay River is 350 metres. PP reported that GSPCB vide its letter dated 18.06.2025 has recommended additional measures in the safeguard plan which include keeping a buffer of 50m (Part) from the western side of the river towards the Mining lease on the South eastern side falling in the lease area and will be maintained as no Mining zone. PP will comply with all safeguards and ensure water quality monitoring upstream and downstream of the Kalay River near discharge points.

Key features of the Kalay River safeguard plan include diversion of surface rainwater during monsoon to mine pits for sedimentation, flocculant treatment, controlled discharge through settling ponds during the dry season, annual maintenance and de-silting of drainage structures, use of velocity droppers and filter beds, plantation along nallahs to prevent erosion, and regular water quality monitoring through NABL-accredited or government-approved labs. No mining activity will occur within 100m of the Kalay River banks. EAC noted the submission of the PP and advised strict adherence of recommendation of GSPCB and State WRD. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.

PP also obtained High Flood Level (HFL) data through Stated WRD for Kalay River and seasonal nallah. The HFL for Kalay River is 36.6 MSL, while the nallah bank levels are 40.90 MSL (upstream) and 39.30 MSL (downstream), with its meeting point with the river at 35.3 MSL and 350 meters away from the lease boundary, eliminating any chance of reverse flow towards mining pits.

Regarding action plan for treatment and disposal of mine pit water PP submitted that during monsoon, stormwater will be stored in mine pits for over four months to allow natural settlement and groundwater recharge. In the dry season, water will be treated with flocculants and passed through settling ponds before discharge. The ore and waste material are non-toxic, and the water quality primarily changes in turbidity due to runoff. Regular desilting and maintenance will be carried out pre-monsoon. For water disposal, six centrifugal pumps will be used in the dry season. Mine pit registration and pumping permissions have been obtained from Water Resource Department. Check dams will enhance filtration across the seasonal drain, with discharge water monitored and tested as per CPCB norms. A comprehensive hydrogeological and impact assessment study was conducted by Mr. M.C. Reddy, former Regional Director, Central Ground Water Board and NABET-accredited expert. The report assessing surface water seepage into groundwater was submitted to WRD, and its recommendations will be implemented. An Effluent Treatment Plant (ETP) with an oil and grease trap, estimated at 15 lakhs, is planned under the Environment Management Plan and will be constructed within three months of obtaining permissions.

6. Based on aforesaid discussions and presentation made by the Project Proponent and the Consultant, the Expert Appraisal Committee (EAC), in 46th EAC meeting held on 25-26th June, 2025 under the provisions of the EIA Notification, 2006 and its subsequent amendments, recommended the proposal for the grant of Environmental Clearance for Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santana, Sanguem Taluka, South Goa District, Goa along with certain specific conditions, in addition to the standard conditions applicable to Non-Coal mining projects (Annexure - I).

7. The details of the project as per the information submitted by the Project Proponent are enclosed as Annexure (II)

8. The Ministry has examined the proposal in accordance with the provisions of the Environmental Impact Assessment (EIA) Notification, 2006, and its subsequent amendments. Based on the recommendations of the Expert Appraisal Committee (EAC), Environmental Clearance (EC) is hereby granted to Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santana, Sanguem Taluka, South Goa District, Goa. The clearance is subject to strict compliance with the specific conditions prescribed for this project, in addition to the standard

conditions applicable to non-coal mining projects, as detailed in Annexure I.

9. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006, as amended. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

10. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

11. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

12. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

13. General Instructions:

- a. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/ SEIAA website where it is displayed.
- b. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- c. The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/ forest / wildlife norms / conditions.
- d. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
- e. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- f. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- g. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- h. PP needs to comply the OM dated 24.07.2024 of MoEF&CC, where it is stated that the plantation of saplings shall be carried out in the earmarked 33% greenbelt area as part of the tree plantation campaign " EK Ped Ma ke Naam" (एक पेड़ माँ के नाम (and the details of the same shall be uploaded in the MeriLife portal (<https://merilife.nic.in>)).

14. This issues with the approval of the Competent Authority.

Copy To

- i. **The Secretary**, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- ii. **The Secretary**, Department of Mines and Geology, Ground Floor of Institute Menezes Braganza, Government of Goa.
- iii. **The Director**, Department of Environment and Climate Change (DoE and CC), Government of Goa.

- iv. **The Secretary**, Department of Forests, Government of Goa, Goa Van Bhavan, Goa.
- v. **Director General**, Directorate General of Mines Safety, Hirapur, Dhanbad, Jharkhand, 826001
- vi. **The Chief Wildlife Warden**, Goa Van Bhavan, Forest Department, Altinho, Panaji Goa. 403001.
- vii. **The Deputy Director General of Forests (C)**, Ministry of Env., Forest and Climate Change, Integrated Regional Office, Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore - 560034.
- viii. **The Member Secretary**, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
- ix. **The Member Secretary**, Central Ground Water Authority, 18/11, Jam Nagar House, Man Singh Road, New Delhi-110011.
- x. **The Member Secretary**, Goa State Pollution Control Board, Nr. Pilerne Industrial Estate, Opp. Saligao Seminary, Saligao, Goa 403511.
- xi. **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
- xii. **The District Collector**, South Goa District, Government of Goa.
- xiii. **Guard File.**
- xiv. **PARIVESH Portal.**

Annexure 1

Specific EC Conditions for (Mining Of Minerals)

1. Specific Conditions

S. No	EC Conditions
1.1	The Project Proponent (PP) shall ensure effective storage of rainwater within the designated mine pit, as per the approved comprehensive water management plan. Continuous monitoring of water levels during the monsoon period shall be carried out, and necessary preventive measures shall be in place to avoid any overflow under all circumstances. PP shall strictly follow the recommendation of GSPCB and State WRD in this regard. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.2	PP must ensure that, under no circumstances, untreated water is permitted to overflow or be discharged from the mine pit into surrounding areas or nearby water bodies. Arrangements should be done accordingly in the project.
1.3	PP needs to strictly follow the groundwater treatment and disposal plan. The Project Proponent (PP) shall not undertake any abstraction of groundwater beyond the permitted limits without obtaining prior approval from the Central Ground Water Authority (CGWA) or the concerned State Ground Water Authority/State WRD. PP needs to submit the half-yearly report on water balance (rainwater received, stored, pumped out, and reused) to Regional office, MoEFCC.
1.4	The Project Proponent (PP) needs to follow the recommendations issued by the Goa State Pollution Control Board as mentioned below: a. Buffer of 50m (Part) from the western side of the river towards the Mining lease on the South eastern side falls in the lease area and the same will be maintained as no Mining zone. b. All the safeguards proposed in the report by the project proponent, and by the technical advisory committee shall be adhered to by the Project Proponent. c. Monitoring of water quality in upstream and downstream of the Kalay River with respect to the discharge point shall be done by the Project Proponent. d. No mining activity will occur within the prescribed distance set by GSPCB for the Kalay River. Other recommendations of SPCB in this regard should also be followed by PP.

S. No	EC Conditions
1.5	PP shall ensure that surface runoff generated during the monsoon season is effectively diverted into designated mining pits to facilitate the sedimentation of suspended solid particles. To enhance the sedimentation process, appropriate flocculants shall be applied as necessary. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.6	PP shall ensure that, during non-monsoon periods, accumulated rainwater and stormwater extracted from the mining areas are conveyed through a series of settling ponds. The water shall be discharged into the environment only after achieving adequate sedimentation and meeting prescribed quality standards. PP should increase the number of settling ponds in consultation with GSPCB and State WRD. Minimum 07 settling ponds should be provided of appropriate area/volume so as to provide adequate settling time. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.7	PP shall carry out annual maintenance and de-siltation of all settling ponds and garland drains immediately following the monsoon season. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.8	PP shall install velocity droppers with gentle gradients and suitably designed filter beds at appropriate locations to reduce the velocity of water flow and facilitate effective sediment control. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.9	The Project Proponent shall undertake plantation activities along the seasonal Nallahs to prevent soil erosion.
1.10	The Project Proponent needs to carry out regular monitoring of the water quality of the Kalay River at both upstream and downstream locations through Government Institutions/ Laboratories. Report of the above monitoring and analysis should be submitted along with the six monthly compliance reports.
1.11	PP should strictly adhere to mine water treatment plan as submitted by them and action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports. The mine water treatment plan includes the following:- Action plan for treatment:- - The storm water diverted to mine pits will be stored for a period of over 4 months allowing recharging of ground water and settlement of suspended solids in the mining pits. - During non-monsoon season, the mine pit water will be pumped and allowed to pass through network of garland drains, trenches and Settling Ponds. - There are no toxic elements in Ore and waste material. The quality of the surface runoff water does not change except for increase in turbidity due to surface runoff. - The pumped water will be passed through a series of settling ponds, where it undergoes a sequential retention process. - Water will be treated at mine pits & strategic settling ponds by adding flocculants for faster settlement of suspended solids. - Regular de-silting of all the garland drains and settling ponds will be carried out every year before the onset of monsoon Action plan for disposal:- - Six number of centrifugal pumps will be engaged for pumping of water and pumping will be carried out in the non-monsoon season. - Permission for registration of Mine pit and pumping from the same has been obtained from Water Resource Department, Government of Goa.

S. No	EC Conditions
	c. To further enhance water quality, multiple check dams will be strategically positioned across the seasonal drain, functioning as effective filter barriers. d. Clear water will be discharged outside the mining lease area. e. Regular monitoring of discharge water will be undertaken to monitor the quality of water discharged from the pit. f. The mine pit water will be sampled and analyzed as per CPCB norms, before its discharge from the mine. g. The upstream and downstream of the seasonal nallah and Kalay river water will be analyzed as per CPCB norms.
1.12	PP to protect the temple ensuring no drilling/blasting activity within 500 m without prior permission from MoEFCC & DGMS. PP was also asked to undertake dense plantation around the temple in consultation with local administration/gram panchayat.
1.13	No blasting shall be undertaken in the ML area without the prior permission from MoEF&CC.
1.14	PP needs to submit the proof of submission of Wildlife Conservation Plan as per Wildlife Amendment Act 2022 to State Forest Department.
1.15	Project Proponent must comply with the directions issued by the Hon'ble High Court of Bombay at Goa, as per the order dated 29.06.2024, in Writ Petition (PIL) No. 06/2024 titled Mulakh Khajan Farmers Association vs The Directorate of Mines and Geology. PP must get its transportation plan approved by State DMG and SPCB. PP should strictly follow up the recommendation of DMG and SPCB.
1.16	PP shall ensure that there is no spillage of ore during transportation. All transportation trucks should be covered with tarapaulin. Truck drivers, helpers, Operators, Supervisors, contractor personal should be properly trained on environmental aspects. Record of above training of the personal, supervisor/officials should be submitted to Regional office of MoEF&CC.
1.17	PP should undertake regular sprinkling of water to mitigate dust generation.
1.18	PP in consultation with Local Administration/Gram Panchayat/State Govt/DMG shall undertake plantation along the transportation route. An action taken report in this regard shall be submitted to Ministry's Regional Officer in Half-yearly compliance reports.
1.19	The natural water bodies and or streams which are flowing in and around the mine lease area should not be disturbed.
1.20	The Project Proponent shall continue to monitor the air quality, noise level, water quality, water level at the edge of the mine, near the village, and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Regional Office.
1.21	The Project Proponent should install Continuous Ambient Air Quality Monitoring Stations (CAAQMS) as per the scientific study and in consultation with CPCB/SPCB. The real time data so generated should be displayed digitally at entry and exit gate of mine lease area for public display and shall be linked to server of CPCB/SPCB.
1.22	PP needs to submit the proof of submission of Wildlife conservation plan as per Wildlife Protection Amendment Act 2022 to Ministry's Regional office within one month from the date of issue of EC

S. No	EC Conditions
	to the instant project.
1.23	Project Proponent should follow up with State Forest Department regarding implementation of WLCP Act 2022. An implementation report in this regard needs to be submitted to Ministry's Regional office in half yearly compliance report.
1.24	The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the study area in consultation with Wildlife Wing of Forest Department. Appropriate interventions shall be taken to minimise stress conditions for wild animals and to avoid Man-Animal conflict.
1.25	The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at areas prone to air pollution. PP shall take necessary measures to avoid generation of fugitive dust emissions.
1.26	The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years in the project.
1.27	The Project Proponent should adopt the proper mitigation measures as proposed under EMP. The adoption of mitigation measures and monitoring of the same as proposed in the EMP shall be done under the supervision of the qualified environmental personnel. The implementation status of the same shall be submitted to the Ministry's Regional Office.
1.28	The Project Proponent should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup at site which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring laboratories/consultants. Any non-compliance or infringement should be reported to the concerned authority.
1.29	The Project Proponent shall conduct third party audit of compliance of EC condition at an interval one year and its report shall be submitted to RO, MoEF&CC.
1.30	The Project Proponent shall ensure the survival rate of 95% for planting the gap plantation and new plantation. The Project Proponent shall make the actual count on the saplings planted and its survival rate and in case of failure of achievement of 95% survival rate, action plan for achieving the target survival rate shall be submitted to the Ministry's Integrated Regional Office. Density of plantation should be 2500 plants/ha. PP shall make provision for drip irrigation to conserve the water. PP should plant fruit bearing trees along with Sal and allied species within the ML area.
1.31	The Project Proponent shall provide the rainwater harvesting structure at mine offices and quarters/colonies to recharge the ground water.
1.32	PP needs to construct sedimentation ponds, check dam, gabion structures, retaining wall, garland drain etc to safeguard the natural Streams/Nallahs flowing in and around the Lease area.
1.33	To address the concerns raised by the public in the public hearing, PP should complete its public hearing commitments within 3 years from the date of start of mining operations. PP shall comply with all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes. The Project proponent shall ensure that the activities proposed under

S. No	EC Conditions
	the public hearing is different from the CSR activities.
1.34	The Project Proponent needs to provide good quality drinking water supply and also by laying network of pipelines to the villagers of santona, at free of cost.
1.35	The Project Proponent shall also organize employment-based apprenticeship/ internship training program every year with appropriate stipend for the youth and other programs to enhance the skill of the local people. The data should be maintained for the training imparted to the persons and the outcome of the training, for the assessment of the training program should be analyzed periodically and improved accordingly.
1.36	The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining operations, at the time of operation of mine and post mining operations. Regular surveillance shall be carried through regular occupational health check-up every year for mine workers. PP shall also organize medical camp for the benefit of the local people and also the monitor the health impacts due to mining activity.
1.37	The Project Proponent needs to install the permanent water sprinklers in addition to mobile water tankers along the haul road and the approach road. Further, 8 nos. of fog/mist cannon sprayer of atleast 40 m throw shall be installed at various locations in the mine and beneficiation plant area. Effective dust suppression system shall also be adopted at other parts of the mining lease to arrest the fugitive dust emission.
1.38	The mobile water tankers should be used in the ML area for dust suppression and control. A logbook of water tankers should be maintained mentioning running hours, kilometre reading, maintenance hours of water tankers for each shift. PP shall use non-toxic chemicals for dust suppression in order to reduce the total water requirement.
1.39	The Project Proponent shall ensure that the transportation shall not occur through village road.
1.40	The mining lease holders shall, after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. The implementation report of the above said condition shall be submitted to the Ministry's Integrated Regional Office.
1.41	Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.
1.42	PP shall minimise the use of fresh underground water in the project. PP should use mine pit & settling pond water for dust suppression, plantation & other project related activities.
1.43	Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.
1.44	PP needs to comply the OM dated 24.07.2024 of MoEFCC, wherein it is stated that the plantation of saplings shall be carried out in the earmarked 33% greenbelt area as part of the tree plantation campaign "EK Ped Ma keNaam" (एकपेड़माँकेनाम) and the details of the same shall be uploaded inthe MeriLife portal(https://merilife.nic.in).

S. No	EC Conditions
1.45	PP shall ensure that all type of plastic waste generated from the mines shall be stored separately in isolated area and disposed of strictly adhering to the Plastic Waste Management Rules 2016. In pursuant to Ministry's OM dated 18/07/2022 PP shall also create awareness among the people working in the project area as well as in its surrounding area on the ban on Single Use Plastic (SUP) in order to ensure compliance of Ministry's Notification published by the Ministry on 12/08/2021. A report along with photograph on the measures taken shall be submitted to Ministry's Regional Office.
1.46	PP needs to comply with the Hon'ble NGT's order dated 21.07.2020 in the OA No. 304/2019 and the recommendation of the CPCB report regarding distance criteria.
1.47	PP shall comply with all the Judgement/ Orders of Hon'ble NGT in the OA No. 304/2019 in the matter of M.Haridasan & Ors. Applicant (s) versus State of Kerala & Ors. Reg
1.48	Ministry's Regional Office shall undertake site visit within 18 months from the date of issue of EC to the project. PP should submit the site inspection report/CCR issued by Regional office of Ministry with respect to this project to Compliance and Monitoring Division of the Ministry.
1.49	PP should obtain the FC (Forest Clearance) stage-II for 21.1330 ha before starting any mining operation within the ML area.

Standard EC Conditions for (Mining of minerals)

1. Statutory Compliance

S. No	EC Conditions
1.1	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.
1.2	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.
1.3	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.
1.4	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

S. No	EC Conditions
1.5	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
1.6	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.
1.7	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."
1.8	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).
1.9	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
1.10	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
1.11	This Environmental Clearance (EC) is subject to orders/ judgment of Honble Supreme Court of India, Honble High Court, Honble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
1.12	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. PP needs to apply for transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.
1.13	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
1.14	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

2.

S. No	EC Conditions
2.1	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

S. No	EC Conditions
	provision shall be made for protection and care of trees.
2.2	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.

3. Air Quality Monitoring And Preservation

S. No	EC Conditions
3.1	The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each).covering upwind and downwind directions.
3.2	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. Monitor fugitive emissions in the plant premises.
3.3	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.
3.4	The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.
3.5	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
3.6	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
3.7	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
3.8	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986. 9) The project proponent shall install system to carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and

S. No	EC Conditions
	outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each). covering upwind and downwind directions.
3.9	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 shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.
3.10	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.

4. Water Quality Monitoring And Preservation

S. No	EC Conditions
4.1	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.
4.2	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.
4.3	The project proponent shall provide the slime disposal facility with impervious lining and collection wells for seepage. The water collected from the slime pond shall be treated and recycled.
4.4	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
4.5	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
4.6	The project proponent shall practice rainwater harvesting to maximum possible extent.
4.7	The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

S. No	EC Conditions
4.8	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.
4.9	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
4.10	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
4.11	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 including upstream and downstream. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April May), monsoon (August), post-monsoon (November) and winter (January) and the record of 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.
4.12	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.
4.13	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.
4.14	Adhere to Zero Liquid Discharge
4.15	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.

S. No	EC Conditions
4.16	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.

5. Noise And Vibration Monitoring And Prevention

S. No	EC Conditions
5.1	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.
5.2	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
5.3	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.

6. Noise Monitoring And Prevention

S. No	EC Conditions
6.1	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
6.2	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

7. Mining Plan

S. No	EC Conditions
7.1	The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.

S. No	EC Conditions
7.2	The Project Proponent shall adhere to approved mining plan, inter alia, including, total excavation (quantum of mineral, waste, over burden, inter burden and top soil etc.); mining technology; lease area; scope of working (method of mining, overburden & dump management, O.B& dump mining, mineral transportation mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure; land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life; etc.).

8. Energy Conservation Measures

S. No	EC Conditions
8.1	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
8.2	Provide LED lights in their offices and residential areas.

9. Land Reclamation

S. No	EC Conditions
9.1	The Overburden (O.B.), waste and topsoil 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 / waste dumps / topsoil dump like height, width and angle of slope shall be governed as per the approved Mining Plan and the guidelines/circulars issued by D.G.M.S. The topsoil shall be used for land reclamation and plantation.
9.2	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.
9.3	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.
9.4	Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

10. Waste Management

S. No	EC Conditions
10.1	The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
10.2	Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant)

11. Transportation

S. No	EC Conditions
11.1	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. [If applicable in case of road transport].
11.2	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 equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

12. Green Belt And Emp

S. No	EC Conditions
12.1	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant
12.2	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

13. Public Hearing And Human Health Issues

S. No	EC Conditions
13.1	Occupational health surveillance of the workers shall be done on a regular basis and records

S. No	EC Conditions
	maintained as per the Factories Act.
13.2	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
13.3	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
13.4	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
13.5	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.

14. Green Belt

S. No	EC Conditions
14.1	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.

15. Corporate Environment Responsibility

S. No	EC Conditions
15.1	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
15.2	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest I wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
15.3	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

S. No	EC Conditions
15.4	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
15.5	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.
15.6	The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

16. Miscellaneous

S. No	EC Conditions
16.1	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponents website permanently.
16.2	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
16.3	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
16.4	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
16.5	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
16.6	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
16.7	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

S. No	EC Conditions
16.8	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
16.9	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
16.10	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
16.11	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
16.12	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
16.13	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
16.14	Concealing factual data failure to comply with any or submission of false/ fabricated data and of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
16.15	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
16.16	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.
16.17	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.
16.18	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.
16.19	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal

S. No	EC Conditions
	Act, 2010.
16.20	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Honble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
16.21	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.
16.22	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.

17. Corporate Environment Responsibility (Cer)

S. No	EC Conditions
17.1	The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

Additional EC Conditions

1. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.

Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santona, Sanguem Taluka, South Goa District, Goa.

Detail of the Project:

The details of the project as ascertained from the document submitted by the Project Proponent are given as under:

i. Project details:

Name of the Proposal	Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santona, Sanguem Taluka, South Goa District, Goa																
Location	Village	Santona															
	Tehsil/Taluka	Sanguem															
	District	South Goa															
	State	Goa															
	Latitudes & Longitudes																
	All the co-ordinates of the lease boundary corner points as per the approved DGPS Plan from Directorate of Mines and Geology, Govt. of Goa are given as below:																
	<table><tr><td>Pillar No.</td><td>Pillar Latitude (dd:mm:ss.ss)</td><td>Pillar Longitude (dd:mm:ss.ss)</td></tr><tr><td>BP 1</td><td>15° 17' 58.2803"N</td><td>74° 09' 31.3905"E</td></tr><tr><td>BP 2</td><td>15° 18' 02.6197"N</td><td>74° 09' 29.8008"E</td></tr><tr><td>BP 3</td><td>15° 18' 08.7974"N</td><td>74° 08' 55.2583"E</td></tr><tr><td>BP 4</td><td>15° 17' 40.1839"N</td><td>74° 09' 03.3467"E</td></tr></table>	Pillar No.	Pillar Latitude (dd:mm:ss.ss)	Pillar Longitude (dd:mm:ss.ss)	BP 1	15° 17' 58.2803"N	74° 09' 31.3905"E	BP 2	15° 18' 02.6197"N	74° 09' 29.8008"E	BP 3	15° 18' 08.7974"N	74° 08' 55.2583"E	BP 4	15° 17' 40.1839"N	74° 09' 03.3467"E	
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BP 4	15° 17' 40.1839"N	74° 09' 03.3467"E															

	BP 5	15° 17' 30.9847"N	74° 09' 08.5955"E
	BP 6	15° 17' 01.6125"N	74° 09' 13.1548"E
	BP 7	15° 17' 12.4794"N	74° 09' 41.2969"E
	BP 8	15° 17' 13.0200"N	74° 09' 44.8333"E
	BP 9	15° 17' 16.8213"N	74° 09' 43.9885"E
	BP 10	15° 17' 19.1419"N	74° 09' 40.8072"E
	BP 11	15° 17' 23.3295"N	74° 09' 36.4971"E
	BP 12	15° 17' 26.7696"N	74° 09' 33.4331"E
	BP 13	15° 17' 30.5546"N	74° 09' 31.2826"E
	BP 14	15° 17' 36.0551"N	74° 09' 29.0348"E
	BP 15	15° 17' 40.9091"N	74° 09' 28.2686"E
	BP 16	15° 17' 44.5813"N	74° 09' 28.2599"E
	BP 17	15° 17' 49.1710"N	74° 09' 29.2119"E
	BP 18	15° 17' 54.4169"N	74° 09' 30.5870"E
	Sol Topo sheet No.		48 I/3 (D43C3)
Company's Name	Fomento Resources Private Limited		
Accredited Consultant and certificate no. and Validity	Accredited Consultant : Mineral Engineering Services Certificate No. : NABET/EIA/2326/RA 0296 Validity : 15/05/2026		
KML file	Submitted as a file named: Block IV - Kalay Mineral Block		
Seismic zone	III		

ii. Category details:

Category of the project	B1
Schedule No.	1(a) Mining of Minerals
Mining lease Area (MLA) (in ha.)	152.5073 Ha

General Conditions (if any)	Bhagwan Mahaveer Wildlife Sanctuary & National Park is within 5km from the boundary of the Block IV – Kalay Mineral Block
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iii. ToR/EC Details:

- PP had obtained ToR on 08.01.2024 Kalay Mineral Block- Block IV (Auction Block) of M/s Fomento Resources Private Limited for mining of Iron Ore with production capacity of 0.75 MTPA, Waste 3.0 MTPA in the mine lease area of 152.5073 Ha, located at Village Santana, Sanguem Taluka, South Goa District, Goa.
- PP further obtained Amendment of ToR on 19.11.2024 w.r.t to standard condition no. 2.1, i.e. PP shall submit a certificate from Chief Conservator of Forests regarding involvement of forest land in the mining lease area if any, In case forest land is involved. i) PP should submit a proof of application made for obtaining and ii) a map clearly showing the forest and non-forest area.

Date of application	Proposal No/ File No	Consideration by EAC	Details of EC	Date of accord
21/03/2025	IA/GA/MIN/529454/2025	16/06/2025	The proposal was considered & deferred in the 44 th EAC meeting	15 to 16 th May 2025
	IA/GA/MIN/529454/2025	25.06.2025	The proposal was re-considered in the 46 th EAC meeting.	25 to 26 th June 2025

iv. Details of Mine Lease in chronological manner:

S.no	Prospecting License/ Letter of Intent (LoI)/ Grant of Mine lease and Lr No	Date of the grant	Name of the Mineral & (Major / Minor)	Period of Grant	Granted by	Mine lease area in Ha
1	Letter of Intent No. DMG/25/Auction cell/LOI-function/2023/2804, dated 13/01/2023 read with letter No.	13/01/2023	Iron Ore (Major)	LOI valid for 3 years	Directorate of Mines and Geology	152.5073

	03/18/2023/Major/Mines/3 286 dated 13/03/2023					
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v. Land Use/ Land Cover of the Mine Lease Area:

Private land	72.9675 Ha
Government land	58.4068 Ha
Forest land	21.1330 Ha
Total Mining lease area (MLA), ha	152.5073 Ha
Private land for crusher, workshop & other infrastructure outside the MLA	Nil

vi. Mining plan details:

Mining Plan including Progressive Mine Closure Plan (approved by Indian Bureau of Mines/DMG)	Letter No.	MCDR-MPC0FE/6/2024-GOA-IBM_RO_GOA
	Date	23/08/2024
	Mineral & (Major/Minor)	Iron Ore (Major)
	Mine Lease Area, Ha	152.5073 Ha
	Validity	50 years
Mining Parameters	Quantitative Description	
Method of Mining	Mechanized Opencast Mining	
Drilling/Blasting	Not proposed	
Geological Reserves	16.731 Million Tonnes (Geological Reserves & Resources)	
Mineable Reserves	8.188 Million Tonnes	
Breakup of Total Excavation (Topsoil/ OB/ SB/ IB/ Mineral Rejects/ Waste, MTPA)	Breakup of Total Excavation ROM (Iron Ore) : 0.75MTPA Topsoil : Nil OB/SB/IB/Waste : 3.0 MTPA Mineral Rejects : Nil	
Life of mine	24 years	

Mine Bench Height & Bench Width	Mine Bench height : 6m Mine Bench width : 8m
No. of Mine Benches	13 (existing)
Existing Depth, m bgl	62 (average)
Ultimate Depth of Mining, m bgl	102
Ground Water Table, m bgl	5 to 10
Details of ground water intersection	Block IV - Kalay Mineral Block is already having broken mining pits and has intersected groundwater table at 39 MSL.
Individual bench slope	63°
Overall pit slope	30°
Details of existing/ proposed Crusher	There is no proposal for engaging crusher.
Mineral Beneficiation	Nil
RoM output size	- 80 mm.
Transportation details including capacity of dumper/ tipper, mode of transport and distance	The mode of transportation of ore from the Mine is by road engaging tipper trucks of 10.5 tonnes capacity. The distance proposed to be travelled for transportation of ore from Mine to the jetty/destination is about 14 Km.
Generation of Topsoil/OB & its Management during plan period & conceptual period	There is no generation of Topsoil as the working is proposed in already broken-up area. Waste (OB) generated will be dumped at the earmarked site as per Approved Mining plan within the mining lease area. Waste (OB) generated during the conceptual period will be backfilled in the exhausted pit and rehabilitated.
Generation of Mineral Rejects/ Waste & its Management during plan period & conceptual period	There is no generation of Mineral Rejects.

vii. Water requirement:

Total water requirement	300LKD	Fresh water	255 KLD
		Treated water	45 KLD
Source	1. Rain & storm water accumulated in the Mine Pit will be used for dust suppression, workshop, wheel wash system and green belt/plantation. 2. Open well water will be used for domestic purpose.		
Permission for withdrawal/ intersection along with details of grant and its validity	The Water Resources Department, Goa, has issued permission for drawl of water vide letter No. 3682 and is valid upto 05/06/2026.		

viii. Nearest village/ town/ highway/ interstate boundary/ railway station/ water bodies/ monument/ forest

Particulars	Particular's Name	Distance & Directions
Village	Santona Village	The Mineral Block is located within Santona village.
Town	Sanvordem Town	6.0 km by road in the South-West direction.
Highway	State Highway SH-7	1.27 km by road in the West Direction.
Interstate Boundary	Karnataka	10.03 km
Railway Station/ Railway line	Kalay Railway station	4.0 km by road in the East Direction.
Water Bodies	Kalay River	5m from the Eastern boundary of the Mineral Block.
Forest	Bhagwan Mahaveer Wildlife Sanctuary	1.04 km from the Eastern Boundary of the Mineral Block.

ix. Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter issued by the concerned Department mentioning the Lr no, date of grant and remarks
Forest Land within the mine lease area and (if	Yes	The proposal has been accorded " <i>In-principle</i> " approval for the Stage-I clearance for

yes) status of Forest Clearance		diversion of Forest land for an area of 21.133 ha vide letter dated 12/05/2025.
National Park	Yes	Bhagwan Mahaveer Wildlife Sanctuary & National Park is at a distance of 1.04 Km from the boundary of Mineral Block.
Wildlife Sanctuary	Yes	Bhagwan Mahaveer Wildlife Sanctuary & National Park is at a distance of 1.04 Km from the boundary of Mineral Block. Netravali Wildlife Sanctuary is at a distance of 6.42 km from the boundary of Mineral Block.
Elephant/ Tiger Reserve	No	Nil
Eco-Sensitive Zone(ESZ)/ Eco-Sensitive Area (ESA)	Yes	The Mineral Block does not fall within any of the Eco-Sensitive Areas of Western Ghats.
Coastal Regulation Zone (CRZ)	No	--
Schedule-I species (No.s and name of schedule-I species with authenticated letter)	Yes	Details regarding Schedule-I species with authenticated letter is provided at page nos. 429 to 452 in the EIA report. Letter dated 13.02.2024 issued by Deputy conservator forests, Goa.
Wildlife Conservation Plan	Yes	A Wildlife Conservation Plan has been prepared and submitted to the Chief Wildlife Warden, Goa vide letter dated 05/03/2024. As directed by the EAC vide its Minutes dated 03/06/2025, the activities and budget in the Wildlife Conservation Plan has been reviewed and the same is incorporated in the EIA & EMP report. The budget of the previous plan of Rs. 12.5 Lakhs is revised to Rs. 78.05 Lakhs in the new revised Wildlife Conservation Plan.

x. Green belt/ plantation details:

Proposed area for green belt/plantation	Proposed areas to be brought under plantation at conceptual stage, is as given below: 1. Greenbelt – 3.0288 Ha
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and no. of saplings proposed	2. Plantation – 86.9390 Ha Total – 89.9678 Ha Plantation of around 2500 saplings per hectare is proposed.
Budget for green plant & plantation till the end of life of mine.	2.10 Crores
Budget for nursery	Saplings from Forest Department, Government of Goa will be procured for plantation.
Details of existing plantation and its survival rate	Details of existing plantation within the Mineral Block is given below: 1. Stabilized Dumps: 5.5992 Ha 2. Mined out area reclaimed & rehabilitated: 3.1150 Ha 3. Survival rate: 80% The plantation was carried out by the erstwhile Mining Lessee.
No. of tree cuts in the mine lease area and compensatory afforestation	No. of trees which will be cut within the mining area is 1881. Felling of trees will be carried out after obtaining Stage-II Forest Clearance. The Project Proponent has committed and proposed to transfer an area of 21.1330 Ha bearing survey no. 11/1 of Antoriem Village of Sanguem Taluka, towards Compensatory Afforestation, in the name of Forest Department. Necessary funds (₹1.56Cr) will be provided to the Forest Department towards Compensatory Afforestation, for a period of 10 years.
Particulars for Green belt/ plantation	Area covered (in Ha)
7.5 m barrier & non-mineralized zone	Proposed areas to be brought under plantation at conceptual stage, is as given below: Greenbelt – 3.0288 Ha Plantation – 86.9390 Ha Total – 89.9678 Ha Plantation of around 2500 saplings per hectare is proposed.
50 m safety zone of nallah, roads, electric lines	

500 m safety zones of nearest habitation villages	Drilling and blasting activity is not proposed.
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xi. Baseline detail:

Baseline Data (Air / Water / Noise / Soil / Hydro geological study/ Traffic Study/ others)	
Period of baseline data collection	March 2023 to May 2023
Season (Summer/ Pre-monsoon/ Post-monsoon/ Winter)	Summer 2023
Predominant Wind direction (From)	West
Ambient Air Quality (no. of locations) and results	Ambient Air Quality No. of locations: 8 As per the NAAQS of Central Pollution Control Board (CPCB), levels of parameters such as Ammonia, Benzene, Benzo-(a)-pyrene, Arsenic & Nickel analyzed were well below detectable limits (BDL), well within the standards. SO₂- A maximum value of 15.0 µg/m³ was observed at Kalay Mineral Block & SFIPL plant area and minimum value of 6.0 µg/m³ was observed at the seven Monitoring stations, i.e., Costi, Kalay, Devanamol, Cormonem, Bandoli, Kalay Mineral Block and SFIPL Plant Office. Oxides of Nitrogen (NO₂)- A maximum value of 18.0 µg/m³ was observed at Kalay and Cormonem Villages and minimum value of 8.0 µg/m³ was observed at CG L Plant Office. Particulate Matter (PM₁₀)- A maximum value of 57 µg/m³ was observed at Costi village and minimum value of 26.0 µg/m³ was observed at Cormonem village. Respirable Particulate Matter (PM_{2.5})

	A maximum value of 42.0 µg/m³ was observed at Bandoli Village and minimum value of 15.0 µg/m³ was observed at Kalay, Cormonem and Bondli Villages. The Free Silica content in PM10 Filter paper was Below Detectable Level
Noise level (no. of locations) and results	Noise Levels No. of locations: 8 Ambient noise quality monitoring results for all the stations for the Summer season 2023. Noise monitoring in Leq for both Day & Night.
Water Quality (no. of locations) and results	Surface Water Quality The analysis results were compared to Stream Water Standards IS 2296, 1982 Class C norms for surface water bodies. Zuari River, the parameters TDS and Chlorides were exceeding the limits due to the influence of creek water. Surface water quality- Surface water samples were collected from 6 locations, of which one is pit water sample and the remaining 5 surface water samples were from buffer zone. All the parameters were found to be well within the permissible limits. Ground Water Quality No. of locations: 8 The open well samples were found to have slightly acidic pH. This is possibly due to the occurrence of lateritic soil. The soil is rich in Iron and Aluminum oxides and hence it makes the ground water slightly acidic in nature, while all other parameters were found to be within permissible limits
Soil Quality (no. of locations) and results	Soil Quality No. of locations: 7 The dominant soil type observed in the mining lease is red soil (Clay Loam). The results show that the pH of soil was between 6.19 to 6.22. Texture varied from sandy clay to clay loam. Electrical Conductivity ranged from 0.248 to 0.363 mhos/cm, which is a measure of the soluble salts and ionic activity in the

	soil. All other parameters analysed were observed to be within permissible limits.
Hydro geological study and results	PP has submitted hydrogeological study report vide dated September 2023. PP has conducted the Hydrological study as per the guidelines issued by the Central Ground Water Authority
Traffic study (no. of locations) and results	PP has submitted the analysis of traffic counts provides an estimate of average daily traffic (ADT). As per guidelines for capacity of roads in rural areas of IRC, recommended design series volumes for two lane roads are 1 5000 PCU/day.

xii. Public Hearing (PH) Details:

Advertisement for PH with date (name of major national daily and one regional vernacular daily newspaper)	Date of Advertisement for PH : 18.12.2024 Newspapers: Major national daily Newspapers: Times of India & Dhainik Bhaskar Mumbai Edition Regional Newspapers: Bhangarbhuim, Tarun Bharat
Date of PH	29.01.2025
Venue	Sarvajanic Ganesutsav Mandal Hall, Sanvordem, Sanguem Taluka, South Goa District, Goa.
Chaired by	Dy. Collector and Sub Divisional Magistrate Sanguem Taluka, South Goa District, Goa.
Main issues raised during PH	Main issues raised during Public Hearing are as below- - Support for education - Providing health care - Water resources & providing sanitation facilities - Support for Agriculture/Horticulture/Plantation - Assistance to cultural/ religious activities - Assistance to sports and cultural clubs

Budget proposed for addressing issues raised during PH over 3 years	100.8 Lakhs
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xiii. Details of CTE/ CTO, Certified Compliance Report, Certified Production Details from the inception of the mine:

Particulars	Details of Letter along with date of grant and validity
Consent to Establish	Application for CTE will be filed after obtaining Environmental Clearance.

xiv. Rehabilitation & Resettlement (R&R):

R & R details	As per the EIA-EMP report submitted, this proposed project area does not have any habitation in the Mining Lease Area. Hence, no Rehabilitation & Resettlement Plan is required.
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xv. Court case details:

Court Case, No and its present status	Writ Petition 592 of 2022 in Hon'ble High Court of Bombay at Goa stands dismissed vide order dated 12.02.2024. Nil Court Cases / Litigations pending
Undertaking by Project Proponent w.r.t court case	PP has submitted an undertaking vide letter dated 13.03.2025, stated that no litigation/ court case is pending against the project.

xvi. Affidavit/Undertaking details:

Affidavit as per Ministry's OM dated 30.05.2018	PP has submitted an affidavit vide letter dated 05.03.2025 on its letter head as per the Ministry's OM dated 30.05.2018
Undertaking by Project Proponent in EIA/EMP report	PP has submitted an undertaking vide letter dated 09.05.2025
Undertaking by Consultant in EIA/EMP report	The Consultant has submitted an undertaking for preparation of EIA-EMP report in its letter head dated 05.03.2025
Plagiarism Certificate	PP has submitted software generated Plagiarism certificate (Plagiarism Checker X -Report) vide letter dated 11.03.2025

xvii. PP has submitted the point-wise reply on 05.05.2025 against the EDS raised on 21.04.2025 as mentioned below:

S. No	EDS Point	Reply by Project Proponent
1	PP needs to submit the stage I Forest Clearance for the Forest land of 21.133ha involved in the ML area	"In-principle" approval for the Stage- I Forest Clearance is recommended by Forest Advisory Committee vide minutes of the meeting held on 16/04/2025. A copy of abstract of the Minutes of Meeting dated 16/04/2025 showing the approval of Advisory Committee has been submitted.
2	PP needs to submit a tangible and monitorable Environment Management Plan (EMP)	PP has submitted a tangible and monitorable Environment Management Plan (EMP).
3	PP needs to submit a tangible and monitorable Public Hearing action plan	PP has submitted a tangible and monitorable Public Hearing action plan.

B. Project was considered in 44th EAC meeting held during 15-16th May 2025, the committee has raised the ADS. PP has submitted point wise reply vide letter dated 12.06.2025 against the ADS raised on 03.06.2025 as mentioned below:

S. No	ADS Point	Reply by Project Proponent
ADS 1 – dated : 03/06/2025		
i.	The Project Proponent may obtain a No Objection Certificate (NOC) from the Archaeological Survey of India for the village temple at Devnamol (Dukarkond), located at a distance of 0.3 km from the project site, if necessary.	The Archaeological Survey of India, Government of India, Goa Circle, Church Complex, Old Goa vide its letter dated 17/06/2025, has provided list of protected monuments of National importance under the jurisdiction of Archaeological Survey of India, Goa Circle. The village temple at Devnamol (Dukarkond) located at a distance of 0.3 km from the project site is not included in the list of protected monuments provided by the Archaeological Survey of India, Goa Circle. As village temple at Devnamol (Dukarkond) is not protected monument, NOC from Archaeological Survey of India is not necessary. A copy of letter dated 17/06/2025.
ii.	The Project Proponent must comply with the directions issued by the Hon'ble High	In terms of the directions of Hon'ble High Court of Bombay at Goa and as per the order dated 29.06.2024, in Writ Petition (PIL) No.

Court of Bombay at Goa, as per the order dated 29.06.2024, in Writ Petition (PIL) No. 06/2024 titled Mulakh Khajan Farmers Association vs The Directorate of Mines and Geology and prepare a transportation plan accordingly (PP to adhere to the report of DMG and GSPCB).	06/2024, Directorate of Mines and Geology Goa and Goa State Pollution Control Board have devised a Standard Operating Procedure (SOP) to be followed by the Project Proponent. The salient points of the said SOP is enumerated as below: 1. The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation. 2. The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation. 3. Upon such approval, the transporter will apply to the GSPCB for setting up monitoring stations on the route. 4. After the GSPCB sets up the stations, the transporter will then apply to the DMG for transit permits, which shall be accordingly decided by DMG. 5. The transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied. 6. All trucks shall be registered with the Department and fitted with GPS. 7. GEL shall continuously monitor vehicle speed and any Violation 8. The timing of the Ore Transportation along the designated route should be from 8.00 am to 1.00 pm with a break from 1.00 pm to 2.00 pm and then transportation can continue from 2.00 pm to 5.45 pm from the source location. 9. GEL should ensure that no trip sheets are generated beyond the prescribed time so that transportation of Ore happens only within the specified time. 10. The truck/tippers engaged in transportation of ore shall have sufficient
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		free board after filling the cargo box to avoid spillage. 11. All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin. 12. In case of breakdown of loaded trucks/tippers unloading of ore at the road side shall be strictly avoided. 13. The roads within mining lease areas shall be sprinkled with water to suppress dust pollution. 14. Spillage of ore on the public roads shall be removed immediately on occurrence. 15. The mining company should make suitable arrangement for sweeping of roads affected due to transportation of iron ore. 16. The mining firm should manage the daily trips in staggered manner in consultation with DMG, so that traffic congestion is avoided at major junctions. 17. Road sweeping machines may be jointly/severally developed in hotspot areas/stretches. 18. The shoulders of the mining transport roads may be tarred whenever needed. A transportation plan prepared in accordance with the directions issued by the Hon'ble High Court of Bombay at Goa, as per the order dated 29.06.2024, in Writ Petition (PIL) No. 06/2024. Further, the Project Proponent undertakes to comply with the directions issued by the Hon'ble High Court of Bombay at Goa, as per the order dated 29.06.2024, in Writ Petition (PIL) No. 06/2024 titled Mulakh Khajan Farmers Association vs The Directorate of Mines and Geology.
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iii.	A comprehensive plan must be prepared by the Project Proponent to address potential overflow of water from the open mine pit during heavy rainfall or other events since groundwater table has already intersected. PP should submit a detailed plan for withdrawal intersection, flow of groundwater also need to be furnished and disposal of groundwater. Consultation in this regard should be done with CGWA/SGWB.	A comprehensive plan has been prepared to address potential overflow of water from the open mine pit during heavy rainfall or other events since groundwater table has already intersected. The brief summary of the comprehensive plan is enumerated as below: - As per the data, the volume of water received as rain precipitation in the watershed area of the Mineral Block during monsoon is about 5.00 million m³ and the volume of storage capacity available in form of mine pits is 8.50 million m³ and therefore, no chance of overflow. - In any unlikely event of overflow, resources in terms of manpower and pumping capacity of 58,560 Cubic Meter per Day is available to deal any emergency so as to disallow the overflow of water from the open mine pit during heavy rainfall or other events. - Therefore, the intersection of groundwater table has no role to play in the overflow of water from the mine pit during heavy rainfall. - As per the data, the volume of water received as rain precipitation in the watershed area of the Mineral Block during monsoon is about 5.00 million m³ and the volume of storage capacity available in form of mine pits is 8.50 million m³ and therefore, no chance of overflow. - In any event, the project proponent has resources in terms of manpower and machinery (a set of 3 nos. of pumps of 500 Cum/Hr, 2 nos. of pump with 400 Cum/Hr along with 1 no. of pump of 140 Cum/Hr to carryout pumping operations in case of any emergency so as to not allow the overflow of water from the open mine pit during heavy rainfall or other events.
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		Therefore, the volume of storage capacity available in the mining pit is in excess of 3.5 million m³ (difference) and therefore has no potential overflow of water from the open mine pit during heavy rainfall or other events. The brief summary of plan for disposal of groundwater is as follows: 1. The water available in the mine pits are primarily from the storm water received by the Mineral Block during the monsoon season. 2. The proposed pumping in the pits is during the non monsoon period by way of engaging pumps in terms of the approval accorded for drawl of water from WRD, Government of Goa. 3. The rain accumulated mining pit water if any should be routed through settling ponds and filter beds. 3. The Project Proponent will operate and maintain Oil and Grease Trap (ETP) for the effluent generated from the Workshop. 4. The domestic wastewater shall be treated in a properly designed septic tank and discharged on land for percolation through soak pit of adequate size within the unit premises. 5. To prevent siltation of rivers/ nallahs/ fields catch drains, toe wall, filter bed, check dam, garland drains, arrest wall and siltation/settling ponds shall be maintained around reject dumps for settlement of suspended particles and to prevent siltation. 6. The Project Proponent will maintain the pumping schedule for pumping the rain accumulated water from the mining pit. 7. The Project Proponent will strive to implement suitable conservation measures to augment ground water resources wherever possible in the area. 8. The Project Proponent will not deviate in any
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		way from specification regarding well, pump etc. mentioned above without approval of Water Resource Department, Government of Goa. 9. Care shall be taken that the drawl of water shall not interfere with the normal activities of the locality nor shall it cause any traffic hazard. 10. The Project Proponent has installed two Peizometers of type (DWLR with Telemetry System) for monitoring the Ground Water Levels within the core area of mining lease for observation & monitoring. 11. Monitoring the Ground Water level in the buffer zone in the established network of existing wells in the buffer zone (as per table 10 of the Hydrogeology report), will be monitored on monthly basis and submitted to Ground Water Officer (WRD) and CGWB. 12. The project proponent will monitor the water quality of the mines seepage and mine discharge through NABL accredited/ Government approved laboratory on monthly basis to WRD and CGWB, Bangalore. 13. Also, the water quality of the seasonal nallah in the upstream and downstream direction and the Kalay River in the upstream and downstream direction will be monitored on regular basis through NABL accredited/ Government approved laboratory on monthly basis and the same will be submitted to WRD Goa and CGWB, Bangalore. 14. The Project Proponent will ensure that the water available from the dewatering operations is properly treated and the quantity shall be utilized for supply to irrigation/dust suppression/mining process. 15. The Project Proponent will install digital water meter for measurement of the
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		quantity of water abstraction. 16. All activities committed in the report on ground water recharge and rainwater harvesting in the Hydrogeology report will be implemented satisfactorily. Comprehensive plan for treatment and disposal of ground water has been prepared and submitted with ADS reply. The Comprehensive plan has been submitted to WRD, Govt. of Goa for their consultation vide our letter dated 06/06/2025.																																										
iv.	The Project Proponent must also prepare a detailed plan to safeguard the Kalay River, which flows just 0.005 km from the eastern boundary of the mining lease area. SPCB and State Water Resources Department should be consulted in this regard.	The Kalay River is situated outside the Block-IV Kalay Mineral Block on the eastern side of the Block and flows from South to North. The distance of the river from the boundary pillars adjoining the Kalay river is shown below: <table border="1"> <thead> <tr> <th>Sr.No</th><th>Boundary Pillar</th><th>Distance (Km)</th></tr> </thead> <tbody> <tr><td>1</td><td>BP-1</td><td>0.120</td></tr> <tr><td>2</td><td>BP-2</td><td>0.125</td></tr> <tr><td>3</td><td>BP-8</td><td>0.017</td></tr> <tr><td>4</td><td>BP-9</td><td>0.005</td></tr> <tr><td>5</td><td>BP-10</td><td>0.085</td></tr> <tr><td>6</td><td>BP-11</td><td>0.175</td></tr> <tr><td>7</td><td>BP-12</td><td>0.245</td></tr> <tr><td>8</td><td>BP-13</td><td>0.390</td></tr> <tr><td>9</td><td>BP-14</td><td>0.350</td></tr> <tr><td>10</td><td>BP-15</td><td>0.360</td></tr> <tr><td>11</td><td>BP-16</td><td>0.425</td></tr> <tr><td>12</td><td>BP-17</td><td>0.600</td></tr> <tr><td>13</td><td>BP-18</td><td>0.146</td></tr> </tbody> </table> The distance of ultimate pit limit of Pit no.1 from the Kalay river is 430 metres and the distance of ultimate pit limit of Pit no.3 from the Kalay river is 350 metres. The Project Proponent has prepared a detailed plan to safeguard the Kalay River, flows 0.005 km from the eastern boundary of the mining lease area and the nearest distance of ultimate pit limit of Pit no.1 from	Sr.No	Boundary Pillar	Distance (Km)	1	BP-1	0.120	2	BP-2	0.125	3	BP-8	0.017	4	BP-9	0.005	5	BP-10	0.085	6	BP-11	0.175	7	BP-12	0.245	8	BP-13	0.390	9	BP-14	0.350	10	BP-15	0.360	11	BP-16	0.425	12	BP-17	0.600	13	BP-18	0.146
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		the Kalay River is 430 metres. The nearest distance of ultimate pit limit of Pit no.3 from the Kalay River is 350 metres. The Project Proponent has prepared a detailed plan to safeguard the Kalay River, which flows just 0.005 km from the eastern boundary of the mining lease area and the same is submitted to Goa State pollution Control Board (GSPCB) and WRD, Govt. of Goa for their consultation vide our letter dated 06/06/2025. The salient features of the said detailed plan to safeguard the Kalay River is enumerated as below: - The surface rainwater during monsoon will be diverted in the mining pits for sedimentation of solid suspended particles. Water will be treated with lime and flocculants for effective sedimentation. - During fair season, pumped out accumulated rain and stormwater will be pumped out will be passed through series of settling ponds before final discharge. - Plantation will be carried out along the seasonal nallah to prevent soil erosion. - De-siltation activity will be carried out post monsoon each year from the settling ponds and garland drains and dumped the same at the designated places within the Block area. - Mandatory annual cleaning of garland drains will be an integral part of the project, commencing before the post monsoons and no later than the end of May each year. - Velocity droppers will be provided, if deemed necessary, particularly during monsoons. - Routine maintenance including the periodic creation of bunds to optimize the
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		proper controlled flow of stormwater into garland drains. h. Pre-monsoon maintenance of bunds in the nalla to ensure effectiveness. i. Implementation of proposed drop structures to regulate the velocity of stormwater flow. A detailed plan to safe guard Kalay River is prepared and consulted with the Goa State Pollution Control Board (GSPCB) and State Water Resources Department. GSPCB vide letter dated 18/06/2025 has provided consulted report.						
v.	The Project Proponent should consult the State Water Resources Department or an institute of National repute to obtain High Flood Level (HFL) data for the Kalay River and the seasonal nallah that flows within the mining lease area.	The Highest Flood Level (HFL) for the Kalay river is 36.6 MSL as declared and conspicuously displayed and maintained on the Railway bridge for the information of the general public. Further, PP have already submitted a letter dated 06/06/2025 for consultation with WRD, Govt. of Goa to obtain High Flood Level (HFL) data for the Kalay River and the seasonal nallah that flows within the mining lease area. A copy of the letter dated 06/06/2025 submitted to WRD, Govt. of Goa for obtaining High Flood Level (HFL) data for the Kalay River and the seasonal nallah that flows within the mining lease.						
vi.	The Project Proponent needs to submit an action plan for the treatment and disposal of mine pit water.	As on date the approximate volume of water accumulated in Pit-1 is 2.45 million m³ (at 39.2 MSL) and in Pit-3 is 4.75 million m³(at 39.2 MSL). 1. As per the approved mining plan the mine working levels in the mine pits for the first five years are as follows: <table border="1"> <thead> <tr> <th>Year</th><th>Pit 1 Max Depth of Workings (msl)</th><th>Pit 3 Max Depth of Workings (msl)</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td></tr> </tbody> </table>	Year	Pit 1 Max Depth of Workings (msl)	Pit 3 Max Depth of Workings (msl)			
Year	Pit 1 Max Depth of Workings (msl)	Pit 3 Max Depth of Workings (msl)						

	Year 1	41	35	
	Year 2	35	29	
	Year 3	23	11	
	Year 4	23	5	
	Year 5	23	-7	
2. Further, as per the approved mining plan the proposed maximum conceptual working depth in pit 1 and pit 3 is -37 msl and -37 msl respectively. 3. It should also be noted that as per the approved mining plan pit 2 is not proposed for any excavation and the present maximum depth of the pit is 36.2 msl. 4. The surface runoff water stored in these mining pits will be systematically and scientifically pumped to carry out mining operations as per the approved mining plan. 5. In terms of the Approved Mining Plan, the year wise volume of the water to be pumped is as follows:				
	Year	Volume of rain/ storm water to be pumped in million Cum		
		Pit 1	Pit 3	Total
	Year 1	1.19	1.55	2.74
	Year 2	2.73	2.64	5.37
	Year 3	2.91	3.98	6.89
	Year 4	1.92	1.94	3.86
	Year 5	1.92	1.54	3.46
6. As you aware that, Hydrogeological Study was carried out by the qualified groundwater expert Mr. M.C. Reddy, Formerly Regional				

		Director, Accredited Consultant of Central Ground Water Authority for Mining Projects & NABET and the final report after consultation was submitted to Sr. Hydrogeologist & Member Secretary Goa Ground Water Cell, Office of Sr. Hydrogeologist, Water Resources Department, Porvorim Goa, which was examined and permission for drawl of water was granted by WRD on 16/04/2024. The Project proponent has prepared an action plan for the treatment and disposal of mine pit water in terms of the permission explained herein above. A brief summary of the same is as follows: 1. The storm water diverted to mine pits where it is stored for a period of over 4 months allowing recharging of ground water and settlement of suspended solids in the mining pits. 2. The accumulated mine pit water will be treated by adding lime and flocculants for faster settlement of suspended solids. 3. The mine pit water will be sampled and analysed as per schedule VI of Environmental (Protection) Act, 1986, before its discharge from the mine. 4. The upstream and downstream of the seasonal nallah and Kalay river water will be analysed as per IS: 2296 standards. 5. During non-monsoon season, the mine pit water will be pumped and allowed to pass through network of garland drains, trenches and Settling Ponds. 6. The garland drain will be laid with tarpaulin or stone pitching to prevent wash-off of soil and erosion of garland drains by the pumped water.
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		7. It is proposed to incorporate small pits at every 100m along the length of the garland drains as measures for velocity droppers. This provision facilitates the smooth entry of the pumped storm water into the settling ponds. 8. The storm water, pumped from will be passed through a series of settling ponds, where it undergoes a sequential retention process. These interconnected settling ponds play a crucial role in refining storm water for the Mineral Block. Gravity facilitates the flow between the settling ponds. 9. Water will be treated at strategic settling ponds by adding lime and flocculants for faster settlement of suspended solids. 10. To further enhance water quality, multiple check dams will be strategically positioned across the seasonal drain, functioning as effective filter barriers. 11. Only clear water will be allowed to be discharged outside the mining lease area. 12. Regular de-silting of all the garland drains and settling ponds will be carried out every year before the onset of monsoon. 13. Regular monitoring of surface water will be undertaken to monitor the quality of water discharged from the pit.
vii.	The Project Proponent must engage a qualified groundwater expert or any national Institute working in this domain to assess the seepage of surface water into the groundwater system, and submit a detailed report accordingly. Consultation with CGWA/ SGWB can also be taken in this regard.	As explained above, the Project Proponent in compliance with the conditions of ToR granted on 08/01/2024 had engaged a qualified groundwater expert Mr. M. C. Reddy, Former Regional Director, Central Ground Water Board and Accredited Expert of Central Ground Water Authority for mining projects & NABET (HG & GEO) to carry out a comprehensive hydrogeological and impact assessment studies including seepage of surface water into ground water system in and around the Block IV – Kalay Mineral Block. The copy of comprehensive

		hydrogeological studies in and around the Block IV – Kalay Mineral Block This Hydrogeological Study report was submitted to Sr. Hydrogeologist & Member Secretary Goa Ground Water Cell, Office of Sr. Hydrogeologist, Water Resources Department, Porvorim Goa, on 03/01/2024. The Hydrogeological report was examined by the Ground Water Cell during its 131st meeting dated 19/03/2024 and pursuant to the examination of Hydrogeological report our application for permission was granted by WRD on 16/04/2024. Further, the Project Proponent had also engaged Government of Goa, Goa College of Engineering, Farmagudi, Goa to carry out a comprehensive study on the engineering design for garland drains, settling tanks, check dams and their efficacy for Block IV - Kalay Mineral Block and likelihood of river water entering into the mine pit below the RL of the HFL and the measures that are required to be taken for the prevention of seepage and in the event of seepage to drain out the water through settling tank along with measures to be taken for the protection of the river in the vicinity of the mine lease area due to mining activity. The copy of comprehensive study done by Government of Goa, Goa College of Engineering, Farmagudi, Based on the study done by the qualified ground water expert to assess the seepage of surface water into ground water, a detailed report has been prepared and submitted to WRD, Govt of Goa for their consultation vide our letter dated 06/06/2025. A detailed report based on the study done by the qualified ground water expert to assess the seepage of surface water into ground
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		water, has been prepared and submitted to WRD, Govt of Goa for their consultation vide our letter dated 06/06/2025.																								
viii.	PP should incorporate construction of ETP associated with Oil & Grease trap in its Environment Management Plan.	PP has incorporated the construction of ETP associated with Oil & Grease trap in its Environment Management Plan. The cost of setting up ETP associated with Oil & Grease trap is 15 lakhs and will be set up within 3 months after getting permissions. A copy of the details of water treatment system associated with eco-tank, Oil & Grease trap.																								
ix.	PP should review the activities and budget in the Wildlife Conservation Plan.	PP has reviewed the activities and budget in the Wildlife Conservation Plan and also the same is incorporated in the EIA & EMP. Accordingly, the PP has revised the budget of the previous plan of Rs. 12.5 Lakhs to Rs. 78.05 Lakhs in the new revised Wildlife Conservation Plan. The revised Budget Layout for Implementation of Wildlife Management & Mitigation Plan is shown as below: <table border="1"> <thead> <tr> <th>S.No</th><th>Measures</th><th>5 Year Cost (in Rupees)</th></tr> </thead> <tbody> <tr> <td>1</td><td>A vehicle (2-Wheeler) with rescue equipment</td><td>1.50</td></tr> <tr> <td>2</td><td>Conservation measures</td><td rowspan="4">24.41</td></tr> <tr> <td></td><td>Wildlife census and monitoring</td></tr> <tr> <td></td><td>Fire prevention measures</td></tr> <tr> <td></td><td>Capacity building for mitigating human-wildlife conflicts</td></tr> <tr> <td></td><td>Nursery development</td><td></td></tr> <tr> <td>3</td><td>Veterinarian Support</td><td>3.07</td></tr> <tr> <td>4</td><td>Creation and maintenance of waterholes as per site conditions and habitat</td><td>9.17</td></tr> </tbody> </table>	S.No	Measures	5 Year Cost (in Rupees)	1	A vehicle (2-Wheeler) with rescue equipment	1.50	2	Conservation measures	24.41		Wildlife census and monitoring		Fire prevention measures		Capacity building for mitigating human-wildlife conflicts		Nursery development		3	Veterinarian Support	3.07	4	Creation and maintenance of waterholes as per site conditions and habitat	9.17
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	5	Enrichment planting of native species such as Ficus, Eugenia, Emblica, etc., palatable to the wildlife in buffer areas	12.21
	6	Development and Maintenance of plantation in buffer zone	3.07
	7	Awareness programmes	3.07
	8	Watch and Ward	14.63
	9	Conservation measures within Project Areas	6.92
		Plantation/ greenbelt development within Project area.	
		Post –Plantation care	
	Total	78.05	
A copy of the revised Wildlife Conservation Plan along with the relevant page related to the new budgetary provision and the copy of the relevant portion of this revised Wildlife Conservation Plan shown in the Final EIA & EMP report.			

xviii. Details of the Environmental Management Plan (EMP):

S. No.	Activities	Proposed budget	
		Capital Cost (₹) in Crores	Recurring Cost (₹) in Lacs
1	Air Pollution control Measures		
A	Dust Suppression by water tankers	0.451	8.00
	No. of water tankers – 2 (10 m3 capacity)		
	No. of trips/day – 10 (@₹400/- per trip)		
	No. of working days – 200 = 10 x 400 x 200 = ₹ 8,00,000/-		
B	Road maintenance by Motor Grader		6.00

	Working hours – 300 (@₹2000/-)		
	No. of working days – 200 (8 month) = 2000 x 300 x 200 = ₹ 6,00,000/-		
C	Wheel washing system		8.00
	Capital - Installation cost – ₹25,00,000/-		
	Recurring - Maintenance cost – ₹10,000/- per month		
	- Operational cost - ₹90,000/- per month		
	- No. of working days – 200 (8 months) = 1,00,000 x 8 = ₹ 8,00,000/-		
D	Road washing with water tanker (Ambeaudoc)		2.00
	No. of water tankers – 1 (10 m3 capacity)		
	No. of trips – 2 trips/day (@ ₹500/- per trip)		
	No. of working days – 200 = 2 x 500 x 200 = ₹ 2,00,000/-		
E	Road sweeping machine		12.00
	Truck mounted sweeping machine – 1 (@₹3000/- per hour) (2hr daily)		
	No. of working days – 200 = 3000 x 2 x 200 = ₹ 12,00,000/-		
F	Permanent water sprinkler		1.20
	Sprinkler installation – ₹1000/- per meter		
	Length of pipeline – 1000m		
	Pump cost (2HP) – ₹50000/-		
	Operational cost – ₹1,20,000/- per year		
	Capital Installation Cost – 1000 x 1000 = 100000 + 50000 = ₹ 10,50,000/-		
	Recurring cost – 15000 x 8 = ₹ 1,20,000/-		
G	Green net along road (400 m)		0.10

	Installation cost with frame - ₹2400/m Capital Cost = $2400 \times 400 = ₹ 9,60,000/-$ Recurring Maintenance Cost - ₹ 10,000/- per year		
2	Water Pollution Control Measures		
A	Settling ponds	0.4873	3.90
	No. of settling ponds - 7		
	Total capacity - 14,070 m ³		
	Capital Construction cost (₹110/m ³) = ₹ 15,47,700		
	Recurring Maintenance Cost – ₹3,90,000/-		
B	Drains and Trenches (6350 m)		6.35
	Capital Construction Cost – ₹300/ m = $6350 \times 300 = ₹ 19,05,000/-$		
	Recurring Maintenance Cost – ₹ 100/m = $6350 \times 100 = ₹6,35,000/-$ per year		
C	Protective Bunds (1225m)		1.20
	Construction cost – ₹1000/m = $1225 \times 1000 = ₹ 12,25,000/-$		
	Recurring Maintenance Cost – ₹ 100/m = $1225 \times 100 = ₹ 1,22,500/-$ per year		
D	Use of Coco Filters and other miscellaneous cost		0.10
E	ETP Associated with Oil and Grease trap for workshop	0.15	--
3	Fire protection systems	0.02	0.16
4	a. Continuous Air Quality monitoring CAAQMS (1 no)	0.10	7.00
5	Greenbelt along Boundary 7.5 Meter safety zone and Plantation within ML Area (5 years)	0.35	1.75
	Sapling and plantation cost @₹ 75/plant		

	Maintenance cost @ ₹ 25/plant		
6	Solar energy (15kw) @ ₹ 40,000/kw Solar Street lights (30watts) @ ₹ 20,000/unit Annual maintenance cost @ ₹ 20,000/month	0.10	2.00
7	Sanitary Facility (4no)	0.03	0.20
8	Health check-up Total Staff - 127 @ ₹1200/person	---	1.50
9	Personal Protective Equipment (PPEs) Safety Shoes + Helmets + Gloves etc	---	1.20
10	Environmental awareness & training	---	0.25
11	Environment Monitoring Program Cost	---	16.40
12	Silpauline covering on ore stack	---	5.00
13	Traffic control	---	14.00
Total		1.6883	98.31
14	Budget for the Wildlife Conservation Plan (updated) for 5 years		78.05

xix. Details of project cost and employment:

Particulars	(Rs. In Crore)
Total cost of EMP (Capital Cost of EMP + capital cost of Public hearing)	Capital Cost of EMP : 1.6883 Capital Cost of Public Hearing: 1.0080 Total : 2.5463
Project Cost	Rs.3680 Lakhs
Employment (Nos.)	327

Signature Not Verified

Digitally Signed by : Rajeev Ranjan
Member Secretary, MoEFCC (EC)

Date: 22/08/2025