NOTARY
Francis D'Souza
Reg. No. 323
TISWADI - TALUKA
Expiry Date:
28-2-2029
GOVT OF GOA (INDIA)

BEFORE THE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE AT PUNE

Original Application No. 65/2025 WZ

SANDEEP SALEKAR **...APPLICANT**

VERSUS

THE STATE OF GOA & ORS **...RESPONDENTS**

AFFIDAVIT IN REPLY ON BEHALF OF RESPONDENT NO. 6

MAY IT PLEASE YOUR LORDSHIPS:

I, Vinod Kumar, s/o Rabindra Singh, major of age, Indian National, r/o Kamat Riviera, Flat No. 203, Block - I, Caranzalem, Miramar, Panaji, Goa - 403002 the authorized representative of the Respondent No. 6 ("**Answering Respondent**"), do hereby on solemn affirmation state and submit as under:

1. At the outset, it is submitted that that captioned OA deserves to be dismissed with costs, broadly, in view of the following:

i. The OA is *ex facie* actuated by *mala fides*, having been preferred by and on behalf of a disgruntled former workman of the Answering Respondent, i.e. Mr. Anil Salelkar, (albeit through his brother), who has himself obstructed the transportation of ore and then sought to tenuously project the same as a violation of an EC condition.

ii. The OA would not qualify the threshold of a "*substantial question relating to the environment*" in Sec. 2(1)(m) of the NGT Act, which excludes from such question a grievance raised by *"an individual or group of individuals"*.

iii. Moreover, even on merits, the report of the Dy. Collector and SDO, Bicholim dated 27.11.2024 filed before the High Court in PIL WP/6/2024, and that of the Joint Committee dated 31.07.2025 filed before this Hon'ble Tribunal, belie the fulcrum of the

allegation in this OA, since both reports find that there is in fact no "habitation" on the modified route, as sought to be projected in this OA.

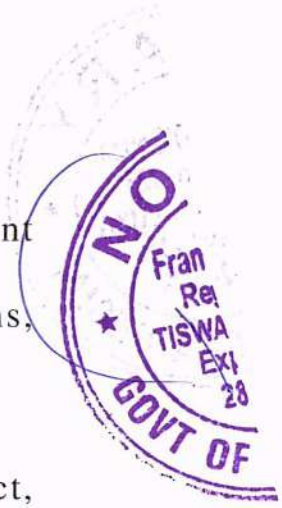
iv. Above all, there is no condition in the EC mandating a specific route and even otherwise, this extended usage of Major District Road-20 (MDR-20) wrongly alleged as deviation in the transportation route (as originally envisaged in the EIA report) has been duly informed to the MoEFCC by a letter dated 13/12/2024, in terms of para 7(ii)(c) of the EIA notification 2006 and also duly informed in the half-yearly report dated 30/05/2025 & 08/10/2025, which in turn, has been duly acknowledged by the MoEFCC, and consequently, it cannot possibly qualify as a violation.



v. Lastly, it cannot be lost sight of the fact that the extended usage of MDR-20, is: (a) necessitated by the obstruction orchestrated by certain individuals including the brother of the Applicant, (b) is expressly approved by the State Government and so

also by the Inter-Department Committee (including Dy Collector, GSPCB and SDO), and (c) has also effectively been approved by the Hon'ble High Court for transportation of ore, in its judgment dated 29/06/2024, in PIL (WP) 6/2024, rendering the issue beyond the jurisdiction of this Hon'ble Tribunal.

PRELIMINARY OBJECTIONS



2. At the further outset, the Answering Respondent seeks to raise the following Preliminary Objections, in the alternative to each other:

a) An original application under Sec. 14 of the NGT Act, 2010, can be preferred only if a "*substantial question relating to environment*" is raised. This phrase appearing in Sec. 14 is defined in Sec. 2(1)(m) of the NGT Act, as follows:

> *(m) "substantial question relating to environment' shall include an instance where,--*
> *(i) there is a direct violation of a specific statutory environmental obligation by a person by which,--*
> *(A) the community at large* ***other than an individual or group of individuals*** *is affected or likely to be affected by the environmental consequences; or*
> *(B) the gravity of damage to the environment or property is substantial; or*

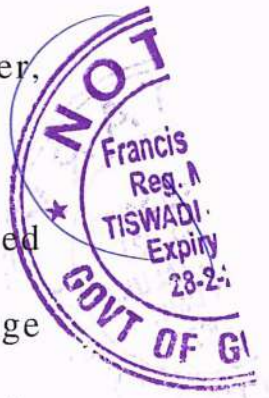
(C) the damage to public health is broadly measurable;
(ii) the environmental consequences relate to a specific activity or a point source of pollution;" [Emphasis added]

b) It is submitted that the captioned OA is a classic case that would fall within the exclusion of "***an individual or group of individuals***...", inasmuch as the Applicant's brother i.e., Anil Salelkar, is an ex-workman of the erstwhile miner of Bicholim Mineral Block and the Applicant is espousing the vested interest of his brother through this matter which is aimed at preventing the Answering Respondent from carrying out lawful transportation of iron ore from Bicholim Mineral Block to the Sarmanus Jetty. The Applicant and his brother very evidently have an axe to grind against the Answering Respondent and has filed this OA, which clearly does not represent public interest being *ex facie* driven by *mala fide* intent.



c) The Hon'ble Supreme Court in ***State of UP v. Uday Education***, 2022 SCC OnLine 1469 (*para 99*) enjoined this Hon'ble Tribunal to necessarily examine the *bona fides* of an Applicant and to weed out the applications actuated by ulterior motives.

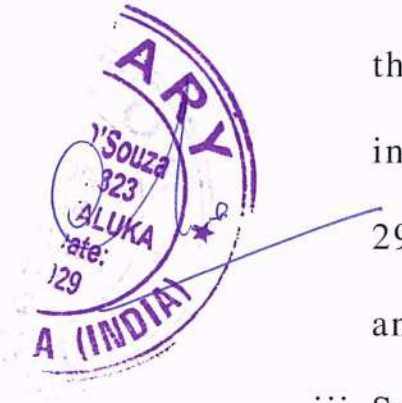
d) It bears mentioning that the Applicant's brother had filed MCA/102/2025(F) before the High Court of Bombay at Goa in PIL WP/6/2024. A copy of the MCA/102/2025(F) filed by Applicant's brother, Anil Salelkar is annexed as hereto and marked as "**ANNEXURE A-1**" in PILWP/6/2024 seeking the same relief from the Hon'ble High Court of Bombay at Goa. In the said matter, following assumes importance:



i. The Answering Respondent filed MCA/229/2025(F) stating that the alleged change in the route indicated and approved by the State Government was not for reasons attributable to the Answering Respondent but was borne out of illegal obstructions by Respondent nos. 10 to 14 in MCA/229/2025(F) and to direct the Applicant's brother along with Respondent nos. 11 to 14 not to create any impediment in the transportation via designated route otherwise than in terms of law (para 26 of application). A copy of the MCA/229/2025(F) filed by Answering Respondent

is annexed as hereto and marked as "**ANNEXURE A-2**".

ii. A false affidavit dated 29/01/2025 was filed by the Applicant's brother, Anil Salekar wherein he stated at para 7 that he had no role to play in any impediments or obstructions purportedly caused to the Answering Respondent and that he was not involved in the agitation. A copy of affidavit dated 29/01/2025 filed by the Applicant's brother is annexed hereto and marked as "**ANNEXURE A-3".**



iii. Subsequently, on 03/02/2025, the Answering Respondent filed an Affidavit-in-Rejoinder placing on record material at Annexure A-I of its affidavit at p. 269-272 (being newspaper publications with translations) to establish that the Applicant's brother, Anil Salelkar was indeed one amongst the ex-workmen who had publicly threatened to disrupt the transportation through the route approved under EC until their demands were met. A copy of the affidavit dated 03/02/2025 filed by Answering

Respondent is annexed hereto and marked as "**ANNEXURE A-4".**

iv. The Applicant's brother, faced with material establishing his role in the obstruction to the transportation of the Answering Respondent filed an affidavit dated 12/02/2025 tendering an unconditional and absolute apology for making a false statement and sought to replace himself by one Ramakant Salelkar as the Applicant. A copy of the affidavit dated 12/02/2025 filed by Applicants brother, Anil Salelkar is annexed as "**ANNEXURE A5".** The relevant paragraph of the Affidavit filed by the Applicant's brother admitting to making incorrect statements in sworn affidavits before the Hon'ble High Court are as follows:



"*1. I state that this affidavit is being filed to tender an unconditional and absolute apology to this Hon'ble Court for certain incorrect statements made by the deponent in the affidavit dt. 29.01.2025 filed in this matter.*

2. In the said affidavit, I had made statements to the effect that I had no role to play in the

protest by local villagers against the ore transportation, and the obstructions caused to the company on account thereof. I most humbly state and submit that this statement was made from my unfortunate and flawed understanding of the matter at hand. The deponent regrets having made this incorrect statement and submits that his intention was never to mislead or willfully make false statements before this Hon'ble Court. I most humbly and sincerely apologize for the incorrect statement made by me in this regard.



3. *Given the peculiar nature of the misstatements made by me in this matter, and in the interest of fairness, I state and submit that the deponent, the Resp. No. 10 in this Application, is hereby ready and willing to make an undertaking not to impede the ore transportation of the Applicant, to the extent of prayer clause (b) as sought by the Applicant. In other words, I am ready and willing to undertake that I will not create any impediment in the transportation by the Applicant via designated route otherwise than in terms of law."* [Emphasis added]

v. The apology was accepted by the order dated 13/02/2025 and the same was permitted by the Hon'ble High Court of Bombay at Goa. In an attempt to circumvent scrutiny by this Hon'ble Tribunal, the said Anil Salelkar has adopted a device by preferring this OA through his brother as

the applicant to file the captioned OA, which is nothing short of a ghost litigation, and is an abuse of process and of the jurisdiction of this Hon'ble Tribunal. On this count itself, this OA is liable to be dismissed.

e) The afore-stated MCA/102/2025(F) which had been filed by the brother of the Applicant (namely Anil Salelkar), was disposed of by the Hon'ble High Court of Bombay at Goa with the observation that it is open to the Applicant in MCA/102/2025(F) to agitate the issue pertaining to the alleged road deviation before the appropriate forum in appropriate proceedings. In para 75, the Applicant has stated that the OA is filed in light of the directions of the Hon'ble High Court of Bombay at Goa by way of order dated 13/02/2025 in MCA/102/2025(F) in PILWP/6/2025. Importantly, the said liberty was given only to the applicant therein i.e., Anil Salelkar and the Applicant herein cannot, on the basis of such liberty, attempt to avoid a scrutiny of the unclean hands of the actual litigant, Anil Salelkar. In

light of the tenor of the OA and the locus claimed by the Applicant, the captioned OA is not maintainable and is liable to be dismissed. A copy of the Order dated 13/02/2025 passed by the Hon'ble High Court is annexed hereto and marked as "**ANNEXURE A6".**



f) The Applicant has also resorted to filing multiple complaints and challenges against the transportation operations of the Answering Respondent solely with an objective of arm-twisting and coercing it to accept the demands of certain individuals with vested interest (mostly the demands of the ex-workmen of the erstwhile mining leaseholder of the Bicholim Mineral Block). The Applicant has filed a PIL No. 2348/ 2025(F) before the Hon'ble High Court of Bombay (at Goa) erroneously alleging that the Answering Respondent is carrying out activities over certain survey numbers of village Piligao which have been used by the erstwhile mining leaseholder of Bicholim Mineral Block for Jetty operations & connected activities for more than last 4

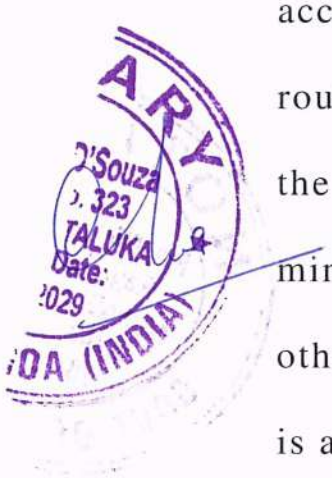
(four) decades. A copy of the PIL No. 2348/ 2025(F) filed by the Applicant before the Hon'ble High Court is annexed hereto and marked as "**ANNEXURE A7".**

g) It is therefore submitted that the Applicant has, on the one hand, approached this Hon'ble Tribunal in this OA seeking various reliefs, while on the other hand, has filed a petition before the Hon'ble High Court of Bombay at Goa on a similar subject matter and seeking virtually identical reliefs. Having already instituted this OA, the act of the Applicant parallelly approaching the Hon'ble High Court in a purported PIL, during the pendency of this OA is a classic example of forum shopping and on this count as well, the captioned OA ought not to be entertained.



h) The sole aim & objective of the Applicant behind initiation of these multiple proceedings is to prevent & block the transport operations of the Answering Respondent both at the transportation route and the

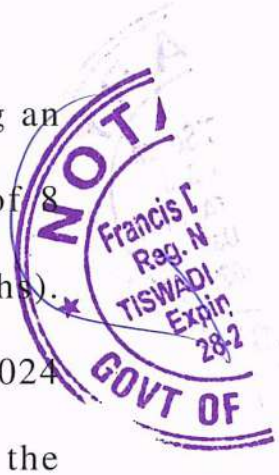
Sarmanus Jetty area for collateral purposes, towards wrecking vengeance against the Answering Respondent. The Applicant has approached this Hon'ble Tribunal seeking to prevent the Answering Respondent from carrying out transportation via a route approved by the State Government and Inter-Department Committee on account of the blockage of the dedicated transportation route by certain individuals (including by the brother of the Applicant and other ex-workmen of the erstwhile mining leaseholder of the Bicholim Mineral Block). In other words, the obstacle necessitating the modification is a creation of this very Applicant and/or his brother.



i) Importantly, the transportation of the Answering Respondent, has also effectively been approved by the Hon'ble High Court, in general, for transportation of ore, in its judgment dated 29/06/2024, in PIL (WP) 6/2024. The said PIL concerned transportation of iron ore throughout the State of Goa. The Hon'ble High Court passed various directions to minimize and mitigate any

convenience to the citizenry. Given that this is a route already approved by the Hon'ble High Court, it is most respectfully submitted that it would be beyond the jurisdiction of this Hon'ble Tribunal to examine whether the route can be adopted *vide* ***State of AP v. Raghu Ramakrishna Raju Kanumuru***, (2022) 8 SCC 156 (*para 12*).

j) In terms of the NGT Act 2010, limitation for raising an environmental issue under Sec. 14 is a maximum of 8 months (including the condonable period of 2 months). In the instant case, the EC was granted on 23/01/2024 and the extended usage of MDR-20 on account of the obstruction by certain individuals including the brother of the Applicant was informed to the MoEFCC by a letter dated 13.12.2024, whereas the OA has been preferred only on 03.06.2025. Consequently, the Application itself is grossly barred by law of limitation.



MERITS RESPONSE

Without prejudice to whatever is stated hereinabove:

3. By way of the above Application, the Applicant is claiming following orders from this Hon'ble Tribunal:

   i. restraining the Answering Respondent from using the alleged "*non-EC sanction route*";

   ii. directing the Answering Respondent to obtain an amendment to the EC dated 23/01/2024 from the MoEFCC in respect of alleged "*deviation from the approved transportation route after conduction fresh environmental appraisal*"; and

   iii. directing Respondent nos. 1 and 5 to initiate proceedings against the Answering Respondent for violation of EC conditions.

4. PIL WP no. 6/2024 was filed before the Hon'ble High Court of Bombay at Goa on behalf of the villagers of Mayem raising objections to the transportation of e-auctioned/ inventoried ore being undertaken through the village road, un-connected with the mining & transport operations of the Answering Respondent, on the following grounds:

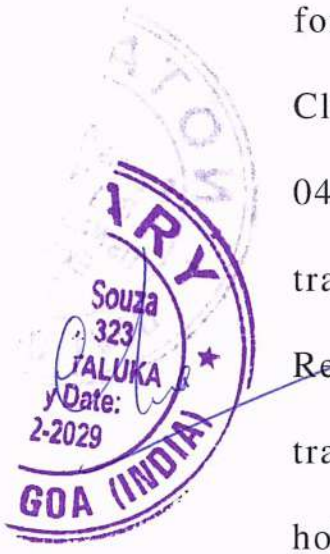
a) That such ore transportation was in contravention to the mandate of the notification dated 14/09/2012.

b) That the transportation is leading to traffic congestion and dust pollution affecting the villagers of Pilgao.

5. By an order dated 17/01/2024, the Hon'ble High Court of Bombay at Goa, pending hearing and final disposal of that petition, extended this prohibition on ore transportation through village roads for the entire State of Goa and no such iron ore transportation came to be allowed without seeking leave of the Hon'ble High Court.

6. Since the Answering Respondent thereafter executed a mining lease with the State of Goa on 22/03/2024, and was directly affected by the embargo placed on transportation by the Hon'ble High Court in terms of order dated 17/01/2024, the Answering Respondent filed an Intervention Application No. 215/2024 & 239/2024 in PILWP 6 of 2024 seeking appropriate orders from the Hon'ble High Court permitting

transportation of ore from MB-I. In the said application, the Answering Respondent placed on record the background facts leading to the execution of the lease deed in respect of MB-I in favour of the Answering Respondent and the fact that the Answering Respondent had obtained all the necessary permissions for operation of mines including Environmental Clearance dated 23/01/2024, Consent to Operate dated 04/03/2024 and Mining Lease dated 22/03/2024. The transportation route used by the Answering Respondent i.e., MB-I to Sarmanus Jetty is the traditional route adopted by the previous lease holders/concessioner for decades and that the said transportation route was indicated to the Expert Appraisal Committee (hereinafter referred to as 'EAC') on account of the same being the actual and only route used by the erstwhile miner for more than past 4 (four) decades. This EC was obtained after comprehensive screening process which included public hearing and site visit by the EAC. As a result



of the grant of various permissions and approvals, the Answering Respondent has made substantial financial payments to the State Government, including the following payments:

a) Payment of Rs. 135,83,51,503 (Rupees one thirty-five crores eighty-three lakhs fifty-one thousand five hundred and three only) to the Government of Goa for grant of Bicholim Iron Ore Block;

b) Bank Guarantee of Rs. 135,83,51,503 (Rupees one thirty-five crores eighty-three lakhs fifty-one thousand five hundred and three only) to the Government of Goa;

c) Stamp duty of Rs. 90,00,00,000 (Rupees ninety crore only) paid to the Government of Goa for registration of Mining Lease;

d) Registration charges of Rs. 4,50,00,000 (Rupees four crore fifty lakhs only) paid to the Government of Goa for registration of Mining Lease.



7. In pursuance of the order dated 22/04/2024 passed by the Hon'ble High Court in the course of proceedings in PIL 6 of 2024, the Answering Respondent made an application to DMG seeking permission to undertake transportation from MB-I to Sarmanus Jetty. In the said application, the Answering Respondent sought permission to transport the ore from a route (being the same route as used by the erstwhile mining leaseholder of Bicholim Mineral Block for past many decades) and the same was approved by the DMG & Goa State Pollution Control Board (hereinafter referred to as 'GSPCB') as per the directions passed by this Hon'ble Court being the traditional & only route for ore transportation. There is no change in the route i.e., continued usage of MDR-20 and the starting-cum-end points remain the same. The EC already mentions the transportation route from mine to Sarmanas jetty, including 4.54 km of dedicated route and 0.94 km of Major District Road (MDR). The extended usage of



MDR-20 erroneously alleged as non-sanctioned route comprises the same route from the mine to Sarmanas jetty, however, with an extended usage of MDR-20 by 0.8 km due to obstruction by certain individuals (including by the brother of the Applicant).

8. In compliance of the directions passed by the Hon'ble High Court of Bombay at Goa in the above petition, the DMG and GSPCB approved the Answering Respondent to carry out transportation of ore from MB-I to Sarmanus jetty through the traditional transportation route subject to compliance of its terms and conditions mentioned which Respondent is till date complying with.



9. On 17/06/2024, the Answering Respondent filed an affidavit placing on record its assurances in respect of complying with the necessary procedural requirements for transportation of ore including those included in the consent to operate. A copy of the affidavit dated 17/06/2024 filed by the Answering Respondent in PIL

6 of 2024 is annexed hereto and marked as "**ANNEXURE A8".**

10. The Hon'ble High Court of Bombay at Goa by its judgment and order dated 29/06/2024, disposed of the said Petition by observing as under (in the context of the Answering Respondent, who was an intervenor):



i. That the challenge to EC or examination of EC cannot be undertaken by the Hon'ble High Court in a writ petition.

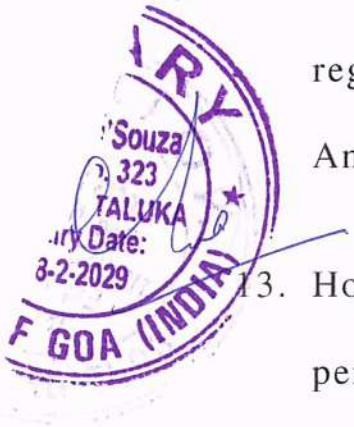
ii. The Answering Respondent shall comply and be bound by all the terms and conditions mentioned in affidavit dated 17/06/2024 by the Answering Respondent and the terms and conditions stipulated in the Consent to Operate imposed by GSPCB and that the statement of compliance of the said conditions shall be considered as an undertaking given to the court.

A copy of the judgment and final order dated 29/06/2024 passed by the Hon'ble High Court at

Goa is annexed hereto and marked as "**ANNEXURE A9".**

11. After the disposal of the said proceeding, the Answering Respondent has undertaken transportation of ore from the said route from the months of July 2024 for the captive requirement of iron ore at its Pig Iron Plant at village Amona and thereafter, for other supplies of iron ore from September, 2024. The transportation activity of the Answering Respondent was being continued till December, 2024 subject to disruptions caused by illegal obstruction from time to time on the part of the ex-workers (including brother of the Applicant) of the said mine which was operated by the erstwhile lessee (hereinafter referred to as the 'said persons'). During the said time, the Answering Respondent has transported 3.5 lakh tonne (approx.) as quantity of ore after paying necessary premiums, royalty, DMF and other contributions and has also commenced other supplies.

12. The Answering Respondent has, during the course of the said period, complied with all the terms and conditions including the terms and conditions in affidavit dated 17/06/2024 before the Hon'ble High Court of Bombay at Goa. No complaints/ objections of whatsoever nature were raised by any authorities with regard to any violation of any nature with regard to the Answering Respondent.



13. However, there were various attempts made by some persons with vested interest like the Applicant's brother to scuttle transportation and exert pressure on the Answering Respondent to submit to their illegal demands of recruitment/ reinstatement of earlier retrenched workers, payment of exorbitant compensation etc. as an arm twisting exercise.

14. The *modus operandi* by the said persons was to mobilise the mob at the transportation routes and block the route between the stretch primarily passing through survey nos. 154, 164 and 184 including its

sub-divisions of village Piligao. This obstruction prevented the Answering Respondent from carrying out its lawful transportation activity and further prevented it from fulfilling contractual obligations for supply of iron ore, through the traditional transportation route which was used by the erstwhile mining leaseholder of Bicholim Mineral Block for more than last 4(four) decades.

15. Despite attempts being made to mitigate the situation with the intervention of the Authorities (including Deputy Collector, Police Authorities, Traffic Cell etc.), the said persons refused to budge and continued with their illegal blockage. In these circumstances, the Answering Respondent was compelled to approach the police authorities and thereafter, before the Hon'ble High Court of Bombay at Goa in Writ Petition No. 3140 of 2024(F) seeking appropriate police protection from the concerned Police Station at Bicholim to secure the route and enable the Answering Respondent

to undertake the transportation of ore unobstructed and free of impediment.

16. By a representation dated 07/12/2024, the Answering Respondent has requested police authorities to provide protection for transportation from MB-I to Sarmanus jetty through the traditional route used for transportation. A copy of the representation dated 07/12/2024 addressed by the Answering Respondent is annexed hereto and marked as "**ANNEXURE A10".**



17. By order dated 17/12/2024, the Hon'ble High Court of Bombay at Goa disposed of the said petition, with the direction that the Government shall look into and address the concerns of the stakeholders to devise an appropriate mechanism for meeting the requirements of the concerned stakeholders including the Answering Respondent. A copy of the Order dated 17/12/2024 passed by the Hon'ble High Court is annexed hereto and marked as "**ANNEXURE A11".**

18. In the meantime, various meetings were held by and between representative of the Answering Respondent, Dy. Collector, DMG Officials, Officials of Goa State Pollution Control Board, Traffic Cell Officials, Executive Engineer PWD, Addl. Director of Transportation Bicholim, Police Inspector, Police Station Bicholim which included a joint site inspection.



19. Pursuant to the said meetings, the Respondent was informed that a Report dated 27/11/2024 was prepared wherein it was specifically observed that the traditional route of mineral transportation is blocked and that the committee after consideration of various factors, safeguards and compliances stipulated various terms and conditions to be followed by the Answering Respondent for transportation of ore which included transportation of iron ore through the route approved

by these Authorities on account of the blockage/ interruption on the tradition route of mineral transportation by the said persons. Considering the obstruction/ interruption and the adverse effect of the same on the permitted capacity given to the Answering Respondent to transport on a daily basis, the total daily trips of the trucks were staggered. The approval granted to this Answering Respondent was not of a different or other route but was for an extended stretch of MDR-20 by 0.8 kms. It is also worth mentioning that the usage of MDR-20 by this Answering Respondent was examined and reviewed by the Expert Appraisal Committee on the basis of which the EC was granted. A copy of the Google Earth image showing the traditional/ designated route and the route approved by the Authorities is annexed hereto and marked as "**ANNEXURE A12".**

20. Based on the reports and mandate of the authorities, the Answering Respondent has been making

applications to the Authorities for transportation through the transportation route granted by the Authorities.

21. MCA/102/2025(f) was filed by the brother of the Applicant namely Anil Salelkar which is referred to earlier in this reply. The said application was disposed of by the Hon'ble High Court of Bombay at Goa by an order dated 13/02/2025 and liberty was given to the Applicant's brother and not to the Applicant.

22. The Answering Respondent is, therefore, compelled to use the route granted by the Authorities to transport iron ore on account of the blockade/ interruption on the traditional route by the said persons. The obstruction/ interruption created by some persons also prevented the Respondent from fulfilling its contractual obligations with the buyers of iron ore along with the loss to exchequer towards the auction premium, royalty and other levies. The Respondent also operates a pig iron plant at village Amona and

uses the iron ore from Mineral Block - I ('MB-I') as an essential raw material in this Plant. This obstruction/ interruption created by some persons also placed the Pig Iron Plant of the Respondent at the risk of a shut-down.

23. In light of the above, the question of entertaining the above application does not arise. The Answering Respondent has only adhered to the mandate given by the concerned Authority given from time to time and the transportation route approved by the Authorities is on account of the same. In fact, the Answering Respondent, has sought transportation through the traditional transportation route. It bears mentioning as stated earlier that the Answering Respondent has complied with all terms and conditions of the Consent to Operate and the affidavit dated 17/06/2024 filed before the Hon'ble High Court. In keeping with the endeavour of the Respondent to comply with all the requirements and to accommodate the grievances of



the said persons/authorities, the Answering Respondent has no other option but to use the route approved by the Authorities (i.e. MDR-20) which is not a different or deviated route. The usage of MDR-20 by the Answering Respondent was appraised by the EAC as part of the EC appraisal process. It is only on account of the blockade/ obstruction that the Answering Respondent has been allowed by the State Authorities and Inter-Department Committee (including DMG, GSPCB, Dy. Collector, Police Authority, Traffic Cell etc.) to use the extended stretch of MDR-20 by 850 meters/ 0.8 kms.



24. The transportation of iron ore *via* this route granted by the Authorities has also happened subsequent to the verification and approval of the route by DMG & GSPCB in terms of the directions of the High Court of 22/04/2024 in PIL 6 of 2024. The Answering Respondent cannot now be put to prejudice on account of the said compliant approach of the Answering

Hon'ble High Court of Bombay at Goa in its judgment dated 29.06.24 in PIL (WP)6/2024. Moreover, the 850 mts being now employed is part of the roads approved by the High Court for transportation of ore. Moreover, both, the Report of the Dy. Collector and SDO dated 27/11/2024, and so also the Joint Committee constituted by this Hon'ble Tribunal in its Report dated 31/07/2025, confirms that this 850 mts stretch does not pass through "habitation". Hence, the cornerstone of this OA stands belied and it is evident that the allegations are trumped up as a device to coerce the Answering Respondent to renew the employment of the Applicant's brother.



27. Furthermore, even otherwise, this extended usage of MDR-20 in the transportation route (as originally envisaged in the EIA report) has been duly informed to the MoEFCC, in terms of para 7(ii)(c) of the EIA Notification 2006, which reads as follows:

> *"(c) Any change in configuration of the plant or* ***activity*** *from the environmental clearance*

Respondent. As stated earlier, the genesis of the entire issue is the illegal obstruction/disruption of legitimate transportation of the Answering Respondent by said persons including brother of the Applicant. Such a deplorable conduct cannot be given a premium by restricting rights of the Answering Respondent which apart from other consequences shall cause tremendous losses to the Answering Respondent.

25. In these circumstances, the above application is devoid of merit and is liable to be dismissed. The circumstances leading to approval of transportation route by the Authorities have been explained in the above paras.

26. Significantly, there is no condition in the EC mandating a specific route. All that the EC prohibits is the usage of village roads, which has also been approved (albeit not specifically with respect to the Answering Respondent as it uses non-village road i.e. MDR-20 for its transportation) generally by the

conditions during execution of the project after detailed engineering, in respect of projects or activities, falling in any item of the Schedule to this notification, shall not require prior environmental clearance, ***if there is no change in production capacity and there is no increase in pollution load*** *subject to furnishing particulars of such changes on PARIVESH portal in the format as may be provided by the Government from time to time, before implementing such changes whereupon a system generated acknowledgement will be issued by the concerned Regulatory Authority."* [Emphasis added]

28. The Answering Respondent, by a letter dated 13.12.2024, informed the MoEFCC of this modification in the route. Also, this modification of route was once again duly informed even in the half-yearly report dated 30/05/2025 & 08/10/2025, which in turn, has been duly acknowledged by the MoEFCC, and consequently, the mandate of para 7(ii)(c) of the EIA notification stands satisfied. Any suggestion of a 'violation' on account of such modification would be contrary to the EIA notification itself. A copy of the letter dated 13.12.2024 addressed by the Answering Respondent to the MoEFCC and half yearly reports are

annexed hereto and marked as "**ANNEXURE A13, A14 & A15".**

29. The ultimate object of the Applicant is to obstruct the transportation of the Answering Respondent at the traditional route and now on the route allowed by the Authorities, being the route already mentioned and covered in the EC (i.e. MDR-20), solely on account of the obstruction/ interruption created by the ex-workman on the traditional transportation route. Therefore, to totally deprive the Answering Respondent of its lawful activity of transporting iron ore from Bicholim Mineral Block to Sarmanus Jetty.



30. One of the terms of references given by MoEFCC for the purpose of preparation of EIA was to examine if the MDR-20 is capable of handling the incremental load and to conduct impact of transportation study as per Indian Road congress Guidelines. Accordingly, EIA studies includes a detailed study on transportation aspects.

31. With respect to the bypass road, the Answering Respondent has initiated necessary measures/steps at its end and within its capacity to assist in the acquisition of the bypass road.

32. As far as water sprinkler is concerned, the Answering Respondent is presently using water tankers hired from locals to sprinkle water on the road as well to wash the road. Purpose of the said condition is to ensure that there is no pollution on account of dust emanating out of passage of trucks on a mud road. The Answering Respondent is in the process of undertaking tarring of the road which negates the requirement of a sprinkler. Even otherwise, necessary sprinkler systems shall be installed at the relevant points. Suffice it to say that the purpose of the said condition stands addressed.

33. I deny that the ongoing transportation undertaken by the Answering Respondent from MB-I is in violation of EC dated 23/01/2024 and/or that there is any dust

pollution for the locals of Pilgao panchayat. In terms of the affidavit dated 17/06/2024 filed before the Hon'ble High Court of Bombay at Goa the Answering Respondent has been complying with all the terms stipulated in the conditions.

34. I deny that the present route adopted by the Answering Respondent for transportation which includes an additional 850m/ 0.8 km of MDR-20 amounts to deviation of the route and/or that the same is in violation of the EC conditions. Therefore, the question of obtaining modification of EC or following any procedure for modification does not arise. As stated earlier, the present route which involves 850m of MDR-20 was approved by the government based on an inspection done by the Interdepartmental Committee comprising of officials from Directorate of Mines & Geology, Goa State Pollution Control Board, Public Works Department, Addnl. Director of Transport, Traffic Cell, Bicholim and Police Inspector, Bicholim. The State Government has the power to approve the



route used by the Answering Respondent. It bears mentioning that the 850m of MDR-20 is a public road and the Answering Respondent cannot be prevented from using a public road. Even otherwise Respondent has been permitted to use MDR-20 in terms of the EC and the same has been used by the erstwhile mining leaseholders for iron ore transportation for past many years. All the necessary safeguards are in place to regulate the activity including that by GSPCB and DMG. GSPCB has set up monitoring mechanism on the said route. Therefore, the question of any violation of any nature does not arise.

35. I deny that there is any violation of any dust pollution norms and/or that there is failure to implement pollution control measures. The necessary measures have been adopted and there is no violation of any environmental norms during the last more than one year of transportation.

36. The issue pertaining to Memorandum dated 29/10/2014 has already been considered and decided

by the the Hon'ble High Court of Bombay at Goa in the judgment and order dated 27/06/2024 passed in PILWP/6/2024. Therefore, this said issue cannot be revisited in the present application. Even otherwise, there is no violation of any applicable laws.

37. I shall rely on the true and correct interpretation of the judgments in ***Zenit Mataplast (P) Ltd. vs. State of Maharashtra [(2009) 10 SCC 288] and Dalpat Kumar vs. Prahlad Singh [(1992) 1 SCC 719]***. I deny that there any threat to life cause by transportation of ore. I deny there is no assessment of the route.

38. I once again submit before this Hon'ble Tribunal that this Application is a ghost litigation solely aimed at arm-twisting this Answering Respondent to admit to the demands of the ex-workmen of the erstwhile mining leaseholder of MB-I. This Application also makes bald & incorrect allegations regarding the alleged violation of the EC against the Respondent.

39. In view of the above, the Application is devoid of merit and is liable to be dismissed.

NOTARY Francis D Reg. N TISWADI Expir 28 GOVT OF

40. I say that the contents of foregoing paras are true to my knowledge and/or based on legal submissions which I believe to be true.

Solemnly affirmed at Panaji – Goa

On this 17th day of November, 2025

VEDANTA LIMITED ★ PANJIM - GOA ★

DEPONENT

Souza
323
TALUKA
Date:
-2029
GOA (INDIA)

NOTARY
Francis D'Souza
Reg. No. 323
TISWADI - TALUKA
Expiry Date:
28-2-2029
GOVT OF GOA (INDIA)
NOTARIAL NOTARIAL NOTARIAL

BEFORE ME

SHRI FRANCIS D'SOUZA
NOTARY FOR TISWADI TALUKA
STATE OF GOA (INDIA)

ADV. FRANCIS D'SOUZA
NOTARY
KAMAKSHI PRASAD BLDG
THIRD FLOOR, FLAT NO. 304
PATTO, PANAJI
TISWADI GOA - 403 001

I hereby attest the above signature/ of Shri/Smt./Miss Vinod Kumar c/o Vedanta Ltd EDC Complex Patto Panaji Goa who has been identified before me by Miss SHREYA KORADA who is personally known to me registered under No 2293/2025 Dt: 17.11.2025

Identified by me

Shreyak

Annexure A-1

Adv. Sherwyn Filipe Francisco Correia,
G-8, St. Britto's Apartments,
Feira Alta, Mapusa, Goa – 403507.
Mobile No.- 7272997979
E-mail: sherwyncorreia@gmail.com

To,
M/S VEDANTA LIMITED,
Having its office at
Sesa Ghor, 20 EDC Complex, Patto Panaji Goa,
Represented herein by Authorized Signatory,
MR. KARNI SINGH RAJORA, Son of Mr. Mohan Singh Rajora, Major of age, married, Indian National, Having its office at Sesa Ghor, 20 EDC Complex Patto Panaji- Goa..

Sub: Notice of M.C.A 102/2025(F) in PILWP 06/2024 filed in Hon'ble H.C. ofBombay at Goa

Please be informed that a M.C.A 102/2025(F) in P.I.L. W.P. 06/2024, has been filed in the Hon'ble High Court of Bombay at Goa, with causetitle ***Anil Datta Salelkar. v/s The Directorate of Mines and Geology & Ors***, in which you have been named as the Resp. No. 10.

Urgent circulation for the above application has been granted by the Hon'ble Court for 13/01/2025, Monday. As such the matter will be listed in Court Room No. 2 of the Hon'ble High Court on 13/01/2025 at 10:30 am.

Please find enclosed a copy of the said application with the annexures.

Yours sincerely,

Sherwyn Filipe Francisco Correia,
Advocate for the Applicant

Adv. Sherwyn Filipe Francisco Correia,
G-8, St. Britto's Apartments,
Feira Alta, Mapusa, Goa – 403507.
Mobile No.- 7272997979
E-mail: sherwyncorreia@gmail.com

To,
M/S VEDANTA LIMITED,
Having its office at
Sesa Ghor, 20 EDC Complex, Patto Panaji Goa,
Represented herein by Authorized Signatory,
MR. KARNI SINGH RAJORA, Son of Mr. Mohan Singh Rajora, Major of age, married, Indian National, Having its office at Sesa Ghor, 20 EDC Complex Patto Panaji- Goa..

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Please find enclosed a copy of the said application with the annexures.

Yours sincerely,

Sherwyn Filipe Francisco Correia,
Advocate for the Applicant

IN THE HON'BLE HIGH COURT OF JUDICATURE OF BOMBAY AT PORVORIM, GOA

Miscellaneous Civil Application No. /2025

in P.I.L. Writ Petition No. 6/2024

ANIL DATTA SALELKAR,
Age 44 years, unemployed,
resident of H. No. 28, Bagwada, Piligao,
Bicholim Goa – 403504,
Mobile No. - 8788132191,
AADHAAR No. - 327250475471 ....**APPLICANT**

in

1. **THE MULAKH KHAJAN FARMERS ASSOCIATION,**
with office at Haldanwadi, Mayem, Bicholim, Goa - 403504,
through its Secretary, Mr. Sakharram Anant Pednekar,
age 58 years, H. No. 766, Gaonkarwada,
Mayem, Bicholim, Goa - 403504,
Approx. Annual Income - Rs. 1,20,000/-.
AADHAR No. - 439600055987,
Mobile - 9767050503.

2. **THE GOA FOUNDATION**
through its Secretary, Dr. Claude Alvares,
age 75 years, having Regd. Office at Room No 7, Above Mapusa Clinic, Mapusa, Goa - 403507,
PANNo. AAAAG0249C,
Income: Rs 10 - 15,00,000/- p.a. (approx.),
RegistrationNo. - 23/Goa/86,
Email id: goafoundation@gmail.com .... **PETITIONERS**

vs.

1. **THE DIRECTORATE OF MINES AND GEOLOGY,** Through its Director,
Ground Floor of Institute Menezes Braganza,
Panaji,Goa- 403001.

2. **THE STATE OF GOA,**
through its Chief Secretary, Secretariat, Porvorim,
Goa - 403521.

3. **THE DEPUTY COLLECTOR AND SDO, BICHOLIM,**
Bicholim, Goa- 403504.

4. **THE MAMLATDAR, BICHOLIM,**
Office of the Mamlatdar, Bicholim, Goa —— 403504.

5. **THE BICHOLIM POLICE STATION,**
through its Police Inspector, Bicholim, Goa - 403504.

6. **THE GOA STATE POLLUTION CONTROL BOARD,**
through its Member Secretary,,
Near Pilerne Industrial Estate, Opposite Salligao Seminary,
Saligao, Bardez, Goa —— 403511.

7. **M/S BLUE GLOBE EXPORTS PRIVATE LIMITED,**
B-3, F-1, Prudential Paradise, Peddem,
Mapusa, Goa - 403507.

8. **THE UNION OF INDIA,**
through the Secretary, Ministry Of Environment,
Forest & Climate Change, Indira Paryavaran Bhavan,
Jor Bagh Rd, New Delhi – 110003.

9. **TRUCK OWNER ASSOCIATION OF SESA MINING "BICHOLIM MINE",** A society registered under the provisions of the Societies Registration Act, 1860, Represented by its Secretary,Shri. Subhash N. Kinalkar, son of Narsinha V. Kinalkar, aged 46 years, having residence at H. No. 1317, Chinch Bhatwadi, Mayem, Bicholim, Goa.

10. **M/S VEDANTA LIMITED,**
Having its office at
Sesa Ghor, 20 EDC Complex, Patto Panaji Goa,
Represented herein by Authorized Signatory,
MR. KARNI SINGH RAJORA, Son of Mr. Mohan Singh Rajora, Major of age, married, Indian National, Having its office at Sesa Ghor, 20 EDC Complex Patto Panaji- Goa.

....**RESPONDENTS**

(Above addresses are registered addresses of parties)

To,

The Hon'ble Chief Justice and

His Companion Judges,

Bombay High Court at Porvorim, Goa.

MAY IT PLEASE YOUR LORDSHIPS

1. The issue of transportation of ore from mines through the adjoining villages has extensively been considered by this Hon'ble Court in the instant P.I.L. W.P No. 6/2024, wherein judgement dt. 29.06.2024 was passed. In this judgment, this Hon'ble Court granted liberty to any affected person to move this Court in public interest for any genuine case concerning ore transportation activity. A relevant extract from the judgement dt. 29.06.2024 pertaining to the subject matter of this MCA is enclosed herewith as **Annexure 1.** Applicant craves leave to produce the entire judgment, if required, in these proceedings.

2. This application is filed by a resident of Pilgao village, on behalf of the villagers of Pilgao village who have recently become affected by the transportation of mineral ore (lessee - M/s Vedanta Ltd. (Resp No. 10) from Mineral Block – I located in Shirgao village to Sarmanas jetty, through a new route which is being taken through their village settlement and which causes dust and noise pollution as well as endangers the villagers' safety. All these aspects were considered by this Hon'ble Court in the aforesaid judgment and appropriate directions issued regarding the ore transportation.

3. The grievances of the villagers are twofold:

(i) M/s. Vedanta Ltd. is transporting the mineral ore during night hours, beyond the stipulated working hours permitted as per the Standard Operating Procedure framed by the D.M.G;

(ii) M/s. Vedanta Ltd is using a route not approved in its Environment Clearance for transporting the ore. The new unsanctioned route is the cause of noise and dust pollution in the village and safety of the villagers.

(iii) The transportation is being done without any monitoring by the Goa State Pollution Control Board, as required.

Hence, this application is filed in terms of the liberty granted in the judgment dt. 29.06.2024.

transportation at night– contrary to D.M.G. S.O.P

4. As a part of the proceedings in P.I.L. W.P. 6/2024, The Directorate of Mines and Geology [*Resp. No. 1*] in Jan. 2024 framed a Standard Operating Procedure for 'Grant of Route Approvals for Transportation of Ore through Village Roads'. In a far as timing of ore transport is concerned, the SOP states that:

"7. 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."

A copy of the D.M.G. Standard Operating Procedure is enclosed as **Annexure 2.**

5. The Applicant states that since the past two weeks, specifically from 27th December 2024, the ore transportation by M/s. Vedanta Ltd. began taking place even at night time, i.e., post 11 pm and post midnight, that too with police protection. The transportation of ore during these hours is directly contrary to the D.M.G's S.O.P., which mandates that ore transportation may be carried out only till 5:45 PM in the evening, and not at night time. In other words, ore transportation is happening both during the day as well as during the night.

6. The villagers of Pilgaon vociferously opposed the ore transportation at night time, and met with Govt. authorities to put forward their grievances on this issue. However, the ore transportation at night time still continues. Photographs of trucks laden with mining ore passing through Pilgaon at odd hours of the night post 11 PM, dt. 27.12.2024 02.01.2025, and 03.01.2025 are enclosed herewith as **Annexure 3 Colly.**

7. The Applicant is vehemently opposed to any such ore transportation activity being permitted during the night time and the early morning hours, not only as it is in the teeth of the timings laid down by the D.M.G S.O.P, but additionally as the ore transportation at night severely disturbs the sleep, health and right to life of the villagers of Pilgaon.

8. This Hon'ble Court in its judgement dt. 29.06.2024 has directed that the S.O.P.s framed by the Govt. from time to time, including the

S.O.P. referred to in para 4 above, have to be strictly implemented. Ore transportation at night time, in violation of the timings prescribed in the S.O.P. is therefore in violation of the judgement dt. 29.06.2024 as well. It is a matter of great concern that the State Govt. is virtually legitimising night time transport of ore by extending police protection to the transportation at night, contrary to its own SOP.

Ore Transport along non-EC; non-approved route

9. The E.C. granted to M/s. Vedanta Ltd. by the MOEF&CC dt. 23.01.2024 provides the route of transportation of ore from the M.B. 1 to Sarmanas Public Jetty. The Resp. No. 10 (M/s Vedanta Ltd.) had sought to intervene in P.I.L. W.P. 6/2024 and its submissions were also considered by this Hon'ble Court. In its affidavit dated 17.06.2024, the company had informed this Hon'ble Court that it had been granted an EC which included the route for transportation of ore from the mine head to Sarmanas jetty. The company assured this Court that it would strictly abide by the same and that all the conditions pertaining to the transport, including the necessary safeguards, will be strictly adhered to.

10. However, the Company from 13th December 2024 has begun transporting the ore through a different route which is not sanctioned in the EC dt. 23.01.2024, utilizing 0.85 kms public Road which falls within the jurisdiction of Pilgaon Panchayat, from New Beneficiation Plant [NBP] Gate No. II till Matwada Junction. This stretch of 0.85 Kms does not form a part of the E.C. route approved for ore transportation, and consequently, no transportation can be

permitted to be carried out by M/s. Vedanta Ltd. on this route. The Applicant craves leave to produce a copy of the E.C. if required in the course of the hearing of this Application.

11. In December 2024, M/s. Vedanta Ltd. moved this Hon'ble Court with a petition bearing no. W.P. 3140/2024 [F], seeking appropriate directions for police protection for transportation along the approved route, alleging *inter alia* that some villagers were opposing the same. The villagers of Pilgaon, through a resident one Mr. Babaji Babal Gaonkar, filed an Intervention Application seeking to intervene in the matter and point out the true facts of the case, namely, that the route being used through Pilgaon was not the approved route. This Court allowed the intervention in terms of its order dt. 16.12.2024, but did not go into the merits of the respective claims. Instead, the Court directed the State Govt. to look into the company's representation, and disposed of the petition keeping all objections open, in terms of its order dt. 17.12.2024. Both these orders are enclosed herewith as **Annexure 4 Colly.**

12. Without obtaining any fresh approved route from the Ministry of Environment in the nature of an amendment to the EC, the Resp. No. 10 company has begun transporting the ore through a new route which is not approved in the EC and which passes through the Pilgaon village on which no safety measures are installed and is thus causing severe pollution in the village. Applicant is unaware whether any permits have been issued by the State authorities for the same, which would be a violation of the EC.

13. The Applicant pleads before this Hon'ble High Court to pass appropriate order as the terms of the D.M.G. S.O.P. and the

Environment Clearance issued by MoEF has been violated. The mineral transportation in question adversely affects a large number of people. Further, there are no air pollution monitoring devices or other safeguards on this stretch of 0.85 KM, with no system in place to keep a check on the enormous dust and air pollution caused on account of the ore transport. Already two accidents on this stretch have taken place.

14. There is no delay in the filing of this Application. The night time ore transport activity commenced from 27th December 2024, following which the village residents first approached the authorities to obtain orders to stop this violation. They had multiple meetings with the Dy. Collector Bicholim and other govt. officials during December and the beginning of the new year. In the last meeting on 6th January 2025, the villagers were shocked to be informed that the D.M.G. himself has permitted the night time transport activity. The applicant does not have a copy of the said order as they have been orally informed, but if this is correct such order is totally in violation of the DMG's own S.O.P. which has been presented before this Hon'ble Court and forms part of the judgment dated 29.06.2024. Hence the villagers have decided to approach this Hon'ble court for relief.

15. Hence this Application is now being filed.

PRAYER:

16. The Applicant therefore most humbly prays that this Hon'ble Court may:

a. Direct the D.M.G. and the Police authorities to ensure that ore transportation from MB-I by M/s. Vedanta Ltd. is carried out strictly during the working hours only in terms of the S.O.P. of the D.M.G;

b. Direct the D.M.G. and the Police authorities to ensure that ore transportation from MB-I by M/s. Vedanta Ltd. is not carried out on the approx. 850 m length portion of the route presently being used, i.e. NBP Gate No. II till Matwada Junction, which is not approved under the EC and which passes through the settlement of the Pilgao village;

c. For any other reliefs this Hon'ble Court may be pleased to pass.

Place: Porvorim, Goa
Date: 09.01.2025

Applicant

IN THE HON'BLE HIGH COURT OF JUDICATURE OF BOMBAY AT PORVORIM, GOA

Miscellaneous Civil Application No. /2025

in P.I.L. Writ Petition No. 6/2024

Anil Datta Salelkar ....Applicant

In

The Mulakh Khazan Farmers Association and Anr.

....Petitioners

V/s

The Directorate of Mines and Geology & Ors.

...Respondents

AFFIDAVIT IN SUPPORT OF THE APPLICATION

I, Anil Datta Salelkar, the Applicant above named, do solemnly state on oath as under:

1. I say that I have filed today the accompanying Miscellaneous Civil Application for the reliefs sought therein.

2. I say that this Miscellaneous Civil Application has been drafted on my instructions. I solemnly declare and say that what has been stated in paragraphs 1, 2, 3(p), 4, 6, and 11 are true to the best of my knowledge and official documents/records, and what is stated in paragraphs 3(p), 5, 7, 8, 9, 10, 12, 13, 14, 15 and 16 are in the nature of legal submissions which I believe to be true and correct. No part of it is false and nothing material has been concealed there from, and the annexures enclosed are true and correct copies of their respective originals.

Solemnly affirmed at Porvorim, Goa,
this the 9th day of January 2025 Deponent

ANNEXURE 1 **12**

[Extract]

Andreza

IN THE HIGH COURT OF BOMBAY AT GOA

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 199 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 215 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 1216 & 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
AND
MISC. CIVIL APPLICATION NO. 1416 OF 2024 (F)
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com.

... Petitioners

WITH

13

MISC. CIVIL APPLICATION NO. 199 OF 2024
IN
PUBLIC INTEREST LITIGATION WP NO. 6 OF 2024

Surakshit Distributors Pvt. Ltd., a Company incorporated under the Companies Act, 1956, having its office at Unit No. 306, 3rd Floor, Gera Imperium Grand, EDC Complex, Patto Plaza, Panaji, Goa, and represented herein by its Authorised signatory, Mr. Sushil Khandelwal.

... Applicant

IN

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, Secretariat, Porvorim, Goa, 403 521.

3. The Deputy Collector and SDO Bicholim, Bicholim, Goa – 403 504.

4. The Mamlatdar Bicholim, Office of the Mamlatdar, Bicholim, Goa – 403 504.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa – 403 504.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa, 403 511.

7. M/s. Blueglobe Exports Private Limited, B-3, F-1, Prudential Paradise, Peddem, Mapusa, Goa – 403 507.

... Respondents.

WITH

MISC. CIVIL APPLICATION NOS. 215 AND 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar, H. No. 776, Gaonkarwada, Mayem, Bicholim, Goa – 403504. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa,

Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

WITH
MISC. CIVIL APPLICATION NO. 1216 OF 2024 (F)
IN

MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Narendra Vinayak P. Gaoncar, aged about 50 years, Son of late Vinayak P. Gaoncar, R/o. Pilgao, Bicholim, Goa. ...Applicant/ Intervener

WITH
MISC. CIVIL APPLICATION NO. 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City

MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

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8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Trivikram Govind Prabhu Gaunkar alias Prabhugaonkar, aged about 47 years, son of Govind Vasudev Prabhu Gaunkar, R/o. H. No. 76, Pilgao, Bicholim, Goa 403 504 ...Applicant/ Intervener

AND

MISC. CIVIL APPLICATION NO. 1416 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

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1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant ... Applicant

Pednekar.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

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4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

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7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road,

Aliganj, New Delhi, 110 003.

... Respondents.

AND

1. Shankar Chandrakant Jalmi, aged 25.

2. Savlo Raghu Kavlekar, aged 49, both major, residents of H. No. ...., Bagwada, Pilgao, Bicholim, Goa.

3. Sudhakar Vasudev Vaignkar, Age 43, major, resident of H. No. 65,Bagwadao, Bicholim, Goa.

4. Govind Shankar Kavlekar, age 62, major, resident of H. No. 23, Gaonkar Wada, Pilgao, Bicholim, Goa.

...Applicant/
Interveners

Ms. Norma Alvares, Advocate *with Mr. Om D'Costa, Advocate for the Petitioners.*

Mr Y. V. Nadkarni, Advocate *with Mr Nilay Naik and Ms. Simran S. Khadilkar, Advocate for the Applicant in MCA No. 199/2024.*

Mr. Deep Shirodkar, Additional Government Advocate *for Respondent nos. 1 to 5.*

Mr. Manish Salkar, Government Advocate *for Respondent no.6-GSPCB.*

Mr. Raviraj Chodankar, Central Government Standing Counsel *for the Union of India-Respondent No.8.*

Mr. A. D. Bhobe, Advocate *with Ms. A. Fernandes Advocate for Respondent No. 9.*

Mr. Janak Dwarkadas, Senior Advocate *(Through V.C.) with Mr. Shivan Desai, Mr. A. Gosavi, Advocate with Ms. Krupa Naik and Mr. Guruprasad Naik, Advocates for the Interveners-Applicants in MCA No. 215/2024 and MCA No. 239/2024.*

Mr. H. D. Naik, Advocate *for the Applicant in MCA No. 1216/2024(F) and MCA No. 1217/2024(F).*

Mr. Nigel Da Costa Frias, Advocate *with Ms. Sonadevi Nishad and Mr. Shane Coutinho, Advocates for the Applicants-Interveners in MCA No.1416/2024(F)*

CORAM: M. S. KARNIK &
VALMIKI MENEZES, JJ.

RESERVED ON : 26th JUNE 2024
PROUNOUNCED ON : 29th JUNE 2024

JUDGMENT *(Per M. S. Karnik, J.)*

1. We have taken up this petition for final disposal in view of the earlier order passed and with the consent of all parties.

2. It is the case of the petitioner that the otherwise tranquil situation in the village will be jeopardised as a result of the large scale transportation of mineral ore. The safety of the villagers, and that of the school going children will be endangered with the sudden increase in the traffic of trucks/tippers carrying the ore. The resultant noise pollution as well as the environmental pollution resulting from such unwarranted intrusion in the serene and peaceful environs of the village is in complete conflict with the cherished principles of

fundamental right enshrined by Article 21 of the Constitution of India. The submission is that this massive invasion will completely disturb the equilibrium of the village which serves only the business interests of the project proponent to the detriment of the villagers. The villagers say that they do not deserve such intrusion.

3. The concern expressed by the villagers is genuine. On one hand are the fundamental rights of villagers and on the other are the economic interests of the State as well as the rights of the project proponent. These are competing interests in conflict with each other.

4. It goes without saying that it is the foremost duty of the State to work towards achieving and maintaining a fine balance between competing interests taking into account various myriad considerations. Present is a case where there is an apparent conflict between the fundamental rights of the villagers and that of the State. The State finds mining and as a consequence transportation necessary to further its economic interest for the development of the State. A conflict in the present case has arisen between the right to life under Article 21 of the Constitution of India on one hand and Article 19(1)(g) of the Constitution of India on the other. The villagers claim a right to a dignified existence in a safe pollution free environment. The State asserts its economic right necessitating such transportation which villagers submit amounts to bulldozing the otherwise peaceful life

> construction activity is to be carried out. It is not a perpetual or continuous activity like a running industry. It is absolutely incomprehensible to accept that a project of this nature would be unsustainable with the needs and aspirations of future generations. Furthermore, the increase in footprint is not shown to be substantial and the inclusion of new Members of Parliament after the delimitation exercise is anyway going to lead to an inevitable increase in footprint (floating though) that cannot be countenanced as a concern here."

23. We have therefore to look for a careful balance when two equally relevant interests compete with each other. At this juncture itself, we may refer to the MCA No. 239 of 2024 filed by Vedanta Limited. Shri Janak Dwarkadas submitted that Vedanta Limited has been granted Environmental Clearance (EC) to the project for Block – I, Bicholim Mineral Block and Block VII-Cudnem Mineral Block. It is submitted that the EC is granted after following a detailed procedure laid down under the EP Act and the Rules framed thereunder. Our attention is invited to the Notification dated 14.09.2012 published by the Ministry of Environment, Forest and Climate Change, which provides for requirements of prior environmental clearances for matters falling under category 'A' of the Schedule. Shri Dwarkadas submitted that the Expert Appraisal Committee comprises of domain experts. It is submitted that rigorous conditions are imposed in the EC. It is further submitted that transportation is a mechanism

provided under the Expert Appraisal Committee (EAC) regime. It is submitted that the EAC comprises of persons who are outstanding environmental policy experts with wide expertise in the relevant development sector. It consists of only professionals and experts fulfilling the qualifying criteria provided by the notification. It is submitted that a detailed procedure is prescribed for appraisal. A procedure is conducted for public hearing. It is thus submitted that before granting EC, it has to pass the muster of the stringent provisions of the EP Act and the Rules framed therein.

24. It is already indicated by us that we are not examining the challenge to the EC hence we refrain from expressing any opinion to the legality or otherwise of the EC. In appropriate proceedings, such challenge can be gone into. We also make it clear that what is being recorded by us are the assurances accepted by Vedanta in the matter of transportation. We may not be understood to mean that we have examined the legality and propriety of the conditions for transport in the EC and the Consent to Operate ('CTO' for short). The challenge to these conditions in the EC and the CTO regarding the transport and the measures incorporated is kept open for consideration in appropriate proceedings before the appropriate forum as and when a proper challenge to the EC as well as the CTO is made.

25. Shri Dwarkadas was at pains to point out that Vedanta's consent to operate incorporates all the safeguards necessary to ensure that the competing rights of the villagers regarding their safety and environmental concern are properly balanced with that of the right of the project proponent to carry mining operations pursuant to the valid EC. Shri Dwarkadas submitted that Vedanta's affidavit dated 17.06.2024 provides for measures of safeguards to prevent pollution under CTO. On instructions, Shri Dwarkadas submits that Vedanta shall be strictly complying with all conditions of transportation mentioned at serial nos. 13 to 24 of the CTO.

26. The CTO has been granted by the GSPCB under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6(i) of the Hazardous and Other Wastes (Management and Transboundry Movement) Rules 2016, as amended thereafter. In the EC granted to Vedanta Limited, we find that during the site inspection, certain observations were made by the sub-committee. The observations at item 4 and the reply of the project proponent thereon are relevant, reading thus :

> "4. The Project Proponent needs to bypass the public road and also to explore the possibility of increasing the capacity of the truck so as to reduce the no. of trips. The EAC opined that the Project

Proponent needs to revisit the traffic load by considering the cycle time and waiting time. The Project Proponent needs to submit the action plan for strengthening the road and for converting the unpaved road into concrete road.

The Project Proponent submitted the map showing the transportation route comprising of dedicated road corridor and public road. The total travel distance upto Jetty is 5.48 kms (4.54 km dedicated road and 0.94 km MDR-20 Public Road). Traffic load and effective distance between two trucks are as follows :-

S.No.	Transportation working days	Quantity (In TPA)	Tonnes/Day	Trips per day	Mode of trnasport
1	237	30,00,000	12658	1205	Road
	Total trips per day			1205	

The road witdth details for various segments are as follows :

Dedicated Road corridor	
3.31 km	1.23 km
12-15 mts wide Road	7 mts wide Road

Further, the Project Proponent submitted the following details :

i. Capacity of truck is 10.5 tons as per directives of Dept. Of Mines & Geology, Goa.

ii. Total Handling per day is 12658 tons/day

iii. Transportation timings are 6.00 a.m. to 7.00 am, 8.00 a.m. to 12.45 pm and 2.00 p,m to 5.45 pm. Therefore, the effective transportation time is 9.30 hrs.

iv. Per Hour Handling is : 1332 tons/hour

v. No. of vehicles per Hour (One Way): 127 vehicles

vi. No. of Vehicles per Hour (to and fro) : 254 vehicles

vii. The Speed of vehicle is 25 KMPH and the lead distance is 5.48 kms.

viii. The time taken for 5.48 km is 13.15 mins for each truck and loading time is 1 min, weighment time at both source location is 2 min, Tarpaulin typing and untying time is 2 min, unloading time 1 min and waiting time 10 min.

ix. Each truck length is 15'.5" (4.58 m)

x. Distance from truck to truck is 5 m both side – 10 m

xi. Each vehicle occupies a min. distance of 14.58 m =~ 15 m

xii. The length of road is 5.48 Km = 5480

xiii. No. of vehicle which can travel on this road for one side =5480/15=365, However we would be plying only 127 trucks hence effective distance between two vehicles is 43 m.

The Project Proponent submitted the following mitigation measures for transportation :

i. Public road is hot mixed and same will be maintained.

ii. Dedicated road is proposed to be hot mixed in phased manner.

iii. Entire Dedicated transportation route is surrounded by thick Green Belt

iv. Transportation vehicles shall be properly maintained to minimize the exhaust emission.

v. Regular tests shall be carried out to check exhaust emission and PUC certification of transportation vehicles at prescribed interval.

vi. Transportation trucks will be loaded with prescribed capacity and covered with tarpaulin before leaving mines premises.

vii. Overloading of the material will be avoided.

viii. Regular monitoring of the emission levels.

ix. Over speeding of Vehicle will not be allowed.

x. Traffic Marshalls shall be provided for regulating movement of vehicles as well as for safety of persons.

xi. Training will be given to all drivers about safe driving.

xii. Regular water sprinkling by means five hired water tanker of 10kL capacity on haul road and loading points will be carried out.

xiii. Used of fixed dust suppression system on haul roads

xiv. Installation of two wheel washed system (one each at the exit of the dedicated road and jetty exit respectively.

xv. Manual and mechanised machines for road sweeping.

xvi. Washing of mine exit points/Junctions (Mayem, Pilgao and Jetty exit area) after transportation hours/at night with water tanker having pipe arrangements

xvii. Underpass proposed at Mayem junction to prevent interface with public."

27. By way of a note submitted at the time of hearing, a summary of major compliances ensured by Vedanta are as under:

CTO CONDITION	COMPLIANCE	STATUS
13	The mining unit shall install online noise monitoring station approved by USEPA, TUV or CPCB, CSR or MCERTs at the transportation route near sarmanas in consultation with the Board and connect the same to thye Board server within one month of receipt of this Consent and submit compliance report to the Board.	24 x 7 real time online monitoring station connected with GSPCB has been set-up
14	The mining unit shall install CCTV Camera at exit gate from mine towards the jetty to monitor if the trucks are properly covered with tarpaulin before exit and should	Installed Camera shall give the status of compliance by Trucks to GSPCB

	be connected online to GSPCB, within one month of receipt of this Consent to Operate	
16	The trucks/tippers engaged in transportation of ore shall have with atleast six inches free board after filling the cargo box to avoid spillage	This shall be complied with
17	All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box ensure the ore does not get air borne or spill on the road.	
20	The mining unit shall provide wheel washing facility for the ore transport vehicles shall be provided at the	Wheel Washing System already set-up

	exit point of the mine	
23	The mining company should submit details regarding transportation of ore mentioning Source, Destination, Qty., No. Of trips (tipper trucks), Route (names of villages through which transportation takes place), Remarks	This shall be complied with

28. Shri Dwarkadas submitted, on instructions, that Vedanta is bound by the aforesaid conditions and the mitigating measures provided for transportation. Furthermore, even the CTO has provided for conditions for transportation mentioned at serial nos. 13 to 24. In the affidavit dated 17.06.2024 filed by Vedanta, it is assured that all the conditions pertaining therein will be strictly adhered to. Statements in the affidavit and the assurances aforementioned are accepted as an undertaking to this Court.

29. This Court by an Order dated 22.04.2024, directed the GSPCB to file an affidavit pursuant to the inspection carried out and place a status report on record. So far as Vedanta is concerned, the route applied for permission was NSP-1, Top-NBP Junction-NBP-Matwada Junction-Sarmanas jetty. As directed by DMG, the Board officials inspected the site along with unit representative on 03.05.2024. Following were the recommendations for pollution control safeguard:

> **"Recommendations for pollution control safeguard**
>
> - The truck/tippers engaged in transportation of ore shall have sufficient free board after filling the cargo box to avoid spillage.
> - All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box to ensure the ore does not get air borne or spill on the road.
> - In case of break down of loaded trucks/tippers unloading of ore at the road side shall be strictly avoided.
> - The roads within mining lease areas shall be sprinkled with water to suppress dust pollution.
> - Spillage of ore on the public roads shall be removed immediately on occurrence.
> - The mining company should make suitable arrangement for sweeping of roads affected due to transportation of iron ore.
> - The mining firm should manage the daily trips in staggered manner in consultation with DMG, so that traffic congestion is avoided at major junctions.
> - The Board shall carry out monitoring along the route through the Ministry of Environment, Forests and Climate

Change approved lab and monitoring charges shall be recovered from the transporters/mining firms as per actual. The Transportation/mining firms shall pay an advances of Rupees Three lakhs towards the monitoring charges.

- The Department of Mines to provide the transportation route for enabling the Board to identify suitable monitoring locations. The Department may also ensure power supply for the monitoring stations.
- Speed of ore carrying trucks should be controlled by online GPS monitoring done by DMG through its authorized agency.
- Road sweeping machines may be jointly/severally developed in hotspot areas/ stretches.
- The shoulders of the mining transport roads may be tarred whenever needed.
- DMG may ensure maintenance of public road in the mining area with respect to repair of potholes/widening of roads whenever necessary.
- The Operator is required to carry out manual wheel washing in order to clean the wheels of the trucks and subdue dust arising out of it whenever wheel washing stations are not installed.
- In case the air quality standards are breached the transport frequency should be reduced and the transporters to be levied polluter pays penalty.

Permission can be granted to above mentioned route."

30. Shri Dwarkadas submitted that the Project Proponent-Vedanta is accepting all these safeguards and assures this Court on instructions that the conditions will be strictly followed and implemented. The learned Advocate General as well as learned Counsel for the implementing agencies assures that the monitoring will be strict and

effective and not an eye wash. We accept these assurances as undertaking to this Court.

31. It is submitted by Shri Dwarkadas that in any case the transportation of Vedanta is through a dedicated corridor and not through village roads. The stretch of 0.9 kms though not a part of dedicated corridor is not a village road. Learned Senior Advocate submitted that they are even willing to provide for additional safeguards for this non-village/Major District Road of 0.9 kms by deployment of traffic marshals to avoid congestion and inconvenience to the public at large on arrival of the ferry. Whether to accept these additional safeguards is something which the DMG and transport authorities shall look into and take an informed decision depending on the ground conditions.

32. MCA No.1416/2024, is an intervention filed by Shri Shankar Chandrakant Jalmi and others in Vedanta's application. Upon hearing Mr. Frias, learned Counsel for the interveners, we are satisfied that the grievance about the road being illegally constructed through the lands of the interveners cannot be made a subject matter of this PIL Petition as and by way of an intervention application. It is for the Applicant-intervener to resort to appropriate remedies available in law. If any authority is required in support of this view, we may refer to the decision of the Supreme Court in **Saraswati Industrial Syndicate**

Ltd. vs. Commissioner of Income Tax, Haryana, Rohtak[7]. In paragraph 12, Their Lordships held that the only purpose of granting an intervention application is to entitle the intervener to address arguments in support of one or the other side. Keeping all contentions open with liberty to avail of appropriate remedies in accordance with law, the intervention application is disposed of.

33. Let us now examine the measures and safeguards provided for transportation of 'e-auction ore'. A meeting was convened by DMG along with the Officials of GSPCB, Transport Department, Police Department, Stakeholders, Transporters, Panchayat Representatives on 29.01.2024 at 3.30 p.m. It was decided that the DMG and GSPCB should mutually devise a Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads. The Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads, reads thus :

> "1. The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation. In their application they shall indicate the approximate width of the road and facts about number of houses along the route and availability of alternate route. The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation. Upon such approval, the transporter

7 (1999) 3 SCC 141

will apply to the GSPCB for setting up monitoring stations on the route. 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.

2. The transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied. All trucks shall be registered with the Department and fitted with GPS.

3. GEL shall continuously monitor Vehicle speed and any Violation (above 40 km/hr) shall entail penalty i.e. Trucks shall be blocked for 3 days and further as per the Order dated 26/04/2016.

4. On the Bhumija Potal GEL through VTS System shall ensure that the total number of trips shall be restricted per Operator on the route to min 20 and maximum 40 per hour.

5. The road congestion shall be monitored by GEL on Bhumija Ore Monitoring System on a real time basis and accordingly trips shall be restricted.

6. Intimation about permitted transport shall be made to SP. North, SP. South and SP Traffic informing them that transporter has to strictly follow the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, Order of the Directorate of Mines & Geology dated 26/04/2016, check whether the above conditions are followed by the Transporters and monitor the same.

7. 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.

8. GEL should ensure that no trip sheets are generated beyond the prescribed time so that transportation of Ore happens only within the specified time."

34. Apart from the aforesaid, there are in place "The Goa (Prevention of Illegal Mining Storage and Transportation of Minerals) Rules 2013, published in the Official Gazette, of the Government of Goa, dated 17.10.2013. Rule 17 under Chapter V deals with Regulation of Transport and Extraction. The Regulation provides for various stipulations regarding transporting the ore. These Rules shall be scrupulously followed and measures provided effectively monitored. Rule 23 provides for reasonable restrictions on transport reading thus :

"23. Reasonable Restriction on Transport.- The Government shall have power to impose reasonable restrictions, such as, restricting the number of carriers to be permitted for transport of mineral, fixing the maximum number of years for using carriers for mining transport, deciding a cut off date after which the carrier registered with Transport Department shall not be registered for transportation of the mining ore or any other similar restriction that may be necessary to ensure smooth

roads (for purposes of land acquisition for mining) shall be avoided to the extent possible and in case such acquisition is inevitable, alternative arrangements shall be made first and then only the area acquired. In these types of cases, Inspection Reports by site visit by experts may be insisted upon which should be done through reputed Institutes.

k) As CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial turn-over, Socio Economic Development of the neighborhood Habitats could also be planned and executed by the PPs more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers on the lines as required under TOR. "R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the

village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the EIA report."

3. The matter was examined in the Ministry and accordingly, it has been decided that the above mentioned conditions at para-2 (a-k) may be included as a condition of Environmental Clearance letter to mitigate the adverse impact of mining operations in the case of such habitations/villages.

4. This issues with the approval of Competent Authority." (emphasis supplied)

39. It is therefore not as if transportation of the ore through village roads is completely prohibited as fairly submitted by the learned Counsel for the petitioner. Moreover, the aforesaid SOPs/measures are put in place to mitigate the adverse impact of mining operations in the case of such habitations/villages. Learned Counsel for the petitioners fairly submitted that the spirit of the OM dated 29.10.2014 is imbibed in the SOPs issued by the authorities from time to time. The safeguards imposed by way of SOPs, instructions, Rules and Regulations before and after filing of the PIL accords with the spirit of the OM dated 29.10.2014. These measures be strictly implemented.

46. We find it necessary to direct that a proper study be carried out by preparing a report specific to each route permitted by DMG and GSPCB for transportation of ore through the villages on the basis of carrying capacity of each road. The DMG and GSPCB undoubtedly will have to consider the length of the route, number of houses/hamlets, situated on the route with the study of the population enroute, the details of schools or other such activities that may exist along the route apart from other factors while taking a decision on granting transport permission based on the carrying capacity set down for each route. This will accord with the spirit of the OM issued by the Ministry of Environment. The DMG and GSPCB shall, as far as possible, monitor the trucks on each route on Real Time basis, install CCTV cameras connected to DVR devices at Panchayat Ghars and/or public schools and/or the office of the GSPCB and DMG to enable the DMG/GSPCB and/or Panchayat officials or other designated officials to monitor and observe the movement of trucks carrying such ore along the route.

47. The DMG and GSPCB shall as far as possible install pollution monitoring devices of the nature that may upload information/data to the server of the DMG and GSPCB in Real Time to enable the Departments to monitor the air quality along the designated routes in Real Time and to arrest the movement of trucks, if required to bring air pollution to within permissible norms.

48. We reserve the liberty of the petitioners/any of the affected person or in public interest to approach this Court in case of difficulty in the implementation of the aforesaid measures, breach of any conditions or for any other genuine cause concerning the transport activity at any stage when necessary.

49. The PIL Writ Petition is disposed of in the above terms. No order as to costs.

VALMIKI MENEZES, J. **M. S. KARNIK, J.**

ANNEXURE 2

Standard Operating Procedure (SOP) for grant of Route Approvals for Transportation of Ore through Village Roads

1. The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation. In their application they shall indicate the approximate width of the road and facts about number of houses along the route and availability of alternate route. The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation. Upon such approval, the transporter will apply to the GSPCB for setting up monitoring stations on the route. 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.

2. The transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied. All trucks shall be registered with the Department and fitted with GPS.

3. GEL shall continuously monitor Vehicle speed and any Violation (above 40 km/hr) shall entail penalty i.e. Trucks shall be blocked for 3 days and further as per the Order dated 26/04/2016.

4. On the Bhumija Potal GEL through VTS System shall ensure that the total number of trips shall be restricted per

Operator on the route to min 20 and maximum 40 per hour.

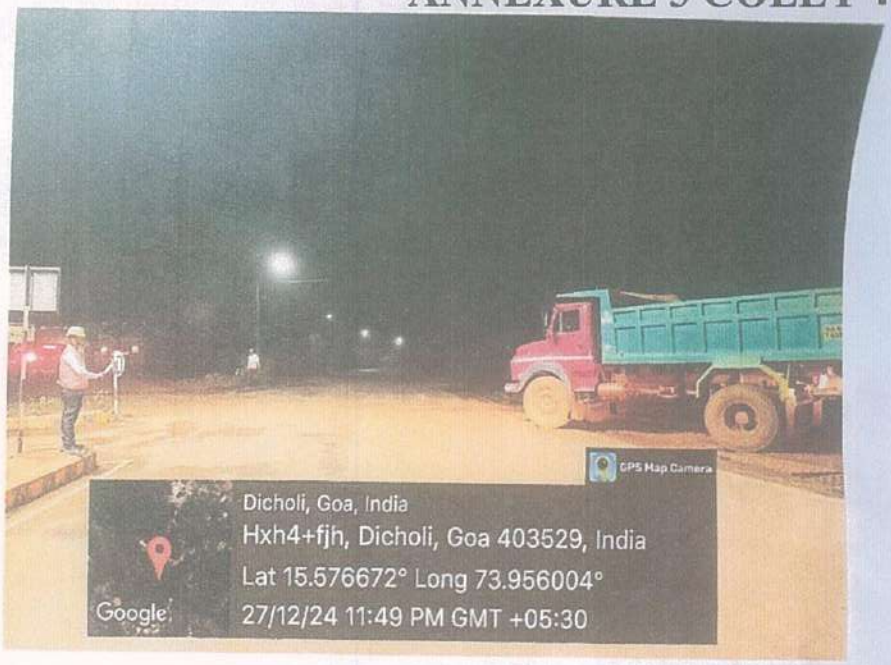
5. The road congestion shall be monitored by GEL on Bhumija Ore Monitoring System on a real time basis and accordingly trips shall be restricted

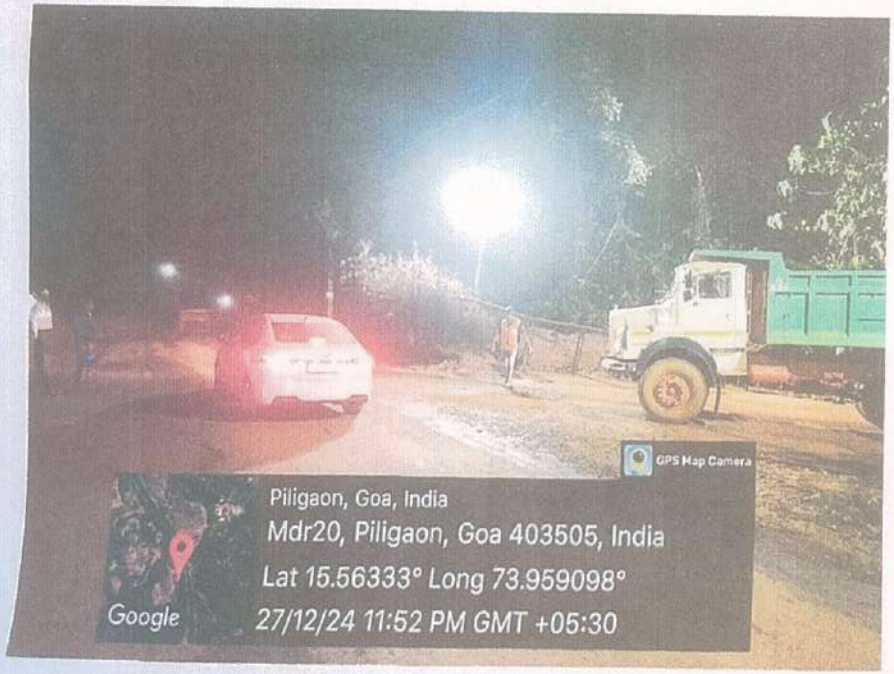
6. Intimation about permitted transport shall be made to SP. North, SP. South and SP Traffic informing them that transporter has to strictly follow the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, Order of the Directorate of Mines & Geology dated 26/04/2016, check whether the above conditions are followed by the Transporters and monitor the same.

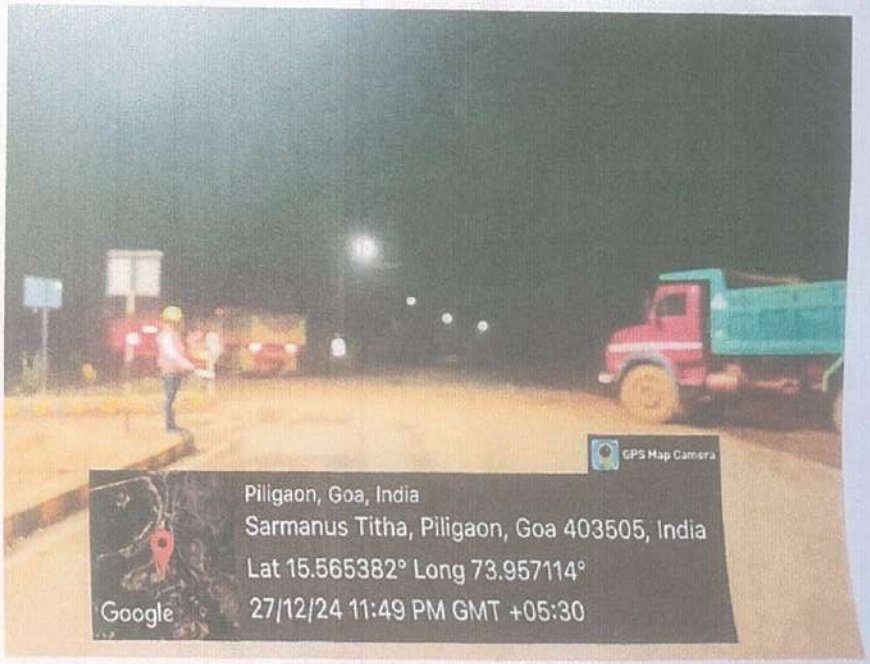
7. The timing of the Ore Transportation along the designated route should be from 8.00 am to 1.00 pm with a break from 1.00 pm to 2.00 pm and then transportation can continue from 2.00 pm to 5.45 pm from the source location.

8. GEL should ensure that no trip sheets are generated beyond the prescribed time so that transportation of Ore happens only within the specified time.

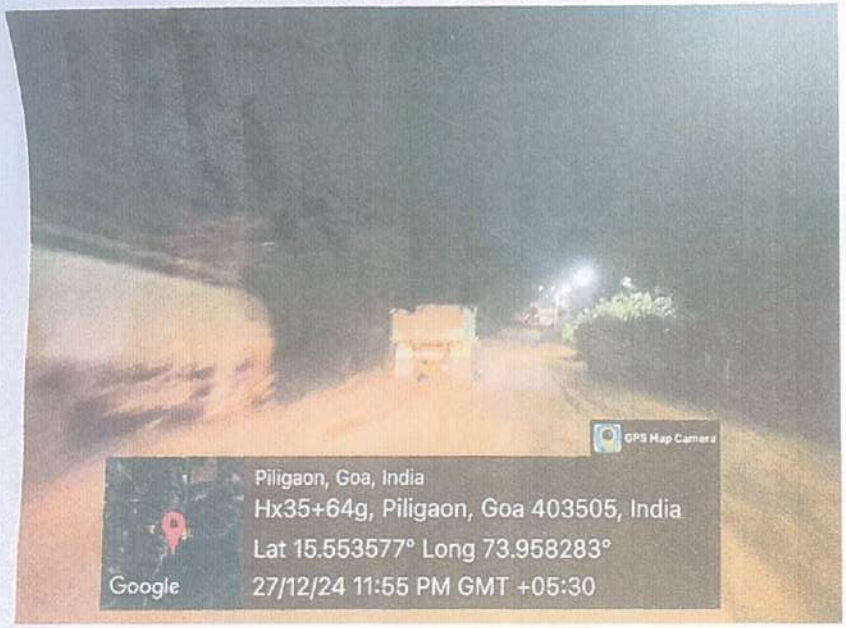




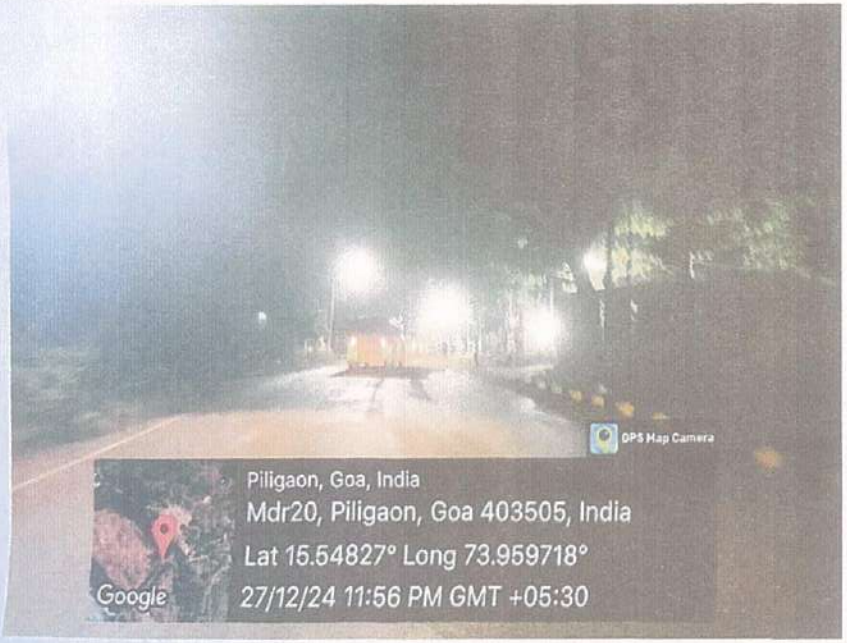




Photographs of ore transport at night time in Pilgaon,

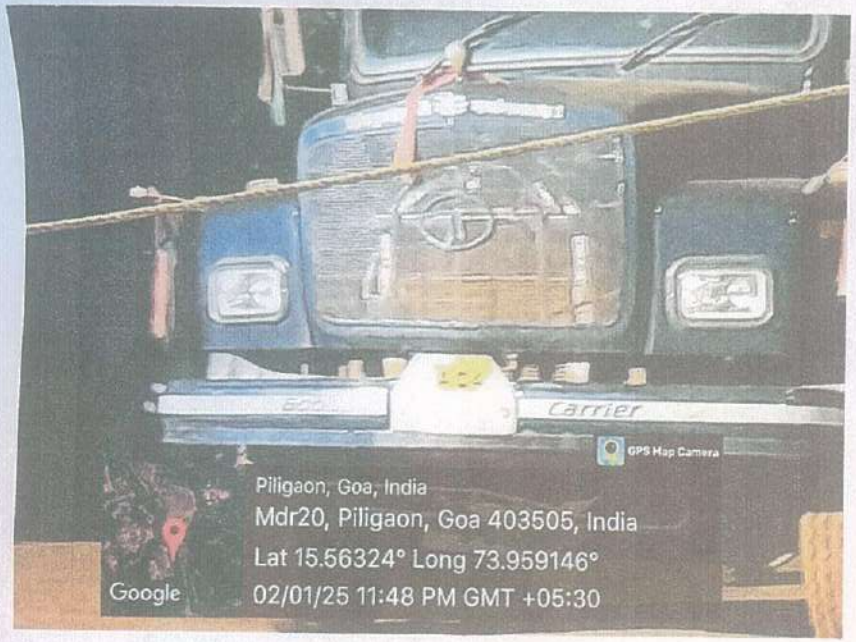


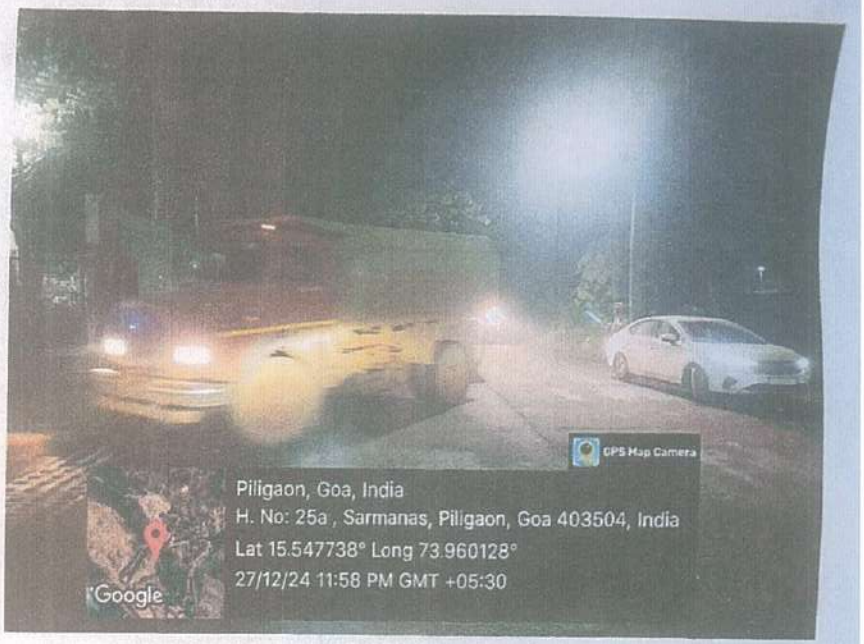






Photographs of ore transport at night time in Pilgaon,









Photographs of ore transport at night time in Pilgaon

ANNEXURE 4 COLLY

IN THE HIGH COURT OF BOMBAY AT GOA

MISC.CIVIL APPLICATION NO.3174 OF 2024 (F)
IN
WRIT PETITION NO.3140 OF 2024 (F)

BABAJI BABAL GAONKAR ... APPLICANT
Versus
M/S. VEDANTA LIMITED, REP. BY
AUTH. SIGNOTARY KARNI SINGH RAJORA ... RESPONDENT

Ms. Norma Alvares, Senior Counsel with Ms. Maria Simoes and Mr. Om D'Costa, Advocates for the Applicant.
Mr. S. S. Kantak, Senior Counsel with Mr. Abhijit Gosavi, Ms. Krupa Naik, Ms. Neha Kholkar and Kher Simoes, Advocates for the Petitioner in WP.(F)/3140/2024.
Mr. Deep Shirodkar, Additional Government Advocate for State.

CORAM:- M. S. KARNIK &
NIVEDITA P. MEHTA, JJ.

DATED :- 16th December, 2024

P.C.

1. Heard Ms. Norma Alvares, learned Senior Counsel appearing for the Applicant and Mr. S. S. Kantak, learned Senior Counsel appearing for the Petitioners in WP.(F)/3140/2024 and Mr. Deep Shirodkar, learned Additional Government Advocate for State.

2. This is an application for intervention filed by Ms. Norma Alvares, learned Senior Counsel on behalf of the Intervenors.

3. For the reasons mentioned in the application, intervention is allowed.

4. The intervenor may be made as party Respondent No. 7.

5. Amendment to be carried out forthwith.

6. A copy of the intervention application to be served on the learned counsel for the parties.

7. A copy of the Writ Petition No. 3140/2024/(Filing) be served on the newly added Respondent No.7.

8. Misc. Civil Application No. 3174/2024(Filing) stands disposed of, accordingly.

NIVEDITA P. MEHTA, J. **M. S. KARNIK, J.**

Signed by: SHAKUNTALA ZALMI
Designation: Personal Assistant
Date: 16/12/2024 17:27:27

ra

IN THE HIGH COURT OF BOMBAY AT GOA

WRIT PETITION NO.3139/2024 (F)

TRUCK OWNERS
ASSOCIATION OF SESA
MINING BICHOLIM
MINE,REP. BY ITS
PRESIDENT RAJARAM
GAONKAR AND ANR.
... PETITIONERS

Versus

STATE OF GOA, THR.
CHIEF SECRETARY & 3 ORS.
... RESPONDENTS

Mr Yogesh Nadkarni with Mr Nilay Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Mr Deep Shirodkar, AGA for Respondents No.1 to 4.

WITH
WRIT PETITION NO.3140/2024 (F)

M/S. VEDANTA LIMITED,
REP. BY AUTH. SIGNOTARY
KARNI SINGH RAJORA AND
ANR.
... PETITIONERS

Versus

STATE OF GOA, THR. THE
CHIEF SECRETARY AND 5 ORS.
... RESPONDENTS

Mr S. S. Kantak, Senior Advocate with Mr A. Gosavi, Ms Neha Kholkar, Mr G. Kerkar and Ms K. Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Ms Maria Correia, AGA for Resp. No.1 to 6.
Ms Norma Alvares, Senior Advocate with Mr Om D' Costa, Advocate for Respondent No.7.

CORAM: M. S. KARNIK &
NIVEDITA P. MEHTA, JJ.

DATE: 17th DECEMBER 2024

P.C.:

1. We have heard Mr S. S. Kantak, learned Senior Advocate and Mr Yogesh Nadkarni for the petitioners appearing in the connected Writ Petition. We have also heard learned Advocate General representing the State. Ms Norma Alvares, learned Senior Advocate appears for respondent no.7.

2. The grievance of the petitioners is that though they are duly authorised to transport the ore through the road which has been mentioned in the Environmental Clearance Order, some of the villagers are illegally obstructing the transportation of ore.

3. At this juncture, considering the rival claims set up in respect of the road in question, we find it appropriate to direct the respondents to look into and take a decision on the representation/communication dated 09.12.2024 which is at page 100 of Writ Petition No.3139/2024 (F) and the representation/ communication dated 07.12.2024 which is at page 153 of Writ Petition No.3140/2024 (F) in accordance with law expeditiously.

4. Keeping all contentions of all parties open, both the Writ Petitions are disposed of without any order for costs.

NIVEDITA P. MEHTA, J. **M. S. KARNIK, J.**

Signed by: SUCHITRA NANDAN SINGBAL
Designation: Personal Assistant
Date: 18/12/2024 16:06:11

Annexure A-2

IN THE HON'BLE HIGH COURT OF BOMBAY AT GOA

Miscellaneous Civil Application No. /2025.

In

PILWP/6/2024

M/S VEDANTA LIMTED **...APPLICANT**

V/S

DIRECTORATE OF MINES

AND GEOLOGY & 15 ORS. **...RESPONDENTS**

INDEX

SR. NO	PARTICULARS	ANNEXURE	PAGE NOS
1.	Memo of Application		1-32
2.	Affidavit		33-35
3.	Copy of the Affidavit dated 17/06/2024	A-1	36-46

4.	Copy of the Environment Clearance dated 23/01/2024	**A-2**	**47-85**
5.	Copy of the judgment and order dated 29/06/2024	**A-3**	**86-164**
6.	Chart specifying the quantity of ore transported and amount paid to State Government	**A-4**	**165**
7.	Copy of the Order dated 17/12/2024	**A-5**	**166-167**
8.	Copy of the Representation dated 23/12/2024	**A-6**	**168-169**
9.	Copy of MCA/1416/ 2024	**A-7**	**170-201**
10.	Copy of the Regional Plan	**A-8**	**202-202A**
11	Copy of Civil Suit bearing No. 42 of 2024 before the Court of Adhoc District Judge-2, FTC-2, Panaji, Goa	**A-9**	**203-240**
12	Copy of google images	**A-10**	**241**

13	Copy of the Route Plans	A-11	242-243

Date: 18/01/2025

Place: Porvorim-Goa

Adv. For Applicant

(1)

NOTARY Francis D'Souza Reg. No. 323 TISWADI - TALUKA Expiry Date: 28-2-2029 GOVT OF GOA (INDIA)

IN THE HON'BLE HIGH COURT OF BOMBAY AT GOA

Miscellaneous Civil Application No. /2025

In

PILWP/6/2024

M/S VEDANTA LIMTED

Through its Authorised Signatory,

Mr. Dhirajkumar Namdeo Jagdish, major of age,

Indian National, Having office at

Sesa Ghor, 20, EDC Complex,

Patto, Panaji, Goa **...APPLICANT**

VS.

1. **THE DIRECTORATE OF MINES AND GEOLOGY**

   Through its Director,

   Ground Floor of Institute

   Menezes Braganza,

   Panaji, Goa - 403001

VEDANTA LIMITED

(2)

2. **STATE OF GOA**
   Through its Chief Secretary,
   Secretariat, Porvorim,
   Goa- 403521

3. **DY. COLLECTOR & SDO, BICHOLIM**
   Bicholim, Goa – 403504

4. **MAMLATDAR BICHOLIM**
   Office of the Mamlatdar,
   Bicholim,
   Goa - 403504

5. **BICHOLIM POLICE STATION,**
   Through its Police Inspector,
   Bicholim, Goa

NOTARY Francis D'S Reg. No. GOVT

VEDANTA LIMITED

3

6. **GOA STATE POLLUTION CONTROL BOARD**
Through its Member Secretary, Near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa – 403511

7. **M/S BLUE GLOBE EXPORTS PRIVATE LIMITED**
B-3, F-1, Prudential Paradise, Peddem, Mapusa, Goa – 403507

8. **UNION OF INDIA**
Through the Secretary, Ministry of Environment,

(4)

Forest & Climate Change, Indira Paryavaran Bhavan, Jor Bagh Rd, New Delhi, 110003

9. **TRUCK OWNERS ASSOCIATION OF SESA MINING "BICHOLIM MINE'** Through its Secretary, Shri, Subhash N. Kinalkar, s/o Narsinha V. Kinalkar, aged 46 years, r/o H. No. 1317, Chinch Bhatwadi, Mayem, Bicholim, Goa

10. **ANIL DATTA SALELKAR**

NOTA... Francis D'c... Reg. No... TISWADI... Exp'... GOVT...

VEDANTA LIMITED ... PANAJIM - GOA

(5)

Aged 44 years, r/o H. No. 28, Bagwada, Piligao, Bicholim Goa- 403504

11. CHANDRAKANT GANESH JALMI

Major of age, resident of Bagwada, Piligao, Bicholim, Goa – 403504

12. SAULO RAGHU KAULEKAR

Major of age, resident of H. No. 14, Mathwada, Piligao, Bicholim, Goa – 403504

13. SUDHAKAR VASUDEV VAIGNKAR

(G)

Major of age, resident of H. No. 65 Bagwada, Piligao, Bicholim, Goa - 403504

14. **GOVIND SHANKAR KAVLEKAR**
Major of age, resident of H. No. 23, Gaonkar Wada, Piligao, Bicholim, Goa - 403504

NOTAR Francis D'Sou Reg. No. 3 TISWADI Expiry 28 GOVT O

15. **THE MULAKH KKHAJAN FARMERS ASSOCIATION**
With office at Haldanwadi, Mayem, Bicholim, Goa- 403504, through its Secretary, Mr. Sakharram Anant Pednekar, age 58 years,

VEDANTA LIMITED

(7)

H. No. 766,
Gaonkarwada, Mayem,
Bicholim, Goa – 403504.

16. THE GOA FOUNDATION
Through its Secretary,
Dr. Claude Alvares,
Aged 75 years, having
Regd. Office at Room
No. 7, Above Mapusa
Clinic, Mapusa, Goa -
403507 **...RESPONDENTS**

APPLICATION FOR APPROPRIATE ORDERS

MAY IT PLEASE YOUR HONOUR:-

1) By way of the present application, the Applicant/Original Respondent no. 10 in PILWP No. 6 of 2024, seeks appropriate orders from this Hon'ble Court in respect of transportation of the

ore by the Respondent/Applicant from the Bicholim Mineral Block (hereinafter referred to as 'MB-I') to the Sarmanus Jetty.

2) By Order dater 13/01/2025, this Hon'ble Court has recorded the statement of the Ld. Adv. General that no transportation of ore shall be permitted by the Authorities beyond para 7 of the S.O.P and the matter is fixed on 20/01/2025.

NOTAR Francis D'Sa Reg. No. TISWADI GOVT

3) The original Petition was filed on behalf of the villagers of Mayem raising objection to the transportation of e-auctioned/ inventoried ore being undertaken through the village road on the following grounds:

i. That such ore transportation was in contravention to the mandate of the notification dated 14/09/2012.

ii. That the transportation is leading to traffic congestion and dust pollution affecting the villagers of Pilgao.

VEDANTA LIMITED

(9)

4) By Order dated 17/01/2024, this Hon'ble Court pending hearing and final disposal of this Petition was pleased to extend this ban on ore transportation through village roads for the entire State of Goa and the State Government is directed not to permit transportation without seeking leave of this Hon'ble Court.



5) Since the Applicant thereafter executed Mining Lease with the State of Goa on 22/03/2024 and was directly affected by the embargo placed on transportation by this Hon'ble Court in terms of order dated 17/01/2024, the applicant filed an Intervention Application No. 215/2024 & 239/2024 in PILWP 6 of 2024 seeking appropriate orders from this Hon'ble Court permitting transportation of ore from MB-I. In the said application, Applicant placed on record the background facts leading to the execution of lease deed in respect of MB-I in favour of the Applicant and the fact that



the Applicant had obtained all the necessary permissions for operation of mines including Environmental Clearance dated 23/01/2024, Consent to Operate dated 04/03/2024 and Mining Lease dated 22/03/2024. The transportation route used by the Applicant to Sarmanus Jetty is the traditional route adopted by the previous lease holders/concession of MB-1 for decades and that the said transportation route was indicated to the Expert Appraisal Committee (hereinafter referred to as 'EAC') as part of the Details of the Project (Annexure 2 of EC) on account of the same being the actual and only route used by the erstwhile miner for more than 4 decades. This EC was obtained after comprehensive screening process which included public hearing. As a result of the grant of various permissions and approvals the Applicant has made substantial financial payments to the State Government, including following payment:

NOTAR Francis D'Sa Reg. No Ex. GOVT

VEDANTA LIMITED VIM - GOA

(11)

(i) Payment of Rs. 135,83,51,503 (Rupees one thirty five crores eighty three lakhs fifty one thousand five hundred and three only) to the Government of Goa for grant of Bicholim Iron Ore Block

(ii) Bank Guarantee of Rs. 135,83,51,503 (Rupees one thirty five crores eighty three lakhs fifty one thousand five hundred and three only) to the Government of Goa

(iii) Stamp duty of Rs. 90,00,00,000 (Rupees ninety crore only) paid to the Government of Goa for registration of Mining Lease

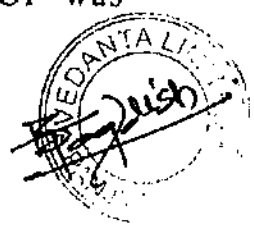
(iv) Registration charges of Rs. 4,50,00,000 (Rupees four crore fifty lakhs only) been paid to the Government of Goa for registration of Mining Lease

6) In pursuance to the order dated 22/04/2024 passed by this Hon'ble Court in the course of proceedings in PIL No. 6 of 2024 the applicant made an

application to Respondent No. 1 seeking permission to undertake transportation from MB-I to Sarmanus jetty. In the said application, the applicant sought permission to transport the ore from a route that was used by the erstwhile miner and the same was approved by Respondent No. 1 & 6 as per the directions passed by this Hon'ble Court being the traditional & only route for ore transportation.



7) As the issue in the said PIL arose out of transportation of e-auctioned ore, the State Government placed on record before this Hon'ble Court a Standard Operation Procedure (hereinafter referred to as 'SOP') which according to the Applicant was applicable only to grant of permissions in respect of e-auctioned/ inventoried ore where no EC was granted and not to auctioned mining blocks. It is also clear from the reading of para. 33, 37 and 45 of the judgment dated 29/06/2024 in PIL 6 of 2024 that this SOP was



(13)

issued in the context of the transportation of e-auctioned ore and therefore, this SOP is only applicable for the transportation of e-auctioned ore as in such case the concerned auction purchasers do not obtain Environment Clearance(EC).

8) In compliance of the directions passed by this Hon'ble Court in the above petition, the Respondent No. 1 and 6 permitted the Applicant to carry out transportation of ore from MB-I to Sarmanus jetty through the traditional transportation route subject to compliance of its terms and conditions mentioned which Applicant is till date complying with.

9) On 17/06/2024, the applicant filed an affidavit placing on record its assurances in respect of complying with the necessary procedural requirements for transportation of ore including those included in the consent to operate. Annexed

hereto and marked as **ANNEXURE A-1** is a copy of the Affidavit dated 17/06/2024.

10) The above Petition was argued at length. The main plank of the argument of the Petitioners in the said Petition against the applicant was that the Standard Operating Procedure should be made applicable to the mining leaseholders irrespective of them obtaining and being governed by the EC conditions. The said contention was repelled by the Applicant on the premise that the entire mining operations of the applicant should be governed by the EC and the standard operating procedure issued for transportation of e-auctioned ore cannot be made applicable to the mining operations and transportation of ore undertaken by the applicant which was based on EC. Annexed hereto and marked as **ANNEXURE A-2** is a copy of the Environment Clearance dated 23/01/2024.

NOTA Francis D'r Reg. Nr TISWADI Expiry GOVT O

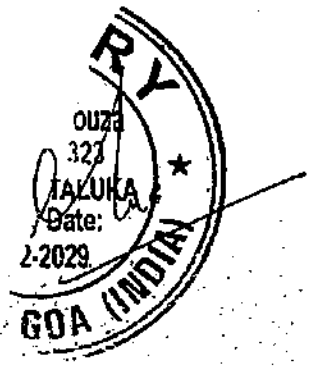
VEDANTA LIMITED

(15)

11) After considering all the submission of the parties this Hon'ble Court by Judgement and Order dated 29/06/2024 disposed of the said Petition by observing as under (in the context of the applicant):

i. That the challenge to EC or examination of EC cannot be undertaken by this Hon'ble court in a writ petition and further

ii. The applicant shall comply and be bound by all the terms and conditions mentioned in affidavit dated 17/06/2024 by the applicant and the terms and conditions stipulated in the Consent to Operate imposed by GSPCB and that the statement of compliance of the said conditions shall be considered as an undertaking given to the court.



Annexed hereto and marked as **ANNEXURE A-3** is a copy of the judgment and order dated 29/06/2024.



12) After the disposal of the said proceeding, the applicant has undertaken transportation of ore from the said route from the months of July 2024 for the captive requirement of iron ore at its Pig Iron Plant at village Amona and thereafter for exports & other domestic supply of iron ore from September, 2024. The transportation activity of the Applicant is being continued till date subject to disruptions caused by illegal obstruction from time to time on the part of the ex-workers of the said mine which was operated by the erstwhile lessee along with other ill-motivated individuals with vested interest (hereinafter referred to as 'said persons'). During the said time, the applicant has transported 3.5 lakh tonne (approx.) as quantity of ore and has paid Rs. 46 crores (Rupees forty six crores only) (approx.) as necessary premiums, royalty, DMF and other contributions and has also commenced export the details of which are more particularly mentioned in a chart annexed as **ANNEXURE A-4**. The applicant is also estimating to contribute Rs. 800

NOTA Francis D'v Reg. N TISWADI Exr. GOVT

VEDANTA LIMITED

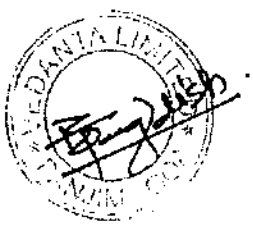
(17)

crores (approx.) per annum as premium, royalty and other levies by mining and transporting iron ore.

13) The applicant has during the course of the said period, complied with all the terms and conditions including the terms and conditions in affidavit dated 17/06/2024 before his Hon'ble Court. No complaints/ objections of whatsoever nature were raised by any authorities with regard to any violation of any nature with regard to the applicant.

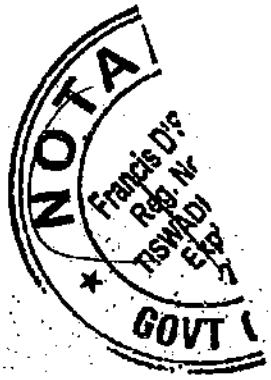


14) However, there were various attempts made by the said persons with vested interest along with Respondent No. 10 to 14 to scuttle transportation and exert pressure on the Applicant to submit to their illegal demands of recruitment/ reinstatement of earlier retrenched workers, payment of



exorbitant compensation etc. as an arm-twisting exercise.

15) The *modus operandi* by the said persons was to mobilise the mob at the transportation routes and block the route between the stretch primarily passing through survey nos. 154, 164 and 184 including its sub-divisions of village Piligao. This obstruction prevented the Applicant to carry out its lawful transportation activity and further prevented it from fulfilling contractual obligations for supply of iron ore.



16) Despite attempts being made to mitigate the situation with the intervention of the Authorities (including Deputy Collector, Police Authorities, Traffic Cell etc.) the said persons refused to budge and continued with their illegal blockage. In these circumstances, the applicant was compelled to approach this Hon'ble court in Writ Petition No.



(19)

3140 of 2024(F) seeking appropriate police protection from the concerned Police Station at Bicholim to secure the route and enable the applicant to undertake the transportation of ore unobstructed and free of impediment.

17) By representation dated 07/12/2024, the applicant has requested Police Authorities to provide protection for transportation from MB-I to Sarmanus jetty through the traditional route used for transportation however, the said representation is pending consideration.

18) By order dated 17/12/2024, this Hon'ble Court disposed the said petition, with direction that the Government shall look into and address the concerns of the stakeholders to devise an appropriate mechanism for meeting the requirements of the concerned stakeholders including the applicant. The Applicant addressed another representation dated 23/12/2024 to the

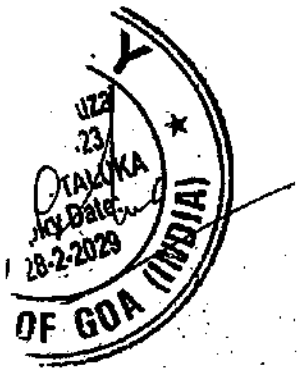
Authorities to grant Police Protection to transport iron ore through the traditional route used by the erstwhile miner however, the same is pending consideration. A copy of the Order dated 17/12/2024 and Representation dated 23/12/2024 is annexed as **ANNEXURE A-5 and Annexure A-6** respectively.

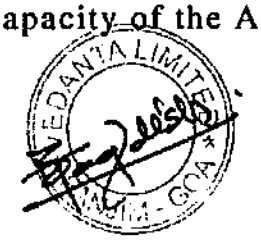
19) In the meantime and on account of the blockade of designated route, various meetings were held by and between representative of the applicant, Dy. Collector, DMG Officials, Officials of Goa State Pollution Control Board, Traffic Cell Officials, Executive Engineer PWD, Addl. Director of Transportation Bicholim, Police Inspector, Police Station Bicholim which included a joint site inspection.

20) In pursuance to the said meetings, the Applicant was informed that a Report dated 27/11/2024 was prepared wherein it was specifically observed that

21

the traditional route of mineral transportation is blocked and that the committee after consideration of various factors, safeguards and compliances stipulated various terms and conditions to be followed by the applicant for transportation of ore which included transportation of iron ore through the route approved by these Authorities on account of the blockage/ interruption on the tradition route of mineral transportation by the said persons. Considering the obstruction/ interruption and the adverse effect of the same on the permitted capacity given to the applicant to transport on a daily basis, the total daily trips of the trucks were staggered and the time period given to the applicant was from (a) 9 am to 5 pm (with break from 1 pm to 2 pm) and (b) 11.30 pm to 5.30 am. However, the time permitted by the Authorities from 11.30 pm to 5.30 am is not being utilized due to obstruction during these hours by the said persons prejudicing the overall operation and transportation capacity of the Applicant.





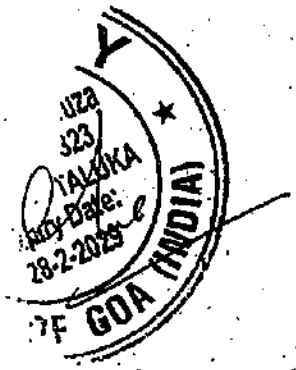
21) Based on the reports and mandate of the authorities, the applicant has been making applications to the Authorities for transportation through the transportation route granted by the Authorities.

22) Applicant is therefore compelled to use the route granted by the Authorities to transport iron ore on account of the blockade/ interruption on the traditional route by the said persons. The obstruction/ interruption created by the said persons are also preventing the Applicant from fulfilling its contractual obligations with the buyers of iron ore along with the loss to exchequer towards the auction premium, royalty and other levies. The Applicant also operates a Pig Iron Plant at village Amona and uses the iron ore from MB-I as an essential raw material in this Plant. This obstruction/ interruption created by said persons is

(23)

also placing the Pig Iron Plant of the Applicant at the risk of shut-down.

23) The submissions pertaining to the applicability of the S.O.P were considered by this Hon'ble Court prior to passing of the Judgment and Order dated 29/06/2024. In the said judgment at para 24 and 28, the Hon'ble High Court has observed that legality of Environmental Clearance (hereinafter referred to as "***the EC***") shall not be considered by this Hon'ble Court in the said petition and the statement of the Applicant that they shall comply with all the terms and conditions in the Consent to Operate and the Affidavit dated 17/06/2024 was accepted as an undertaking.



24) In terms of the EC dated 23/01/2024, the Applicant is permitted to transport for a period of 9½ hours (nine and a half hours) from 6.00 am to 7.00 am, 8:00 am to 12.45 pm and 2:00 pm to 5.45 pm which conditions are transcribed in para 40 of the



Judgment dated 29/06/2024 of this Hon'ble Court in PIL 6 of 2024. The said terms and conditions were not interfered with by this Hon'ble Court and it is in that context that the observations were made and the SOP is not to be considered for ore transportation of Applicant. The EC was granted after public hearing which included consideration of route.

25) In view of the order dated 13.01.2025 passed by the Hon'ble Court and the permissions granted by the State Government in favour of the Applicant, the Applicant is reduced to less than half of its permitted transportation capacity. In any case, the Applicant was having deficit trips and the effect of the Order passed by this Hon'ble Court is the trips are further restricted/ reduced to 23% of the total capacity permitted by the EC. Apart from these severe financial losses caused by the reduction of capacity, this shall have a cascading effect on the Applicant in terms of the potential default in

25

contractual commitments/ obligations towards International/ National buyers which shall cause severe reputational damage to a Company like the Applicant which is one of the leading multi-national companies in the country and the functioning of the Pig Iron Plant belonging to the Applicant shall also be adversely affected. It bears mentioning that consequently, the by-product shall be that there shall be loss of direct/ indirect livelihood and the public exchequer will be deprived of substantial revenues to the extent of:

(i) Contribution of Rs. 800 crores per annum towards State revenue in the form of auction premium, royalty & other levies;

(ii) Implication on the livelihood of 1250 persons directly & indirectly; and

(iii) Implications on livelihood of 185 truck drivers.

26) The circumstances reveal that the minor change in the route indicated and approved by the State

Government was for reasons not attributable to the Applicant and was borne out of illegal obstructions by said persons including Respondent Nos. 11 to 14. Respondent No. 11 to 14 had approached this Hon'ble Court in MCA/1416/ 2024 filed in the main petition bearing PILWP No. 6 of 2024. In the said application, Respondent no. 11 to 14 were seeking orders restraining the Applicant from transporting through the route indicated in EC as part of the Details of the Project (Annexure 2) on the premise that he has proprietary rights through the said route and his NOC was not obtained. It was alleged by Respondent No. 11 to 14 that the road for iron ore transportation is illegally constructed by the Applicant. However, contrary to the allegation of Respondent No. 11 to 14 this road has been used for mining transportation for more than 4 (four) decades and the same is also indicated in the Regional Plan of village Piligao. Annexed hereto and marked as **ANNEXURE A-7** is the copy

NOTAR Francis D'Souza Regd. No. PANAJI Goa GOVT

VEDANTA LIMITED

(27)

of MCA/1416/ 2024 and **ANNEXURE A-8** is the Regional Plan.

27) The said application was disposed of by this court observing that Respondent Nos. 11 to 14 were at liberty to avail of appropriate remedies in accordance with law.

28) However, Respondent No. 11 to 14 who had approached this Hon'ble Court are now circumventing the orders by resorting to taking law in his hands along with the said persons. It bears mentioning that Respondents no. 11, 12 and 14 have filed a Civil Suit no. 42 of 2024 before the Court of Adhoc District Judge-2, FTC-2, Panaji, Goa which is pending adjudication and no interim orders are passed in the said suit. Annexed hereto and marked as **ANNEXURE A-9** is the copy of Civil Suit.

29) The said route is used by the concerned mining lease holders/concessioners which is clear from the google images. Annexed hereto and marked as **ANNEXURE A-10** are the google images. It is in that context that the said road is shown in the Regional Plan as other roads with a minimum 6m width. The same establishes the existence of the road.

30) The applicant has complied with all the terms and conditions in respect of the route indicated in the EC and now cannot be put to prejudice merely because the authority has approved a different route. Annexed hereto and marked as **ANNEXURE A-11** are the Route Plans.

31) The applicant has obtained MB-1 through auction route and in term of Section 8B of Mines and Minerals (Development and Regulation) Act, 1957 has an inherent statutory right to use the only available route used by the erstwhile miner for

~~24~~ (29)

transportation of iron ore. The relevant provisions Section 8B of MMDR reads as follows:

8-B. Provisions for period and transfer of statutory clearances.- *(1) Notwithstanding anything contained in this Act or any other law for the time being in force, all valid rights, approvals, clearances, licences and the like granted to a lessee in respect of a mine (other than those granted under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and the rules made thereunder) shall continue to be valid even after expiry or termination of lease and such rights, approvals, clearances, licences and the like shall be transferred to, and vested; subject to the conditions provided under such laws; in the successful bidder of the mining lease selected through auction under this Act:*

JUZA 23 ALUKA Date: 2-2029 GOA (INDIA)

VEDANTA LIMITED

32) In these circumstances, applicant seeks appropriate orders from this Hon'ble Court to protect the interest of the applicant considering the peculiar circumstances for reasons not attributable to the Applicant/ Respondent No 10.

33) Grave prejudice will be cause to the applicant in case appropriate orders are not passed apart from the loss to the Government which is about Rs. 2.5 crores per day.

NOTAR Francis D'S. Reg. No. TISWALDI Ex. GOVT

PRAYERS

It is therefore humbly prayed that this Hon'ble Court be pleased to pass appropriate orders:

a. Directing Respondent No. 1 & 6 to permit transportation in terms of the EC including the conditions pertaining to the number of trips and hours of transportation in the route indicated in the EC dated 23/01/2024 or the

VEDANTA LIMITED

(31)

additional route indicted and approved by the State Government with same trips and hours of transport as indicated in the EC dated 23/01/2024 which is subject matter of the above application.

b. Directing Respondent no. 10 to 14 to ensure that judgement and order dated 29/06/2024 is not subverted or breached in any manner or not to create any impediment in the transportation by the Applicant *via* designated route otherwise than in terms of law.

c. Pending hearing and final disposal of this matter this Hon'ble Tribunal be pleased to grant Ad interim in terms of prayer clause (a) and (b).

Date:16/01/2025

Place:

Applicant

(32)

Adv. for the Applicant

NOTAR
Francis D'Souza
Reg No.
Thiruvananthapuram
Kerala
GOVT

VEDANTA LIMITED

33

NOTARY
Francis D'Souza
Reg. No. 323
TALUKA
Expiry Date:
28-2-2029
GOVT OF GOA (INDIA)

GOA (INDIA)

IN THE HIGH COURT OF BOMBAY AT GOA

MCA No. /2025

In

PILWP/6/2024

M/S VEDANTA LIMTED ...APPLICANT

V/S

DIRECTORATE OF MINES

AND GEOLOGY & 15 ORS. ...RESPONDENTS

AFFIDAVIT

I, Dhirajkumar Namdeo Jagdish, Major of age, Indian National, Working as Dy. Chief Executive Officer – Iron Ore Goa, Sesa Ghor, 20 EDC Complex, Patto, Goa, 403001, the Authorised Representative of the Applicant above named, do hereby on solemn affirmation state and submit as under:

1. I say that I am filing the accompanying Miscellaneous Civil Application before this Hon'ble Court. I crave leave to refer to and rely upon the averments made therein as if the same is specifically averred herein for the sake of brevity.

2. I say that the Annexures to this petition are the true copies of the respective originals.

3. I say that the contents of paragraphs 1, 2, 3, 4, 5, 6, 7pt, 8, 9, 10pt, 11pt, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23pt, 24, 25, 26, 27pt, 28, 29 and 30 of the accompanying Application are true to my own knowledge and/or based on records; and the contents of the remaining

(35)

paragraphs, viz. 7pt, 10pt, 11pt, , 23pt, 27pt, 31, 32 and 33 are based on the legal submissions and/or inferences of facts, which I believe to be true.

4. I say that the contents of the aforesaid paras 1 to 3 of this affidavit are true to my own knowledge.

Solemnly affirmed at Panaji-Goa

On this 17th day of January 2025

DEPONENT

BEFORE ME

SHRI FRANCIS D'SOUZA
NOTARY FOR TISWADI TALUKA
STATE OF GOA (INDIA)

ADV. FRANCIS D'SOUZA
NOTARY
KAMAKSHI PRASAD BLDG
THIRD FLOOR, FLAT NO. 304
PATTO, PANAJI
TISWADI GOA - 403 001

I hereby attest the above signature of
of Shri/Smt/Miss. Dhiraj Kumar
Nandlo Jagdish Rao
deponent
above named
Who has been identified before me
by .....
.....who is personally known to me
registered under No. 122/2025
Dt: 17.01.2025

A-1

(36)

NOTARY
Francis D'Souza
Reg. No. 323
TISWADI. TALUKA
Expiry Date:
28-2-2028
GOVT OF GOA (INDIA)

IN THE HON'BLE HIGH COURT OF BOMBAY AT GOA

PILWP/6 /2024

THE MULAKH KHAJAN FARMERS ASSOCIATION AND ANR. ...PETITIONERS

V/S

DIRECTOR OF MINES AND GEOLOGY, GOVERNMENT OF GOA & ORS ...RESPONDENTS

ADDITIONAL AFFIDAVIT-IN-REPLY IN RESPONSE TO AFFIDAVIT DATED 14/06/2024 FILED BY PETITIONER NO. 2

MOST RESPECTFULLY SHOWETH:-

I, Mr. Benecio Menezes, 56 years of age, Indian National, having residence at St. Roque Waddo, Colvale, Bardez, Goa, Authorised Signatory of Applicant Company, do hereby on solemn affirmation state and submit as under:-

87

1. The said affidavit is also filed by Petitioner No. 2 in response to the application filed by the Applicant (Vedanta) in the above Application and it is in that context that he applicant herein seeks leave to file the additional affidavit.



2. In the said affidavit, Petitioner no. 2 has adverted to the aspect of potential trips per hour that will be undertaken by the Applicant herein for transportation of ore and for the said purpose reliance is placed on the corrigendum dated 06/06/2023 to the memorandum dated 05/04/2023. Petitioner no. 2 has suppressed the memorandum dated 05/04/2023 which has to be read with the corrigendum dated 06/06/2023 to understand the nature and the import of the original memorandum. It was incumbent upon the Petitioner no. 2 to place on record the original memorandum in the context of the assertions made in the affidavit. The memorandum dated 05/04/2023 along with

(38)

3

the corrigendum is annexed hereto and marked as **ANNEXURE A-1 (COLLY).**



3. A mere perusal of the original memorandum demonstrates that the said memorandum read with the corrigendum is not applicable to the Applicant. The said memorandum facially and textually applies to winning bidders/firms who are owning auctioned ore at primary/original locations and are transporting the said ore from time to time. Applicant herein is the successful auction bidder in the auction conducted by the State Government in respect of BICHOLIM BLOCK Mine. In pursuance to the same, a lease deed dated 22.03.2024 is executed by the State government in favour of the Applicant and the Applicant has commenced mining operations. In the instant case, the ore in respect of which transportation permit is granted by DMG and Goa State Pollution Control Board is mined in the subject mine in pursuance to the above lease. Applicant is not a winning bidder/firm of the auctioned

(39)

ore as contemplated in the memorandum. Applicant falls in a different category as compared to the bidders or the winning bidders in the ore e-auctions conducted by DMG for the following amongst other reason:

i. Unlike the e-auction winners, Applicant has an environment clearance dated 23/01/2024 granted by MOEF, which is annexed herewith as **Annexure A-2**. The said clearance was granted by an expert agency after a comprehensive and elaborate scrutiny process which involves public hearing.

ii. Unlike the e-auction winners, the route approved by the DMG and GSPCB was also considered and endorsed by MOEF at the time of grant of EC. MOEF is the principal authority in respect of scrutiny of the mining approval process which includes the transportation route.

iii. The aspect of number of trips is also factored in and scrutinized by the expert agencies including MOEF at the time of grant of EC. It bears mentioning that the

(40)

EC is granted for production of iron ore of 3 million tons per annum and utilization of the said capacity has a direct bearing on the feasibility and productibility of the mining operations and formed a fundamental basis at the time of evaluation of the commercial viability of the operations.

4. After the grant of EC by MOEF, the Applicant has also obtained the Consent to Operate (CTO) dated 04/03/2024 from the Goa State Pollution Control Board (GSPCB), which is annexed herewith as **Annexure A-3**. The CTO provides for Conditions Stipulated under the Air Act at Sr. No. (xv) to (xxiv) which are required to be complied with for transportation of iron ore. The Applicant has also got its transportation route approved from the Directorate of Mines & Geology and thereafter from GSPCB as per the Order dated 22/04/2024 of this Hon'ble Court. The affidavit dated 08/05/24 filed by the GSPCB while approving the transportation route of the Applicant also

(41)

stipulates Recommendations for Pollution Safeguards at Exhibit R-1 which the Applicant is willing to comply with in the course of its transportation of iron ore from Bicholim mine to Sarmanus Jetty. Having obtained all these consents and approvals from MOEF & GSPCB including the transportation route approval by DMG & GSPCB as per the Order of this Hon'ble Court dated 22/04/2024 the Applicant cannot be made to comply with memorandum read with the corrigendum which is applicable over the winning bidders/firms who are owning auctioned ore at primary/original locations and are transporting the said ore from time to time.

5. It is also important to mention that compliance with the EC conditions, CTO conditions & additional Recommendations for Pollution Safeguards at Exhibit R-1 of GSPCB Affidavit dated 08/05/24 are more than sufficient to safeguard public interest involved in the transportation of iron ore.

(42)

7

6. In light of above, Applicants application stands on a separate pedestal and the parameters applicable to the Applicant and the e-auction winners are different. The memorandum dated 05/04/2023 is not applicable to the Applicant. It bears mentioning that the Applicant has paid an amount of 230.33 crores to the State Government in anticipation of timely commencement of mining operations which includes transportation for export and captive purposes. On account of the orders passed in the above matter there is a deficit of about 6 months in the quantum of ore to be transported in terms of the per annum capacity which is causing substantial prejudice to the Applicant. The details of Rs. 230.33 crores (Rupees two hundred and thirty crores and thirty three lakhs only) already paid to the State Government for Bicholim Block along with the Bank Guarantee of Rs. 135.83 crores (Rupees one hundred and thirty five crores and eighty three lakhs only) is as under:



a) BANK GUARANTEE: Rs. 135.83 crs

(43)

8

b) UPFRONT PAYMENT: Rs. 135.83 crs

c) STAMP DUTY: Rs. 90 crs

d) REGISTRATION CHARGES: Rs. 4.5 crs.

7. Any hourly trip restriction shall prevent the Applicant from achieving the 3 million ton per annum iron ore production capacity mentioned in the EC and therefore, the same shall act counterproductive to the State Exchequer as the State Government shall be deprived of substantial revenue in the form of royalty, auction premium, DMFT & NMET contribution.

8. Any unwarranted or misconstrued linkage of the memorandum with mining leases granted by the State Government and having the necessary permissions & approvals (EC, CTO etc.) as sought by the Petitioners shall have severe implications on the contributions to the State Exchequer and engagement/ employment of individuals in the State of Goa directly & indirectly.

(44)

9

9. The details regarding amount to be contributed to State Exchequer by the Applicant, employment/ engagement at stake and impact on the truck drivers is as under:



(i) AMOUNT TO BE CONTRIBUTED TO STATE EXCHEQUER - The total revenue loss to the Government of Goa due to non-transportation of iron ore from Bicholim Block in the form of Royalty, DMF, NMET, Premium etc. is Rs. 800,00,00,000 (Rupees eight hundred crores only) per annum approx.

(ii) EMPLOYMENT/ ENGAGEMENT AT STAKE - The operations of the Applicant, including mining, transportation, and processing, directly and indirectly employ & engages a significant number of individuals. The total number of people employed & engaged by the Applicant directly &

45

indirectly and dependent upon the operation of Bicholim Block for their livelihood is 1250 approx.

(iii) IMPACT ON TRUCK DRIVER - The Applicant's operations rely on a network of truck drivers for transportation of iron ore. The implementation of the relief sought in the Application may have an impact on the livelihoods of these truck drivers. The total number of truck drivers likely to be impacted is 185 approx.

NOTAR Francis D'Souza Reg. No. 37 TISWADI Exty. GOVT OF

10. I say that the contents of para 1, 2, 3 and 4 are true to my own knowledge and/or based on records.

Solemnly affirmed at ~~Porvorim~~ Panaji, Goa
On this 17th day of June 2024

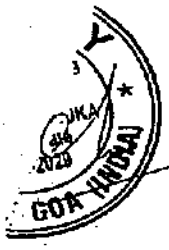
BEFORE ME

DEPONENT

SHRI FRANCIS D'SOUZA
NOTARY FOR TISWADI TALUKA
STATE OF GOA (INDIA)

(46)





Hereby attest the above signature(s) of
Shri/Smt./Miss. Ignatius Fernandes
Who has been identified before me by
who is personally known to me
registered under No. 755/2024
Dt: 17.06.2024

ADV. FRANCIS D'SOUZA
NOTARY
KAMAKSHI PRASAD PLOG
THIRD FLOOR, FLAT NO. 304
PATTO, PANAJI
TISWADI GOA 403 001

सत्यमेव जयते

File No.: IA-J-11015/3/2023-IA-II(NCM)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
***

Dated **23/01/2024**

To,

M/s VEDANTA LIMITED
Sesa Ghor, 20 EDC Complex, Patto, Panjim, NORTH GOA, GOA, 403001
MK.Reddy@vedanta.co.in

Subject: **Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore with proposed production capacity of 3.0 MTPA, Waste: 25.162 MTPA(Total Excavation: 28.162 MTPA) along with crushing and screening plant capacity of 4.0 MTPA in the mine lease area of 478.5206 ha, located atBicholim, Bordem, Lamgao, Mulgoa, Mayem&Sirigao Villages of Bicholim Taluka of North Goa District, Goa - Environmental Clearance (EC) - reg.**

Sir/Madam,

This has reference to the online proposal no. IA/GA/MIN/442593/2023 dated 1.09.2023 for grant of Environmental Clearance (EC) to the project for Bicholim Mineral Block-, Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore with proposed production capacity of 3.0 MTPA, Waste: 25.162 MTPA(Total Excavation: 28.162 MTPA) along with crushing and screening plant capacity of 4.0 MTPA in the mine lease area of 478.5206 ha. located atBicholim, Bordem, Lamgao, Mulgoa, Mayem&Sirigao Villages of Bicholim Taluka of North Goa District, Goa.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A0000GA5507405N
(ii) File No.	IA-J-11015/3/2023-IA-II(NCM)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vi) Sector	Non-Coal Mining
(vii) Name of Project	Block 1- Bicholim Mineral Block for Iron Ore
(ix) Location of Project (District, State)	NORTH GOA, GOA
(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	No

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(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.

The above-mentioned proposal has been considered by EAC in the meeting held on 22.09.2023 and 26.12.2023. 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. The EAC, After detailed deliberations made by the Project Proponent and the EIA Consultant, the EAC in its meeting held during 26th December, 2023 under the provisions of EIA Notification 2006 and its subsequent amendments, **recommended** the proposal for grant of Environmental Clearance (EC) to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore with proposed production capacity of 3.0 MTPA, Waste: 25.162 MTPA(Total Excavation: 28.162 MTPA) along with crushing and screening plant capacity of 4.0 MTPA in the mine lease area of 478.5206 ha. located at Bicholim, Bordem, Lamgao, Mulgoa, Mayem & Sirigao Villages of Bicholim Taluka of North Goa District, Goa subject to the following certain specific conditions in addition to the standard EC conditions applicable for non-coal mining projects (Annexure 1).

6. The matter was examined in the EAC in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and the undersigned is directed to say that the Ministry of Environment Forest & Climate Change after accepting the recommendation of EAC in its meeting held during 26th December, 2023 hereby accords the Environmental Clearance (EC) to M/s Vedanta Limited for Bicholim Mineral Block- Block 1 (Auction Block) for mining of Iron Ore with proposed production capacity of 3.0 MTPA, Waste: 25.162 MTPA(Total Excavation: 28.162 MTPA) along with crushing and screening plant capacity of 4.0 MTPA in the mine lease area of 478.5206 ha. located atBicholim, Bordem, Lamgao, Mulgoa, Mayem&Sirigao Villages of Bicholim Taluka of North Goa District, Goa. subject to compliance of the terms & conditions and the environmental safeguards mentioned at Annexure 1.

7. The Ministry reserves the right to stipulate additional conditions, if found necessary.

8. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. 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.

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

10. 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 website where it is displayed.

11. 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 must display the same for 30 days from the date of receipt.

12. 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.

13. 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.

14. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental

(49)

clearance and attract action under the provisions of Environment (Protection) Act, 1986.

The Regional Office of this MoEF&CCshall 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.

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.

This issue with an approval of the Competent Authority.

Copy To

1. **The Secretary,** Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. **The Secretary,** Department of Mines and Geology, Ground Floor of Institute Menezes Braganza, Government of Goa.
3. **The Director,** Department of Environment and Climate Change (DoE and CC), Government of Goa.
4. **The Secretary,** Department of Forests, Government of Goa, Goa Van Bhavan, Goa.
5. **The Chief Wildlife Warden,** Goa Van Bhavan, Forest Department, Altinho, Panaji Goa, 403001.
6. **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.
7. **The Member Secretary,** Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
8. **The Member Secretary,** Central Ground Water Authority, 18/11, Jam Nagar House, Man Singh Road, New Delhi-110011.
9. **The Member Secretary,** Goa State Pollution Control Board, Nr. Pilerne Industrial Estate, Opp. Saligao Seminary, Saligao, Goa 403511.
10. **The Controller General,** Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
11. **The District Collector,** North Goa District, Government of Goa.
12. **Guard File.**
13. **PARIVESH Portal.**

Annexure 1

Specific EC Conditions for (Mining Of Minerals)

1. Court Case

S. No	EC Conditions
1.1	The instant Environmental Clearance (EC) is subject to the outcome of the WP 592 of 2022 (MSPL v. State of Goa & Ors.) regarding challenging the constitutionality of the tender documents of Phase I auction of Goa mines and PIL WP 2029/2023 (F) (Suresh Govind Gaonkar & Ors v. Directorate of Mines and Geology & Ors) regarding challenging the state's decision to go ahead with the auction of the mining block.

(50)

2. Environment Monitoring & Reporting

S. No	EC Conditions
2.1	The Project Proponent shall monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village, crusher and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Regional Office.

3. Public Hearing Concerns

S. No	EC Conditions
3.1	The budget of Rs 309.3 Lakhs to address the concerns raised by the public in the public consultation to be completed 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 the public hearing is different from the CSR activities.

4. Awareness On Single Use Plastic (Sup)

S. No	EC Conditions
4.1	The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEF&CC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance report.

5. Implementation Of Emp

S. No	EC Conditions
5.1	The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs 72 Cr. 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.
5.2	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.

6. Cleaner Production

(51)

S. No	EC Conditions
6.1	The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years.

7. Permission For Groundwater Withdrawal

S. No	EC Conditions
7.1	NoC from the Central Ground Water Authority (CGWA)/ Concerned Local authority, as the case may be, shall be obtained before drawing the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.

8. Training Program

S. No	EC Conditions
8.1	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. The preference shall be given to the local people for the purpose of employment as committed before the EAC.

9. Occupational Health Checkup

S. No	EC Conditions
9.1	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 on occupational health shall be carried out 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.

10. Regrassing

S. No	EC Conditions
10.1	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 Regional Office.

11. Capping

(52)

S. No	EC Conditions
11.1	The Hon'ble Supreme Court has imposed a capping on mining of iron ore to 20 MTPA for the entire State of Goa. Accordingly, the Project Proponent shall first obtain the necessary permission from the competent authority with regard to the amount of mineral they can mine per year, before starting its mining operation.

12. Common Boundary

S. No	EC Conditions
12.1	The Project Proponent needs to obtain prior permission from the MoEF&CC for mining in common boundary as and when required.

13. Conveyor Belt

S. No	EC Conditions
13.1	As committed before the EAC, the Project Proponent needs to explore the feasibility for installing conveyor belt system for transportation.

14. Ecology Restoration

S. No	EC Conditions
14.1	The mined out pits will be converted into water reservoirs, pond with other ecotourism facilities like water sports, boating, fishing etc., Pisciculture in mine pits will be developed and also the local community will be involved for cage fishing to make it a commercially viable venture.
14.2	The ecology restoration or mine reclamation activities shall be carried out concurrently with mining operations. The Project Proponent shall ensure that the restoration models demonstrated before the EAC shall be developed in association with research institutes like NEERI, Goa University etc.

15. Surface Water Monitoring

S. No	EC Conditions
15.1	Regular monitoring and analysis of discharge water and at upstream and downstream of Bicholim and Asnora river needs to be carried out quarterly through NABL/MoEF&CC accredited laboratory.

16. Green Belt And Plantation

S. No	EC Conditions
16.1	Extensive native fruit bearing plantation shall be carried out in all safety zones with density of 2500 trees/ha.
16.2	The Project Proponent needs to complete the entire peripheral plantation under green belt, safety

(53)

S. No	EC Conditions
	barrier plantation and gap plantation within three years from the start of mining operations. The Project Proponent should plant quality sapling of appropriate height of native and fruit bearing species. In case of tall transplants (seedlings) the seedlings should have proper trained root stock with root biomass commensurate with seedling height to ensure good growth after out planting. Plantation shall be undertaken in consultation with the State Forest Department. 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 Regional Office.

17. Soil Erosion

S. No	EC Conditions
17.1	The waste dump slopes shall be covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.

18. Air Pollution

S. No	EC Conditions
18.1	The Project Proponent needs to install the permanent water sprinklers along 3.40 km haul road within the ML area and 2.80 km length outside the ML area on either side of the road.
18.2	As committed by the Project Proponent, existing trucks of 10.5 Tonnes shall be replaced with higher capacity trucks of 25 Tonnes in phased manner to reduce traffic load and emissions per tonne/km.
18.3	Fugitive dust monitoring during transportation shall be monitored regularly at all the sensitive receptors and report shall be submitted quarterly to the Regional Office of MoEF&CC. Regular sprinkling shall be done on roads to suppress the dust at the source.
18.4	The Project Proponent shall adhere to the pollution control measures suggested by the Central Pollution Control Board (CPCB) in the environmental guidelines for crushing/soreening activity.

19. Wheel Washing

S. No	EC Conditions
19.1	The wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine.

20. Underpass

(54)

S. No	EC Conditions
20.1	The Project Proponent needs to speed up the process of construction of underpass.

21. Settling Pond

S. No	EC Conditions
21.1	The Project Proponent needs to strengthen the settling pond with proper stone pitching in line with the design of settling pond considering the annual rainfall, flow rate, catchment area and its discharge.
21.2	The catch drains and siltation ponds needs to be regularly maintained to arrest silt and sediments flow from dumps.

22. Nursery

S. No	EC Conditions
22.1	The Project Proponent needs to develop a nursery adjacent to the mineral block (Survey no 72/4 in Bicholim Village) for an area of about 1100 sq.m in consultation with State Forest Department. PP shall develop theme-based gardens like medicinal gardens, horticulture gardens, spice gardens etc.,

23. Crushing/screening

S. No	EC Conditions
23.1	The Project Proponent needs to modify the crushing & screening units within 4 months from the date of issue of this EC.

24. Conservation Of Wildlife

S. No	EC Conditions
24.1	The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the vicinity of the mine lease area as well as in 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.
24.2	The Project Proponent needs to explore the possibility of using advanced/ latest mining technologies available so as to minimize the ecological impacts.
24.3	The Project Proponent should follow-up the status of implementation on Wildlife Conservation Plan from the Forest Officials and the same shall be submitted to the Ministry's Regional Office in the six monthly compliance report.

25. Continuous Ambient Air Quality Monitoring System (Caaqms)

S. No	EC Conditions
25.1	... Continuous Ambient Air Quality Monitoring Stations (CAAQMS) shall be installed and commissioned in consultation with CPCB. The real time data so generated should be displayed ...ignally at entry and exit gate of mine lease area for public display and shall be linked to server of CPCB/SPCB.

Standard EC Conditions for (Mining of minerals)

1. Statutory Compliance

S. No	EC Conditions
1.1	This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
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 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.
1.4	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".
1.5	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.
1.6	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.
1.7	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.
1.8	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.

2. Air Quality Monitoring And Preservation

(56)

S. No	EC Conditions
2.1	The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations. of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/L, 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.
2.2	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling. metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.

3. Water Quality Monitoring And Preservation

S. No	EC Conditions
3.1	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.
3.2	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.
3.3	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

S. No	EC Conditions
	basis.
3.4	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.
3.5	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.
3.6	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.
3.7	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. Noise And Vibration Monitoring And Prevention

S. No	EC Conditions
4.1	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
4.2	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
4.3	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.

5. Mining Plan

(58)

S. No	EC Conditions
5.1	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.).
5.2	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.

6. Land Reclamation

S. No	EC Conditions
6.1	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.
6.2	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.
6.3	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.
6.4	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.

7. Transportation

(59)

S. No	EC Conditions
7.1	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].
7.2	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.

8. Green Belt

S. No	EC Conditions
8.1	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.

9.

S. No	EC Conditions
9.1	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 provision shall be made for protection and care of trees.
9.2	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

60

S. No	EC Conditions
	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.

10. Public Hearing And Human Health Issues

S. No	EC Conditions
10.1	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.

11. Corporate Environment Responsibility (Cer)

S. No	EC Conditions
11.1	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.

12. Miscellaneous

S. No	EC Conditions
12.1	The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
12.2	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
12.3	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.
12.4	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

(61)

S. No	EC Conditions
12.5	The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
12.6	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble 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.
12.7	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
12.8	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
12.9	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.
12.10	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.

Additional EC Conditions

N/A

Annexure 2

Details of the Project

S. No.	Particulars	Details	
a.	Details of the Project	Block 1- Bicholim Mineral Block for Iron Ore	
b.	Latitude and Longitude of the project site	15.5723661773,73.9013208291 15.615004877,73.9525140757	
c.	Land Requirement (in Ha) of the project or activity	**Nature of Land Involved**	**Area in Ha**
		Non-Forest Land (A)	0

62

S. No.	Particulars	Details	
		Nature of Land involved	Area in Ha
		Forest Land (B)	0
		Total Land (A+B)	478.5206
d.	Date of Public Consultation	Public consultation for the project was held on	
e.	Rehabilitation and Resettlement (R&R) involvement	NO	
f.	Project Cost (in lacs)	25000	
g.	EMP Cost (in lacs)	72	
h.	Employment Details		

Details of Minerals Products & By-products

Name of the Mineral to be mined	Classification of mineral [Major/Minor]	Production capacity in MTPA	Remarks
Iron Ore	Major	3.0	

(62)

Annexure 2

The details of the project

The details of the project as ascertained from the document submitted by the Project Proponent and revealed from the discussions held during the meeting are given as under: -

i. The proposed project activity is listed at schedule no. 1(a) Mining of Minerals and falls under Category "A" as the mining lease area is greater than 250ha and appraised at the Central level.

ii. The mine lease area is located between Latitude: 15°34'20.518"N to 15° 36'54.018"Nand Longitude: 73°54'4.754"E to 73°57'09.51"E. The mine lease area falls under the Survey of India Toposheet No: D43B14 and falls in Seismic Zone-II.

iii. The proposal was earlier considered in the 20thEAC (Non Coal Mining) meeting held during 21-22 September, 2023 wherein the EAC deferred the proposal for want of requisite information and site visit report of the subcommittee. Accordingly, site visit was carried out during 29-31 October, 2023 and then the Project Proponent submitted the information along with compliance of site visit report on 04.12.2023 in Parivesh portal and hence the proposal was considered in the 24th EAC (Non-Coal Mining) meeting held during 26-28 December, 2023.

Based on observation of EAC in its meeting held during 21-22 September, 2023 and observations of sub-committee during site visit (29-31 October, 2023), the project proponent provided the following compliances:-

S. No	Observation of subcommittee during site visit held during 29-31 October, 2023	Reply by Project Proponent
1	The Project Proponent needs to submit the techno economic feasibility report for laying Over Land Belt Conveyor (OLBC) from the mine lease area to Sarmanas Jetty.	The Project Proponent submitted that transportation route from mine site to jetty currently covers a total distance of 5.48 kms (4.54 dedicated road and 0.94 km MDR-20 Public Road). Based on the present capacity of the tippers, 1205 trips are required per day and the present road network is adequate for the purpose with widening and strengthening of some patches. The preliminary Techno-Economic feasibility study has been undertaken and prima facie it does not look feasible to switchover to OLBC system considering the terrain of the likely route having mounds and low-lying areas, vegetation/forest patches and its likely degradation, accessibility, environmental impacts and safety issues, technologies available, cost of the system, implementation period via-a-vis remaining reserves in the mining lease.

(64)

		The Project Proponent also submitted the preliminary Techno-Economic feasibility issues for laying Over Land Belt Conveyor (OLBC) from the mine lease area to the Sarmanas Jetty along with cost and timeline comparison for conveyor system and dedicated road.
2	The subcommittee asked the Project Proponent to submit the ecology restoration plan for mined out pits for using as Water reservoir/Pisci culture.	The Project Proponent submitted that the Ecology Restoration or Mine Reclamation activities at Block I Bicholim Mineral block will be carried out concurrently with mining operations. The company has in-house experienced team having experience of mine land reclamation. The company also proposes to collaborate and take support of various reputed institutes and consultancy firms in ecology restoration of the area more importantly the local stake holders will be consulted in the process of ecology restoration. The Project Proponent also submitted that at conceptual stage, 20 ha area will be converted into water reservoir & 293.5 ha will be converted into backfilled area. Backfilled area will be reclaimed & rehabilitated by the plantation. At conceptual stage around 105 ha (21.94% of the total project area) of land will be brought under plantation.The plantation will comprise of saplings of native species which are generally grown in the state of Goa.The plantation would be a mix of various forest and fruit tree species and technical advice would be taken from state forest and agriculture departments. The saplings will be procured from various nurseries like forest department nursery, nurseries developed by locals and also from companies in-house root trainer nursery. Further, the Project Proponent submitted that the Block-I Bicholim Mineral Block is already having a 7.5m wide green belt all along the mine block boundary except the areas where the mine block shares a common boundary with adjoining mine block. A 50m green belt exists towards the habitation within the lease and the same would be further strengthened and maintained. A dedicated 200m green belt would be developed and maintained towards the Idgah area. A density of 2500 saplings per ha will be maintained. Extensive plantation would also be done along the sides of connecting roads. The waste dump slopes will be covered with laterite material and then with biodegradable geotextile mats which will prevent soil erosion of the dump slopes and thus will facilitate the growth of native species. Grass seeds will be sprinkled on the dump slopes so that the same germinate during rains. The top of dump areas / levelled areas will be properly planned and developed in to theme based gardens which can be a attraction for school students, tourist etc.

(65)

		Some of the mined-out pits will partially backfilled and retained as water bodies.For instance, 1 Top pit and 5 Bottom pits will be finalized by end of first mine plan period and will be taken up for ecology restoration initiatives. The company will collaborate with state fisheries department to develop Pisciculture in the water body developed in the mine pits. Local youth will be provided training through the fisheries department so that they manage and maintain the Pisciculture project.
3	The subcommittee noted that the transfer of material from one pit to other working pit will lead to transportation issues. The subcommittee asked the Project Proponent to identify the shortest lead distance and also to explore the possibility of concurrent backfilling. The Project Proponent also needs to submit the sequential stage wise mining in top and bottom working pits and their backfilling plan.	The Project Proponent submitted that as suggested by the Hon'ble Committee detailed study of mineral transportation from one pit to another pit including sequential mining has been carried out. The company has explored the possibility of concurrent backfilling and it will be possible only from 5thto 10thyear. The Project Proponent submitted the google image showing the existing available pits for backfilling and proposed pits for backfilling. The Project Proponent also submitted the details of existing pits, area, depth and volume for backfilling and also the proposed working pits, area, depth and volume available for backfilling. Further, the Project Proponent submitted the year wise sequential mining & backfilling plan.
4	The Project Proponent needs to submit the action plan for strengthen the settling pond with proper	The Project Proponent submitted that at conceptual stage, total 12 no.s of settling ponds will be developed and these will be strengthened by the stone pitching. About 6 numbers of earlier mined out abandoned pits and 12 nos of interlinked siltation ponds have been identified for collecting surface run off from respective catchment sub basins. The Project Proponent also submitted the map showing the settling ponds and drainage network and design of settling ponds.

(66)

	stone pitching in line with the design of settling pond considering the annual rainfall, flow rate, catchment area and its discharge. The action plan for monitoring the water level and water quality before discharge needs to be submitted.	The Project Proponent submitted that a total of 5.49 Million CuM of void volume is available for surface run-offf holding in six pits having a cumulative area of 58.11 Ha which have a total catchment area of 160 Ha. During entire mine life water holding capacity of 5.49 or more than 5.49 Million CuM will be available at any time. Further, a total 12 nos of settling ponds have been earmarked within and outside the ML Area for collecting surface run off. A total of 0.38 Million M3 of void volume is available for surface run-offf holding in 12 nos settling ponds having a cumulative area of 8.84 Ha. Considering five fillings in a year, the gross volumes of settling ponds will be 1.90 Million M3. Further, the Project Proponent submitted that entire monsoon runoff is channelized into mine pits and supernatant water flows into series of settling ponds through drains. The clear water is allowed to naturally overflow by Header arrangements or through check dams.In case required, Lime or combination of Lime and flocculent is used in the mine pit or settling pond so that the particles settle, and clear water is discharged. The discharge water is monitored regularly so that water quality meets the prescribed limits. The inhouse Environment management cell will undertake the regular monitoring and analysis of discharge water through Environment laboratory recognized by MoEF&CC. The monitoring reports will be submitted to Goa State Pollution Control Board on monthly basis and MoEF&CC Regional office on six monthly basis. Surface water samples shall be collected at 8 locations which include all the mine discharge points and upstream and downstream of Bicholim and Asnora river. Samples shall be collected once a month. The parameters listed in IS: 2296 shall be monitored. During monsoon season, in addition to the monthly monitoring, all the discharge points will be regularly monitored (on all the rainy days) and the TSS levels will be checked.
5	The design of garland drain around the waste dumps to divert the water to settling ponds and the measures to be taken to arrest the suspended solids needs to be submitted.	The Project Proponent submitted that the dimensions of the drains will be maintained with width of 2m and 1.5 m in depth everywhere in the mine. A proper height will be maintained on the sides of the garland drain so that water does not get overflooded from the drains. The available garland drains are 11313 m in length which covers all the dumps within the mine lease area. The same will be strengthened and maintained before the onset of monsoon. The daily average surface run-off is estimated as 14003 m^3. The garland drains have the capacity to accommodate instant volume of 33939 m^3 as per above dimensions. Therefore, garland drains capacity is more than sufficient to take care of average daily surface run off during raining period. Additional drains are proposed to take

(67)

	The measures to be taken for preventing the soil erosion on slope of waste dumps needs to be submitted.	care of peak run off during the plan period. Therefore, water management structures comprising of drains, settling ponds and mined out pits are available as well as planned to address the catchment area run-off for conceptual period. The Project Proponent also submitted the measures to be taken to arrest the suspended solids and for preventing the soil erosion on slopes of waste dumps for preventing the soil erosion on slope of waste dumps which are as follows: i. Inward slope will be provided to all the dump benches so that the water doesn't flow over the slope and erodes the dump slope surface ii. Covering the finalised dump slope with lateritic material and then covering with coir geotextiles iii. Use of ERW pipes between benches to channelise the surface runoff water and diverting to settling ponds. iv. Boulder walls 1.5m ht and 2m wide will be provided at the toe of the dump to arrest the flow of silt. v. Garland drains around the dump is constructed 1m bottom width, 2m top width and 1m deep with a length of 6100 m to divert water to settling pond for arresting the suspended solids. vi. Use of Stylo grass seeds and Glyricidia cuttings at the onset of monsoon to create green cover on the dump slopes. vii. Annual Plantation of native species on waste dump. viii. Safety green belt /barrier of 50 mts shall be maintained near the Assonora river from the mine pit. ix. Annual de-siltation of the settling ponds, drains. x. Use of lime and flocculants in case required so as to settle the suspended solids in settling pond.
6	The Project Proponent needs to submit the action plan for installing permanent water sprinklers.	The Project Proponent submitted that permanent water sprinklers with 3.40 km length along the haul road within the ML area and 2.80 km length outside the ML area on either side of the road will be installed. Sprinklers will be spaced at 12m distance covering 6m radius at 180 degree. Estimated budget for the installation of the same is Rs. 191.60 Lakhs. S. No | Description | Cost (Rs. In Lakh) 1 | Civil Works | 20.0 2 | Pump & Sprinkler System | 88.0 3 | Pipeline | 75.60 4 | Electrical Works | 8.0 | Total | 191.60 The Project Proponent also submitted the map showing the layout of proposed water sprinklers within mine lease area and along dedicated road.
7	The Project Proponent needs to	The Project Proponent submitted that Crushing &screening units will be modified within 4 months after obtaining the Clearances. Budget proposed for the same is Rs. 6.97

(68)

	submit the action plan and timeline to modify the crushing and screening units. The Project Proponent also needs to submit the material flow sheet and material balance.	Crore.The Project Proponent alsosubmitted the flow Sheet of Crushing & Screening Unit.
8	The Project Proponent needs to submit the action plan for developing their own nursery by mentioning the details of the area to be covered, species to be planted and budget proposed. Most of the standing vegetation in the lease area constitutes of Acacia auriculiformis and Casuarina equisetifolia and it is further invading the open areas through natural regeneration. The invasion may be checked through planting native	The Project Proponent submitted that it is proposed to develop nursery adjacent to the mineral block (Survey no 72/4 in Bicholim Village). Around 1100 sq.m of area will be utilized for the nursery. A budget of Rs. 5 lakh is kept for the same.The nursery will comprise of following: i. A poly house/ nursery shed will be developed where in a root trainer nursery will be established. ii. Production area wherein various jobs like filling of root trainers/polybags will be undertaken store room wherein the nursery equipment's will be stored iii. Only native / local species of various horticultural and forest species will be grown in inhouse nursery or sourced from forest department nursery for planting in the finalised areas within the Mineral block. iv. Necessary technical support will be taken from state forest department. Company also carries out collaborative mine reclamation projects in association with research institutes like NEERI, Goa university etc. v. Horticultural species like Mango, Cashew, Ber, Aonla, Jambul, Tamarind, Jackfruit, citrus species, etc will be grown vi. Forest species like various Terminalia tomentosa, Terminalia bellerica, Bauhinia species, Teak, Cassia fistula, Arjun, Assan, lagerstromia species, Shiwan, Ficus species, Pongamiapinnata, Reetha, Rain tree, Pangara, Peltoforum, Palas, Saton, Mahagony, bamboo species etc. The Project Proponent also submitted that during plan period an area of 9.7288 ha (24,322 no. of plants) will be developed under 7.5m safety zone, Buffer towards habitation, archaeological site, & river and an area of 9.4435 ha (23,609 no. of plants) will be developed on backfilled area. A budget of Rs 28.83 Lakhs has been earmarked towards the same.

(69)

	species in the region.	
9	The Project Proponent needs to ensure that whether any other Schedule-I species has been added as per latest Wildlife (Protection) Amendment Act 2022 or not. Accordingly, the Project Proponent shall submit the revised authenticated Schedule-I species.The Project Proponent also needs to submit the breakup of the conservation activities proposed under Wildlife Conservation Plan.	The Project Proponent submitted that the authenticated list of Schedule I Species as per Indian Wildlife Protection Act 1972 as amended Gazette Notification of Wildlife (Protection) Amendment Act, 2022 has been obtained from the Dy. Conservator of Forests Wildlife & Eco-Tourism (North), Panji-Goa vide letter no. 1-576-WL&ET(N)/2023-2024/3312, dated 27.11.2023. According to this authenticated list, 29 Schedule I Species have been recorded within 10 km study area. As suggested by the Hon'ble EAC the company revised the break-up of conservation activities proposed under Wildlife Conservation Plan and same will be finalized after discussion with the Forest Dept. The break-up of the conservation activities proposed under Wildlife Conservation Plan are as follows:-

S.No	Particulars	1st year	2nd year	3rd year	4th year	5th year
1	Enrichment of forest areas with suitable indigenous species for wild life habitat improvement					
2	Creation/ maintenance of habitat for herbivores/ avian fauna					
3	Management interventions for facilitating water availability to the wild life in forest areas/ Improvement of soil and water regime of forest areas	12	12	12	12	12
4	Financial support to the department for conducting awareness campaigns for various stakeholders					
5	Financial support to the department for celebrating events like Wildlife week					

(40)

<table>
<tr><td></td><td></td><td></td><td>and sponsoring the prizes for the competitions</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td colspan="5">Rs 60.0 Lakhs</td></tr>
<tr><td>10</td><td>The Project Proponent needs to submit the map demarcating the surface features in the mine lease area and their safety distances left/maintained as per mines acts and rules.</td><td colspan="6">The Project Proponent submitted the map demarcating the surface features in the mine lease area. The Project Proponent also submitted the safety distances left/maintained as per mines acts and rules as given below in table:
<table>
<tr><th>S.No</th><th>Features inside lease</th><th>Distance from Ultimate Pit Limit (UPL)</th><th>Statutory Distances as per MMR</th></tr>
<tr><td>1</td><td>ManasbagMulgao village</td><td>120 m</td><td rowspan="3">45 m</td></tr>
<tr><td>2</td><td>Mulgao village</td><td>58 m</td></tr>
<tr><td>3</td><td>Lamgao village</td><td>56 m</td></tr>
<tr><td>4</td><td>Manaswada Govt. School within habitation</td><td>138 m (12 Students)</td><td rowspan="2">45 m</td></tr>
<tr><td>5</td><td>Gaonkarwada Govt. School within habitation</td><td>190 m (not functional)</td></tr>
<tr><td>6</td><td>Old Lairai Temple</td><td>126m (From 5 Bottom Backfilling site)</td><td rowspan="6">45 m</td></tr>
<tr><td>7</td><td>Mahadev&Sateri Temple</td><td>280 m</td></tr>
<tr><td>8</td><td>Kelbai Temple</td><td>205 m</td></tr>
<tr><td>9</td><td>Sateri Temple</td><td>130 m</td></tr>
<tr><td>10</td><td>Matrai Temple</td><td>150 m</td></tr>
<tr><td>11</td><td>Nimuzgah</td><td>210 m</td></tr>
<tr><td>12</td><td>Lamgao Caves</td><td>300 m</td><td>45 m</td></tr>
</table></td></tr>
<tr><td>11</td><td>The Project Proponent needs to provide proper treatment of channels and nallas flowing in the lease area for soil and water conservation. Scientifically designed and placed check dams and other engineering</td><td colspan="6">The Project Proponent submitted that Silt load study was carried out through Center for Advance studies department of geology, University of Delhi and it was concluded that, all the structures made for the settling of sediments are found to be more than sufficient to accommodate sediments even during peak rainfall. The Project Proponent submitted that the
a) Total length of the Garland drain = 11313 m
b) Peak rainfall = 154 mm/day
c) Peak runoff in a day = 110590 m3
d) Capacity of garland drain = 33939 m3.

The garland drains are made such that from upstream to the downstream where the drains are meeting the settling ponds will show decrease in elevation, to maintain a free-flowing gradient of rainfall runoff. The dimension of the drains is maintained to be 2m in width and 1.5m in depth at everywhere in the mine site. A proper height has been maintained on the</td></tr>
</table>

(74)

	structures at different places can help control the erosion and loss of productive soil. Necessary study from competent institution/individuals may be done for this purpose.	sides of the garland drain so that water don't' get over-flooded from the drain.
S. No	Observation of EAC in its meeting held during 21-22 September, 2023	Reply by Project Proponent
1	The site visit report of the subcommittee.	The Project Proponent submitted the observations to the subcommittee recommendations during the site visit 29-31Oct., 2023 are complied and submitted in Parivesh portal.
2	The Project Proponent needs to revisit the plan for backfilling with clearly indicating the voids area and the capacity available/required for backfilling.	The Project Proponent submitted that 5 numbers of earlier mined out pits have been identified for backfilling purpose to accommodate waste to be generated in future besides additional pits to be made available progressively with mining till conceptual period. The physical details of available pits to be converted into backfilled areas are as follows:

Mine pit location/ ID	Total area of pit (ha)	Area Available for Backfilling (Ha)	Depth (m)	Top RL (m)	Bot RL (m)	Vol (m^3)
1 Top	22.4367	20.9942	99	62	-37	19356183
2 Top	13.0803	9.9465	60	60	0	2968920
3 Top	16.0596	13.1650	70	110	40	2240000
¾ Bottom	-	-	109	102	-7	-
5 Top	37.0242	35.7242	78	98	50	14213124
5 Top CB	-	-	77	124	47	-
5 Bottom	15.4196	12.0840	92	87	-5	7035240
Total	104.0204	91.9139				45813467

(42)

Further, the details of pits to be made available progressively with mining till conceptual period and converted into backfilled areas are as follows:

Mine pit location/ ID	Total area of pit (ha)	Area Available for Backfilling (Ha)	Depth (m)	Top RL (m)	Bot RL (m)	Vol (m^3)	Void availability for backfilling
2 Top	43.1944	39.2331	116	91	-25	10518996	5th year
¾, Bottom	39.4606	34.614. 0	169	102	-67	15412643	End of 3rd year
2 Top	68.52	65.6420	113	103	-10	47912000	6th to 10th year
3 Top/2 Top combined	38.2545	36.6500	118	108	-10	38161200	11th to 13th year
4 Top/3 Top Combined	-	-	84	73	-11	-	11th to 13th year
5 Top CB Pit	-	-	168	94	-74	-	11th to 13th year
Total	189.425	176.1391				112004839	

As shown in the above tables, five numbers of earlier worked out pits will have void volume of 45.81 million m3 and during the Plan & Conceptual period progressive excavation, 112 million m3 of void volume will be available for backfilling. Therefore, a total of 157.98 million M3 of void volume will be available for backfilling in mined out pits having a cumulative area of 268.05 Ha. Additionally, area of 62 Ha will be available as voids including 22 ha of water reservoir for storing rain water.

The Project Proponent also submitted that the Conceptual waste generation shall be 124.9 million Cum which will have a swelled volume of 149.90 million CuM (say 150 million CuM). The 0.2 million CuM of swelled waste will be dumped over top of backfilled pits as surface dumps. Sufficient space is

		available to accommodate waste generated during life of mine considering swell factor of 1.2.Annual waste generation is in range of 4.35 to 12.58 million cum per year with an average of 9.61 million cum per year considering life of the mine as 13 years based on the presently available mineable reserves. Life of the mine may reach upto 30 years if entire resources are converted to reserves by removing all encumbrances.
3	The Project Proponent needs to submit the design of settling ponds by considering the annual rainfall, catchment area and its discharge.	The Project Proponent submitted that at conceptual stage, total 12 no.s of settling ponds will be developed and these will be strengthened by the stone pitching. About 6 numbers of earlier mined out abandoned pits and 12 nos of interlinked siltation ponds have been identified for collecting surface run off from respective catchment sub basins. The Project Proponent also submitted the map showing the settling ponds and drainage network and design of settling ponds. The Project Proponent submitted that a total of 5.49 Million CuM of void volume is available for surface run-offf holding in six pits having a cumulative area of 58.11 Ha which have a total catchment area of 160 Ha. During entire mine life water holding capacity of 5.49 or more than 5.49 Million CuM will be available at any time. Further, a total 12 nos of settling ponds have been earmarked within and outside the ML Area for collecting surface run off. A total of 0.38 Million M3 of void volume is available for surface run-offf holding in 12 nos settling ponds having a cumulative area of 8.84 Ha. Considering five fillings in a year, the gross volumes of settling ponds will be 1.90 Million M3.

Particulars	Details
Catchment area of pits	160 ha
Rainfall received	160 ha x 3500 mm = 5.6 Million CuM
Effective surface runoff to be accumulated in voids	5.6 x 0.7 = 3.92 Million CuM
Pits water holding capacity	5.49 Million CuM
Gross settling ponds capacity	1.90 Million CuM
Total water holding capacity of mined pits and settling ponds	7.39 Million CuM

Further, the Project Proponent submitted that since total water holding capacity in pits and settling ponds (7.39 Million CuM) is more than rainfall and surface runoff volume from catchment (3.92 Million CuM), there is sufficient space for effective surface runoff management in during extreme precipitation times. The dimensions of the drains to be maintained will be 2m in width and 1.5 m in depth everywhere in the mine. A proper height will be maintained on the sides of the garland drain so that water does not get over-flooded from the drains. The available garland drains are 11313 m in length and daily average surface run-off is estimated as 14003 m3. The

(74)

<table>
<tr><td></td><td></td><td>garland drains have capacity to accommodate instant volume of 33939 m3 as per above dimensions. Therefore, garland drains capacity is more than sufficient to take care of average daily surface run off during raining period. Additional drains are proposed to take care of peak run off during the plan period. Therefore, water management structures comprising of drains, settling ponds and mined out pits are available as well as planned to address the catchment area run-off for conceptual period. The overflow discharge water will be regularly monitored so that quality of water is maintained as per the prescribed standards and always clear water from ponds / pits meet the natural system. In case required, water treatment would be done in the pits by using lime and flocculants or other organic chemicals.</td></tr>
<tr><td>4</td><td>The Project Proponent needs to bypass the public road and also to explore the possibility of increasing the capacity of the truck so as to reduce the no. of trips. The EAC opined that the Project Proponent needs to revisit the traffic load by considering the cycle time and waiting time. The Project Proponent needs to submit the action plan for strengthening the road and for converting the unpaved road into concrete road.</td><td>The Project Proponent submitted the map showing the transportation route comprising of dedicated road corridor and public road. The total travel distance upto Jetty is 5.48 kms (4.54 km dedicated road and 0.94 km MDR-20 Public Road).Traffic load and effective distance between two trucks are as follows:-
<table>
<tr><th>S.No</th><th>Transportation working days</th><th>Quantity (In TPA)</th><th>Tonnes / Day</th><th>Trips per day</th><th>Mode of transport</th></tr>
<tr><td>1</td><td>237</td><td>30,00,000</td><td>12658</td><td>1205</td><td>Road</td></tr>
<tr><td></td><td colspan="3">Total Trips per day</td><td>1205</td><td></td></tr>
</table>
The Road width details for various segments are as follows:
<table>
<tr><th colspan="2">Dedicated Road corridor</th><th>Public Road</th></tr>
<tr><td>3.31 km</td><td>1.23 km</td><td>0.94 km</td></tr>
<tr><td>12-15 mts wide Road</td><td>7 mts wide Road</td><td>7 mts wide Road</td></tr>
</table>
Further, the Project Proponent submitted the following details:-
i. Capacity of truck is 10.5 tons as per directives of Deptt. of Mines & Geology, Goa
ii. Total Handling per day is 12658 tons /day
iii. Transportation timings are 6.00 am to 7.00 am, 8:00 am to 12.45 pm and 2:00 pm to 5.45 pm. Therefore, the effective transportation time is 9.30 hrs.
iv. Per Hour Handling is: 1332 tons/hour
v. No. of Vehicles per Hour (One way): 127 vehicles
vi. No. of Vehicles per Hour (to and fro): 254 vehicles
vii. The Speed of vehicle is 25 KMPH and the lead distance is 5.48 kms
viii. The time taken for 5.48 km is 13.15 mins for each truck and loading time is 1min, weighment time at both source location is 2 min, Tarpaulin tying and untying</td></tr>
</table>

(75)

time is 2 min, unloading time 1 min and waiting time 10 min.

ix. Each truck length is 15'. 5" (4.58 m)
x. Distance from truck to truck is 5 m both side = 10 m
xi. Each vehicle occupies a min. distance of 14.58 m = ~ 15 m
xii. The length of road is 5.48 Km = 5480 m
xiii. No. of vehicle which can travel on this road for one side= 5480 /15 = 365, However we would be plying only 127 trucks hence effective distance between two vehicles is 43 m.

The Project Proponent submitted the following mitigation measures for transportation:-

i. Public road is hot mixed and same will be maintained.
ii. Dedicated road is proposed to be hot mixed in phased manner.
iii. Entire Dedicated transportation route is surrounded by thick Green Belt
iv. Transportation vehicles shall be properly maintained to minimize the exhaust emission.
v. Regular tests shall be carried out to check exhaust emission and PUC certification of transportation vehicles at prescribed interval.
vi. Transportation trucks will be loaded with prescribed capacity and covered with tarpaulin before leaving mines premises.
vii. Overloading of the material will be avoided.
viii. Regular monitoring of the emission levels.
ix. Over speeding of Vehicle will not be allowed.
x. Traffic Marshals shall be provided for regulating movement of vehicles as well as for safety of persons.
xi. Training will be given to all drivers about safe driving.
xii. Regular water sprinkling by means five hired water tanker of 10KL capacity on haul road and Loading points will be carried out
xiii. Used of fixed dust suppression system on haul roads
xiv. Installation of two wheel washed system (one each at the exit of the dedicated road and jetty exit respectively
xv. Manual and mechanised machines for road sweeping
xvi. Washing of mine exit points/Junctions (Mayem, Pilgao and Jetty exit area) after transportation hours/at night with water tanker having pipe arrangements
xvii. Underpass proposed at Mayem junction to prevent interface with public.

The Project Proponent submitted that the regular mining in the state of Goa stopped since 2012 (it started for brief period in 2018 and again stopped). The truck owners who have already invested in the 10.5 T trucks are severely affected due to the

(46)

		stoppage of mining activity and are against procurement of new / high-capacity trucks, till their losses are covered. The company has already conducted series of meetings with the truck owner's associations for the higher capacity trucks and the truck owners are not agreeing to any changes in short term of 5 years. However, the engagement with the truck owners for higher capacity truck will continue. Company will also engage with all stake holders to explore the feasibility for installing conveyor belt system for transportation in near future, if permitted. The public road which is used for transportation is only 0.94 km long and the same is a hot mix road and in well maintained condition. The dedicated road of 4.54 km has very thick green belt on both the sides. There is no habitation along the dedicated road. Nearest habitation will be more then 250m from the road. The dedicated road before joining the public road is concreted and provided with the wheel wash system. Dedicated road sweeping machine will also be deployed to maintain the public road clean. The company also undertakes to hotmix the stretch of 4.54 km of dedicated road in a phased manner in three years' time frame. The estimated cost towards hot mixing is worked out as INR 18 crores.
5	Since the mine lease area is sharing the Mayem Forest common boundary, the Project Proponent needs to submit the letter from the State Forest Department regarding the involvement of forest land in the mine lease area.	The Project Proponent submitted the letter from the Office of theDy. Conservator of Forests, North Goa Division Sensitivity: Public (C4) vide letter no. 5/MINES-GEN/DCFN/TECH/2023-24/56, dated 12.04.2023 stating that the detail of village wise Survey No.s within Block-1 of Bicholim Mineral block was verified and found that the area under the above mentioned Survey Nos is not a Govt. Forest and also does not identified as Private Forest by State Level Expert Committee headed by Sawan/Dr. Karapurkar/V.T. Thomas.
6	The Project Proponent needs to submit a letter from the Department of Geology and Mining, Government of Goa clarifying	The Project Proponent submitted the letter from the Directorate of Mines & Geology vide Lr. No. 03/24/2023/ Major/Mines/Part/489 dated 25.07.2023 stating that a) M/s. Vedanta has been declared as Preferred Bidder for Bicholim Mineral Block- Block I through an auction process conducted by the Government of Goa as per the Mineral Auction Rules, 2015. b) M/s. Vedanta Ltd., was not the erstwhile lessee of the said Block prior to auction.

(77)

	whether any illegal mining within the mine lease area has been carried out or not and whether the same has been carried out by M/s. Vedanta Limited or not?	c) The matter of illegal mining in the State of Goa is under investigation by the Special Investigation Team (SIT). The Project Proponent also submitted that the Block-I Bicholim Mineral Block was earlier operated by Sesa Mining Corporation Ltd. (SMCL) formerly known as Dempo Mining Corporation Ltd. Pursuant to Supreme Court Judgment in Goa Foundation order dated 07.02.2018, all the mining leases granted by the State Govt. were cancelled. Thereafter, State Govt. in terms of the said order and as per the provisions of MMDR Act put this block for auction as a fresh lease grant. The e-auction process was conducted in accordance with the Tender Document for said Mineral Block. Vedanta Limited emerged as the highest qualified bidder having submitted the highest final price offer and was declared as the preferred bidder under Rule 9(9) (iii) of auction Rules. Further, upon submission of the first Installment, being 20% of the upfront payment, Government of Goa issued a Letter of Intent (LOI) vide letter no. DMG/25/Auction Cell/LOI-function/2023/2801 dated 13.01.2023 for the grant of a mining lease for Block-I Bicholim Mineral Block in Bicholim, Bordem, Lamgao, Mulgao, Mayem&Sirigao Villages, of Bicholim Taluka, North Goa District, Goa State over an area of 478.5206 Ha over a period of 50 years.
7	The Project Proponent needs to submit the video recording of the public hearing.	The Project Proponent submitted that Goa State Pollution Control Board vide their letter No. 11/15/2023-PCB/ Leg/13555 dated 22/09/2023 submitted all the documents related to public hearing including public hearing video to the Member Secretary, EAC (Non Coal Mining).

iv. Details of Terms of Reference (ToR):

Date of application	File. No/ Proposal No	Consideration	Details	Date of accord
16.03.2023	F.No: IA-J-11015/3/2023-IA-II(NCM) IA/GA/MIN/ 422323/2023	3-4 May, 2023	Terms of Reference (ToR) to M/s Vedanta Limited for mining of Iron Ore in Bicholim Mineral Block – Block 1 (Auction Block) with proposed production capacity of 3.0 MTPA, Waste: 25.162 MTPA (Total Excavation: 28.162 MTPA) along with crushing and screening plant	16.06.2023

(78)

			capacity of 4.0 MTPA in the mine lease area of 478.5206 ha, located in Bicholim, Bordem, Lamgao, Mulgoa, Mayem & Sirigao Villages of Bicholim Taluka of North Goa District, Goa	

v. Details of Mine Lease:

a) The Project Proponent has submitted the Letter of Intent (LoI) granted by the Government of Goa vide Lr No: DMG/25/Auction Cell/LOI-function/2023/2801 dated 13.01.2023 for grant of mining leasefor Block I - Bicholim Mineral Block for Iron Ore in Bicholim, Bordem, Lamgao, Mulgao Mayem & Sirigao villages, Bicholim Taluka, North Goa District over an area of 478.5206 Hectare for a period of 50 (fifty) years in pursuant to Rule 10(2) of the Auction Rules. This letter of intent is valid for a period of 3 (three) years from the date of its issuance.

vi. Land Use/Land Cover of the Mine Lease Area:

Private land	421.1153 Ha
Government land	57.4053 Ha
Total Mining lease area (MLA)	478.5206 Ha
Private land for crusher, workshop & other infrastructure outside the MLA	Not Applicable

vii. Details of Mining Plan:

Review and Mining Plan approved by Indian Bureau of Mines, Goa	Letter No.	No. MCDR-MPC/1/2023-GOA-IBM_RO_GOA
	Date	26.05.2023
	Mine Lease Area	478.5206 Ha
	Mineral	Iron Ore (Major Mineral)

Mining Parameters	Quantitative Description
Method of Mining	Opencast mechanized mining without Drilling & Blasting
Drilling/Blasting	Not Applicable
Total Reserves and Resources	84.73 Million Tonnes
Proved Mineral Reserve	36.071 Million Tonnes
Life of mine	30 years
Bench Height	7 m

Bench Width	10 m
Individual bench slope	70^0
Overall pit slope	$<26^0$
RoM output size	Less than 500 mm
Crushing/Screening	Mobile Dry Crushing and Screening plant shall be available within the proposed mine to handle 4 MTPA of crude ore. The primary crusher will consist of 1 no. of Jaw crusher of capacity 120 TPH with an input feed of -500mm and shall produce output of -70 mm. It shall be followed by secondary crushers, 2 no.s of capacity 300 TPH and 200 TPH respectively. The input feed size shall be -70mm and output feed size obtained shall be -40mm. The Screening Plants of capacity -600TPH shall be installed where input the feed size shall be -70mm to obtain product of -40mm lumps & -10mm fines.
Transportation details	ROM/Iron ore or Screened/crushed material will be transported by 10.5 Tonne trippers from Mine to Sarmanas jetty through a dedicated road. The total distance from the mine to Jetty is 5.58 km of which 0.94 km stretch is public road and remaining 4.64 km is company owned dedicated road.
Dumpers capacity	40 tonne (within mines)
Waste handling and Disposal	During the mining period, the waste generated by mining will be temporarily stacked within the mining lease area as surface dump and backfilled in the exhausted portion of the pits. The total waste to be generated during the plan period is about 69.85 million tonnes. An area of 6.7146 Ha shall be utilized for Dumps and Material stocking at the conceptual stage of mining.

viii. Water requirement:

Total water requirement	664 KLD	Pit Water	628 KLD
		Ground water	36 KLD
Source	Water from Mine Pit will be used for dust suppression, Vehicle washing and Green belt. Water for domestic requirement will be met from bore well.		
Permission	The Bore wells are registered with Goa State Water Resource department. Application for using mine pit water will be submitted.		

ix. Nearest village / town/ highway/railway station / water bodies/monument:

Particulars	Particular's Name	Distance & Directions
Village	Lamgoa	Within the lease area
Town	Bicholim Town	0.5 km, East
Road	State Highway SH-1	0.65 km, East
Railway Station	Tivim Railwaystation	10.5 km, North
Water Bodies	Asnora River Mayem Lake Mandovi River	Touching lease boundary at one of the points 0.46 km 2.3 km, SW
School	Mulgao Govt. Primary School	Within the lease area
Worship places	Namuzgah/Idgah Shri Lairae Temple	Within the lease area 0.86 km
Caves/Fort	300m buffer from Lamgao caves Khorjuvem Fort: 2 km	

x. Presence of Environmentally Sensitive areas in the study area:

Forest Land/Protected Area/Environmental Sensitivity Zone	Yes/ No	Details of Certificate/letter/Remarks
Forest Land	Yes	Mayem Forest Common Boundary with the mine lease area The following Reserve Forests are located within 10 km radius of the mine lease area such as Kharapal RF -6.7 km Kasarpal RF - 5.1 km Ambadgaon RF - 7.6 km
National park	No	The Project Proponent has submitted the letter from the Office of the Dy. Conservator of Forests vide Lr No: DCF(WP)/Tech/Digi/Vol-I/75/2022-23/ 968 dated 23.01.2023 stating that the proposed Bicholim Mineral Block-I is not situated within 10 km radius from the boundary of any the protected area in the State of Goa. PP also submitted the authenticated map dated 24.01.2023 showing the distance of the following Wildlife Sanctuary from the mine lease area. i. Madei Wild life Sanctury-14.105 km, E ii. Salim Ali Bird Sanctuary -10.553 km, SW iii. Bondla Wild life Sanctuary -20.476 km, SE
Schedule-I species	Yes	The Project Proponent has submitted the letter from the Office of the Dy. Conservator of Forests vide Lr No: 5/FCA/GEN/F&F/DCFN/TECH/2022-23 dated 04.04.2023 with regard to list of Flora and Fauna species present in core and buffer zone.

(81)

		The following Schedule-I species are found in the study area such as 1 Common leopard (*Felidae*) 2 White-bellied Sea-Eagle(*Accipitridae*) 3 Indian Peafowl (*Phasianidae*) 4 Crimson rose- Butterfly (*Papilionidae*)
Status of Wildlife Conservation Plan	Yes	Wild Life Conservation Plan is prepared and submitted for approval of Chief Wildlife Warden (CWLW) on 19.06.2023. PP has submitted the copy of the acknowledgement from Chief Wildlife Warden.

xi. Green belt/plantation details:

Proposed area for green belt/plantation	105.8894 ha
Budget for green plant& plantation till the end of life of mine.	Rs159.0Lakhs
Particulars for Green belt/plantation	Area covered (in Ha)
7.5 m barrier & non-mineralized zone	25 ha
50 m safety zone of nallah, roads, electric lines	
Additional information (if any)	80.8894 ha (on backfilled area)

xii. Details of Baseline data:

Baseline Data (Air / Water / Noise / Soil / Ground water table/ others)			
Period of baseline data collection	March, 2023 to May, 2023		
Season (Summer / Pre-monsoon / Post-monsoon / Winter)	Summer Season		
Ambient Air Quality (no. of locations) and results	No. of Locations	Parameters	Results
	9	PM10	27.0 to 56.0 µg/m^3
		PM2.5	14.0 to 36.0 µg/m^3
		SO2	4.0 to 13.0 µg/m^3
		NO2	<4.0 to 18.0 µg/m^3
Noise level (no. of locations) and results	No. of Locations	Parameters	Results
	09	During Day Time [Leq dB(A)]	43.1 to 61.7
		During Night Time [Leq dB(A)]	35.9 to 49.3

82

<table>
<tr><td>Water Quality (no. of locations) and results</td><td>Surface water quality
<table>
<tr><th>No. of Locations</th><th>Parameters</th><th>Results</th></tr>
<tr><td rowspan="7">07</td><td>pH</td><td>6.35 - 7.39</td></tr>
<tr><td>TDS (mg/l)</td><td>72 - 11240</td></tr>
<tr><td>Fluoride (mg/l)</td><td><0.1</td></tr>
<tr><td>Chloride (mg/l)</td><td>18 - 5620</td></tr>
<tr><td>Fe (mg/l)</td><td><0.05</td></tr>
<tr><td>Dissolved Oxygen (as O_2), mg/l</td><td>6.2 – 6.9</td></tr>
<tr><td>Biochemical Oxygen Demand (as O_2), mg/l</td><td><3.0</td></tr>
<tr><td>Chemical Oxygen Demand (COD) mg/l</td><td>22.0 – 26.0</td></tr>
</table>
Groundwater Quality
<table>
<tr><th>No. of Locations</th><th>Parameters</th><th>Results</th></tr>
<tr><td rowspan="4">10</td><td>pH</td><td>5.63 – 7.07</td></tr>
<tr><td>TDS (mg/l)</td><td>20 – 150</td></tr>
<tr><td>Fluoride (mg/l)</td><td>0.1</td></tr>
<tr><td>Chloride (mg/l)</td><td>5.0 - 19.0</td></tr>
</table></td></tr>
<tr><td>Soil Quality (no. of locations) and results</td><td>
<table>
<tr><th>No. of Locations</th><th>Parameters</th><th>Results</th></tr>
<tr><td rowspan="5">07</td><td>pH</td><td>5.38 to 5.78</td></tr>
<tr><td>Electrical Conductivity (mohs/cm)</td><td>0.28 to 0.318</td></tr>
<tr><td>Nitrogen (kg/ha)</td><td>200 to 275</td></tr>
<tr><td>Phosphorus (kg/ha)</td><td>14.3 to 17.8</td></tr>
<tr><td>Potassium (kg/ha)</td><td>230 to 263</td></tr>
</table></td></tr>
</table>

xii. Public Hearing (PH) Details:

Advertisement for PH with date	07.07.2023 Regional: Bhangar Bhui, Heraldo, Lokmat & Free press journal (Mumbai Edition) News papers
Date of PH	11/08/2023
Venue	Narayan Zantye Multipurpose Sports Complex, Sarvan, Bicholim, Goa
Chaired by	District Collector, North Goa
Main issues raised during PH	Pollution, impact on ponds, Support for Education, Health, Agriculture Development & Skill Development, Employment.
Budget proposed for addressing issues raised during PH	Rs 309.3 Lakhs

(83)

xiv. Rehabilitation & Resettlement:

R & R details	There is presence of habitation within ML Area at Mulgao and Iamgao villages. Safety Buffer of 50m will be maintained from the habitations. No Rehabilitation & Resettlement Plan is proposed during life of mine.

xv. Court case details:

Court Case	Yes
Additional information (if any)	First Case: 1. WP(Civil) 2478 of 2022 (Filing number) before the High Court of Bombay at Goa 2. The said writ petition has been filed against the State Government and seeks to challenge the identification of properties bearing survey no. 90/1(part) and 96/0 as part of the recently auctioned Bicholim mine. The petition alleges violation of Rule 5 &6 of Mineral Evidence Rules and Section 10B of MMDR, Act by the State of Goa and DMG. The petitioner has prayed for quashing of auction notice to the extend it includes the property of the petitioner and grant a writ of mandamus against the Respondents. 3. Case status is pending. 4. No adverse orders have been passed. 5. As per the last order the matter has been disposed of by the HC on 17th July 2023 with a direction to the Petitioner to make a representation before the Government and the Government is to dispose of the same within four months. Second Case: 1. WP 592 of 2022 The said writ petition seeks to challenge the constitutionality of the tender documents of Phase I auction of Goa mines. The petition alleges violation of Rule 5 & 6 of Mineral Evidence Rules by the State of Goa and DMG. The petition alleges non-disclosure of essential facts such as bore hole data, approved mining plan, production data of the previous five years and exploration data. The petitioner has prayed for quashing of auction notice to the extend it fails to

(24)

	include the essential facts and in the alternative to stay the auction. 2. Case status is pending 3. No adverse orders have been passed. 4. As per the last order the matter is listed on 01.09.2023.

xvi. Affidavit/Undertaking details:

Affidavit as per Ministry's OM dated 30.05.2018	The Project Proponent has submitted the Affidavit in a non-judicial stamp paper of Rs 100 bearing no: A807037 dated 24.04.2023 stating that they will comply to the directions issued by MoEF&CC vide Office Memorandum F.No.3-50/2017.IA.III (Pt) dated 30th May, 2018 in terms of directions given Hon'ble Supreme Court in judgment dated 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of common cause versus Union of India & Ors.
Undertaking of Project Proponent	The Project Proponent has submitted an undertaking stating that the Environmental Impact Assessment Report of Block-1 Bicholim Mineral Block of M/s Vedanta Ltd was prepared by M/s Mineral Engineering Services, QCI/NABET Accredited EIA Consultant at Sr.No. 55 as per list of list of accredited consultant/organizations. The Project Proponent has submitted an undertaking that the information and data provided in the EIA report and submitted to the Ministry are factually correct and they are fully accountable for the same.
Consultant submitted an Undertaking vide letter dated 02.06.2023	This is to declare that the prescribed ToRs have been complied with and that the data submitted are factually correct in respect of EIA & EMP report prepared for Block-1 Bicholim Mineral Block of M/s Vedanta Ltd, Goa.

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

Activities	Capital cost (Crores)	Recurring cost (Lakhs/annum)
Plantation	-	7.5
Environment monitoring	44	44
Air pollution control measures	20	300
Water Treatment	-	11
Erosion control /monsoon measures	-	221
Personal protective equipment	-	15
Maintenance of fire protection systems	-	1.5

(85)

Environment awareness & training	-	5
Health	8	16
Total	72	621

xviii. Details of project cost and employment:

Particulars	(Rs. In lakhs)
Project Cost	25000 Lakhs
Employment	716 no.s

***

Signature Not Verified

Digitally Signed by : Mr Pankaj Verma
Member Secretary, MoEFCC (EC)

Date: 23/01/2024

A-3 (86)

2024:BHC-GOA:1036-DB

Andreza

IN THE HIGH COURT OF BOMBAY AT GOA

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 199 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 215 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 1216 & 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
AND
MISC. CIVIL APPLICATION NO. 1416 OF 2024 (F)
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com. ... Petitioners

WITH

(87)

MISC. CIVIL APPLICATION NO. 199 OF 2024
IN
PUBLIC INTEREST LITIGATION WP NO. 6 OF 2024

Surakshit Distributors Pvt. Ltd., a Company incorporated under the Companies Act, 1956, having its office at Unit No. 306, 3rd Floor, Gera Imperium Grand, EDC Complex, Patto Plaza, Panaji, Goa, and represented herein by its Authorised signatory, Mr. Sushil Khandelwal.

... Applicant

IN

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, Secretariat, Porvorim, Goa, 403 521.

3. The Deputy Collector and SDO Bicholim, Bicholim, Goa – 403 504.

(88)

5. The Mamlatdar Bicholim, Office of the Mamlatdar, Bicholim, Goa – 403 504.

6. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa – 403 504.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa, 403 511.

7. M/s. Blueglobe Exports Private Limited, B-3, F-1, Prudential Paradise, Peddem, Mapusa, Goa – 403 507. ... Respondents.

WITH

MISC. CIVIL APPLICATION NOS. 215 AND 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar, H. No. 776, Gaonkarwada, Mayem, Bicholim, Goa – 403504. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa,

(89)

Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

WITH
MISC. CIVIL APPLICATION NO. 1216 OF 2024 (F)
IN

(90)

MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

(91)

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Narendra Vinayak P. Gaoncar, aged about 50 years, Son of late Vinayak P. Gaoncar, R/o. Pilgao, Bicholim, Goa. ...Applicant/ Intervener

WITH
MISC. CIVIL APPLICATION NO. 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City

(92)

MH 400093 IN. Having local office at Sesa Ghor. 20 EDC Complex. Patto. Panaji. Goa. 403 001. Represented in this petition through its authorised signatory, Mr. Benecio Menezes. 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

(93)

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Trivikram Govind Prabhu Gaunkar alias Prabhugaonkar, aged about 47 years, son of Govind Vasudev Prabhu Gaunkar, R/o. H. No. 76, Pilgao, Bicholim, Goa 403 504 ...Applicant/ Intervener

AND

MISC. CIVIL APPLICATION NO. 1416 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant ... Applicant

(94)

Pednekar.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road,

(95)

Aliganj, New Delhi, 110 003.

... Respondents.

AND

1. Shankar Chandrakant Jalmi, aged 25.

2. Savlo Raghu Kavlekar, aged 49, both major, residents of H. No. ...., Bagwada, Pilgao, Bicholim, Goa.

3. Sudhakar Vasudev Vaignkar, Age 43, major, resident of H. No. 65,Bagwadao, Bicholim, Goa.

4. Govind Shankar Kavlekar, age 62, major, resident of H. No. 23, Gaonkar Wada, Pilgao, Bicholim, Goa.

...Applicant/ Interveners

Ms. Norma Alvares, Advocate *with Mr. Om D'Costa, Advocate for the Petitioners.*

Mr Y. V. Nadkarni, Advocate *with Mr Nilay Naik and Ms. Simran S. Khadilkar, Advocate for the Applicant in MCA No. 199/2024.*

Mr. D. Pangam, Advocate General *with Mr. Deep Shirodkar, Additional Government Advocate for Respondent nos. 1 to 5.*

Mr. Manish Salkar, Government Advocate *for Respondent no.6-GSPCB.*

Mr. Raviraj Chodankar, Central Government Standing Counsel *for the Union of India-Respondent No.8.*

Mr. A. D. Bhobe, Advocate *with Ms. A. Fernandes Advocate for Respondent No. 9.*

(96)

Mr. Janak Dwarkadas, Senior Advocate *(Through V.C.) with Mr. Shivan Desai, Mr. A. Gosavi, Advocate with Ms. Krupa Naik and Mr. Guruprasad Naik, Advocates for the Interveners-Applicants in MCA No. 215/2024 and MCA No. 239/2024.*

Mr. H. D. Naik, Advocate *for the Applicant in MCA No. 1216/2024(F) and MCA No. 1217/2024(F).*

Mr. Nigel Da Costa Frias, Advocate *with Ms. Sonadevi Nishad and Mr. Shane Coutinho, Advocates for the Applicants-Interveners in MCA No.1416/2024(F)*

CORAM: M. S. KARNIK &
VALMIKI MENEZES, JJ.

RESERVED ON : 26th JUNE 2024
PROUNOUNCED ON : 29th JUNE 2024

JUDGMENT *(Per M. S. Karnik, J.)*

1. We have taken up this petition for final disposal in view of the earlier order passed and with the consent of all parties.

2. It is the case of the petitioner that the otherwise tranquil situation in the village will be jeopardised as a result of the large scale transportation of mineral ore. The safety of the villagers, and that of the school going children will be endangered with the sudden increase in the traffic of trucks/tippers carrying the ore. The resultant noise pollution as well as the environmental pollution resulting from such unwarranted intrusion in the serene and peaceful environs of the village is in complete conflict with the cherished principles of

(97)

fundamental right enshrined by Article 21 of the Constitution of India. The submission is that this massive invasion will completely disturb the equilibrium of the village which serves only the business interests of the project proponent to the detriment of the villagers. The villagers say that they do not deserve such intrusion.

3. The concern expressed by the villagers is genuine. On one hand are the fundamental rights of villagers and on the other are the economic interests of the State as well as the rights of the project proponent. These are competing interests in conflict with each other.

4. It goes without saying that it is the foremost duty of the State to work towards achieving and maintaining a fine balance between competing interests taking into account various myriad considerations. Present is a case where there is an apparent conflict between the fundamental rights of the villagers and that of the State. The State finds mining and as a consequence transportation necessary to further its economic interest for the development of the State. A conflict in the present case has arisen between the right to life under Article 21 of the Constitution of India on one hand and Article 19(1)(g) of the Constitution of India on the other. The villagers claim a right to a dignified existence in a safe pollution free environment. The State asserts its economic right necessitating such transportation which villagers submit amounts to bulldozing the otherwise peaceful life

which they are accustomed to for a long time. The task of achieving this fine balance is surely a difficult one as observed by His Lordship in **K. S. Puttaswamy (Aadhaar-5J) vs. Union of India**[1]. The observations which form a part of a dissenting opinion in **K. S. Puttaswamy** (supra) are significant. An ideal situation would be one which would preserve the core of the right for both sets of citizens whose entitlements to freedom appears to be in conflict. Realistically, drawing balances is not a simple task. Balances involve sacrifices and the foregoing of entitlements.

5. While forming an opinion, we have extensively sought guidance from the aforementioned decision of the Supreme Court and the observations in **Rajeev Suri vs. Delhi Development Authority & Ors.**[2], which we have referred to in the later part of our order.

6. Let us now consider the facts of the present case. Our attention is invited to the interim order dated 17.01.2024 and the subsequent orders passed during the pendency of the petition. This petition raises an important issue in the public interest about the transportation of mineral ore by road through the village of Mayem. The petition as filed was limited to the problems to be faced by village 'Mayem'

1 (2019) 1 SCC 1

2 (2022) 11 SCC 1

(99)

7. By subsequent orders, the scope of the petition was expanded to the transportation of ore through the villages in Goa. The State of Goa and the project proponents opposed restrictions in the transportation of ore through the village roads asserting their rights on the basis of valid permissions and right to carry on business. Examination of such conflicting interests is surely not an easy task. How do we achieve the right balance while considering competing interests in the present case; does such transportation pass the muster of the relevant legislations; what should be the safeguards; are the measures to mitigate the perils of transportation through village roads adequate, are questions which arise for our consideration. Please show compassion to those living in the villages is the fervent plea of Ms. Norma Alvares, learned counsel for the petitioner.

8. The petitioners contended that the permissions granted by the Goa State Pollution Control Board ('*GSPCB*', for short), and the Director of Mines and Geology ('*DMG*', for short), were without any application of mind to several relevant considerations, including, but not restricted to the conditions referred to in the Office Memorandum (OM) dated 29.10.2014, issued by the Ministry of Environment, Forests and Climate Change (Annexures to the petition at pages 40 and 42 of the paper book) and the ground conditions at the Mayem village. Pursuant to the filing of the petition, the GSPCB and DMG

(100)

have by way of SOPs, proposed several safeguards and measures for safe transport and as fairly submitted by Ms. Norma Alvares, these measures are positive. Such submission is made by the learned Counsel for the petitioners with a caveat that the concern of the villagers must be more adequately addressed in the best manner possible. She submits that though several safeguards are put in place, the environmental concerns affecting the safety and health of the villagers must be monitored effectively and addressed from time to time with the aid of real time monitoring of pollution with modern sophisticated equipment.

9. Learned Advocate General has serious objection to the course adopted by us in expanding the scope of the PIL as according to him there are no pleadings to justify such a course. We strongly feel that the concern of transportation through village roads needs to be addressed. We cannot ignore the larger issue of such large scale transportation through the village roads. Do we overlook the concerns of those residing in these villages through which roads the transporting operations are to take place only on some technical objections raised? We do appreciate the submission that the concerns may differ from village to village. It is the duty of the State and the statutory authorities to conduct a scientific exercise in evaluating what requirements are best suited on a village to village basis to ensure the

(161)

safety of the life and limb of its subjects. Howsoever small the population may be, the basic aspiration of their right to live should not be bulldozed on some technical considerations. The Court is not expected to shut its eyes and not even question the State as to what the measures proposed for the safety of the villagers are. There is not the slightest doubt in our mind that such a course is necessary. The petition was filed specific to village Mayem. During the course of hearing, learned Advocate General submits a decision is taken that there is to be no transportation through village 'Mayem'.

10. Let us examine what are the measures in place to regulate transportation through such villages in the first place. The problems cited of transportation of ore through the villages will have to be addressed in the context of two scenarios which are :-

(i) Transportation of the ore which was already extracted in the course of the decisions in **Goa Foundation vs. Union of India & Ors.**[3] (referred to as *Goa Foundation-I*) and **Goa Foundation vs. Sesa Sterlite Limited & Ors.**[4] (referred to as *Goa Foundation-II*), which we refer to as 'e-auction ore'; and

(ii) Transportation of ore by the project proponent i.e. Vedanta, who has intervened in the present case in whose favour there exists a 50-year lease having been granted Environmental Clearance (EC, for short) under the

3 (2014) 6 SCC 590

4 (2018) 4 SCC 218

Environment Protection Act. This aspect pertains to transportation pursuant to the EC granted as a result of fresh leases executed.

11. The second aspect i.e. in respect of EC granted to Vedanta, need not detain us much. This petition does not challenge the EC granted to Vedanta. We make it clear that though learned Senior Advocate Shri Janak Dwarkadas was at pains to point out that the EC has been granted pursuant to a detailed examination by an expert body constituted under the EP Act, we do not express any opinion on such submission in this petition. The limited issue that we are examining is transportation of ore through the villages which allegedly creates disharmony in the fundamental right to life of the villagers. We make it clear that it is open for the aggrieved persons to lay a challenge to the EC on its own merits and in accordance with law before the forum competent to entertain such a challenge. It must be noted that the measures and safeguards recommended and which are part of the EC are accepted by Vedanta.

12. The first aspect of transportation of 'e-auction ore" is something we need to examine in some detail. Ms. Alvares alleged that the conditions imposed by the GSPCB and DMG were not complied with by the transporters during the earlier regime. It was pointed out that there was incessant transportation of ore through trucks right from 4.30 a.m. in the morning till 6.30 p.m. in the evening. It is submitted

that such transportation is a source of pollution that has affected the entire village and the villagers.

13. On the basis of the submission of learned Counsel appearing for the petitioners and hearing the respondents, this Court was of the *prima facie* opinion that there was not much application of mind by either the GSPCB and DMG before the clearances or transit permits were issued in the context of the route now proposed by the project proponent, i.e. the seventh respondent. This Court *prima facie* observed that the authorities, without adverting to several relevant considerations, not to mention the Ministry's OM dated 29.10.2014, mechanically issued the clearance or the transit pass. It was noticed that there was confusion about the roles the GSPCB and the DMG was expected to play in such matters affecting the lives and properties of the villagers. After referring to the provisions of OM dated 29.10.2014, this Court was of the opinion that some measures had to be put in place which would safeguard the life and properties of the Villagers. The relevant directions issued from paragraph 26 onwards which form part of the interim Order dated 17.01.2024 read thus :

> "26. We direct the DMG and GSPCB to file detailed affidavits on the issue of grant of permissions, etc., for transportation of ore through villages in the State of Goa. The affidavits, as far as possible, should state the procedure that is

presently followed and the procedure that the authorities would like to follow in the future in case there are any shortcomings in the existing procedure. We think that the DMG and GSPCB should act in tandem and coordinate with each other so that proper procedures are evolved. For this, if possible, the authorities should hold a meeting. Other stakeholders, like the representatives of the mining industry, transportation industry, environmentalists, representatives of the Panchayat, etc., could also be invited to such meetings so that some policy which takes care of the interests of all stakeholders could be evolved.

27. The affidavits must also deal with an action plan for implementation or enforcement of the conditions included in the permissions. There is no point in imposing conditions to prevent pollution and hardships to villagers if there is no will or proper mechanism for effective implementation. It is not uncommon that considerable police forces are deployed when villagers raise their voices against ore transportation through villages. While it is improper for the villagers to take the law into their own hands, the Authorities must be vigilant in the enforcement of the conditions imposed for the benefit of such villagers. If the transporters disregard such conditions with impunity, strict action must be taken.

28. Since there is no clarity on the procedures for granting permissions for transportation or ores through villages, and at least prima facie, we get the

(105)

impression that DMG and GSPCB are passing the buck on each other without each of them assuming any responsibility, we direct that until the next date, no permissions shall be granted for transportation of ore by private parties through villages, without the leave of this Court. Such a direction is necessary to avoid a repetition of what has happened in the present case. Besides, we propose to dispose of this Petition at an early date.

29. We stand over this matter to 20.02.2024. The affidavits should be filed by 12.02.2024 by giving advance copies to the learned counsel for the petitioners. If the petitioners wish to file any rejoinder, they may do so on or before 20.02.2024 by giving advance copies to the learned counsel for the respondents. We also direct the Petitioners to implead and serve the Union of India through the Ministry of Environment, Forests and Climate Change.

30. The matter is posted for final disposal at the admission stage."

14. Learned Counsel for the petitioners submitted that having regard to the measures and safeguards provided and placed on record by the GSPCB and DMG pursuant to the filing of the petition so far as transportation of 'e-auction ore' is concerned, the spirit of the conditions which are set out in the OM of 2014 has been imbibed in the Standard Operating Procedure ('SOP' for short). At one stage, learned Advocate General did proceed to canvas that the OM of 2014

does not bind the GSPCB or the DMG as the said OM is only an executive instruction which does not pass muster of Section 3 of 'The Environment (Protection) Act, 1986, (herein after referred to as the *EP Act* for short). In view of the aforesaid submission of the learned Counsel for the petitioners, we refrain from expressing any opinion on such contention of learned Advocate General in this petition.

15. It needs to be considered whether there should be a complete ban on transport of the ore through village routes or providing safeguards and measures for mitigating the concerns of the villagers while permitting transportation can be a solution. For a better understanding, it would be apposite to refer to the decisions of the Supreme Court in **Goa Foundation vs. Union of India & Ors.**[5] (*supra*) and **Goa Foundation vs. Sesa Sterlite Limited & Ors.**[6] (*supra*). The facts related to mining in Goa is set out by Their Lordships in Goa Foundation-I, which reads thus :

> "2. " Prior to 19-12-1961 when Goa was a Portuguese territory, its Portuguese Government had granted mining concessions in perpetuity to concessionaires. On 19-12-1961, Goa was liberated and became part of the Indian Union and on 1-10-1963, the Mines and Minerals (Development and Regulation) Act, 1957 (for short "the MMDR Act") was made applicable to the State of Goa. On 10-3-1975, the

5 (2014) 6 SCC 590

6 (2018) 4 SCC 218

Controller of Mining Leases issued a Notification calling upon every lessee and sub-lessee to file returns under Rule 5 of the Mining Leases (Modification of Terms) Rules, 1956 and sent copies of the notification to the concessionaires in Goa. Aggrieved, the concessionaires moved the Bombay High Court, Goa Bench, and by judgment dated 29-9-1983, in *Vassudeva Madeva Salgaocar* v. *Union of India*, the Bombay High Court restrained the Union of India from treating the concessions as mining leases and from enforcing the notification against the concessionaires.

3. Parliament thereafter passed the Goa, Daman and Diu Mining Concessions (Abolition and Declaration as Mining Leases) Act, 1987 (for short "the Abolition Act") which received the assent of the President on 23-5-1987. Section 4 of the Abolition Act abolished the mining concessions and declared that with effect from the 20th day of December, 1961, every mining concession will be deemed to be a mining lease granted under the MMDR Act and that the provisions of the MMDR Act will apply to such mining lease. Section 5 of the Abolition Act further provided that the concession holder shall be deemed to have become a holder of the mining lease under the MMDR Act in relation to the mines in which the concession relates and the period of such lease was to extend up to six months from the date when the Abolition Act received President's assent i.e. up to 22-11-1987. On 14-10-1987, sub-rules (8) and (9) were inserted in Rule 24-A of the Mineral Concession Rules, 1960 (for short "the MC Rules")

which deal with renewal of mining leases in Goa, Daman and Diu.

4. The Abolition Act was challenged by the lessees before the Bombay High Court in a writ petition. The High Court passed an interim order permitting the lessees to carry on mining operations and the mining business in the concessions for which renewal applications had been filed under Rule 24-A of the MC Rules. Subsequently, the High Court held in its judgment dated 20-6-1997 that the Abolition Act was valid but Section 22(1)(a) of the Abolition Act would operate prospectively and not retrospectively. The concessionaires filed special leave petition against the judgment dated 20-6-1997 before this Court. On 2-3-1998, this Court passed an interim order permitting the concessionaires to carry on mining operations and mining business in the mining areas for which renewal applications have been made on the condition that the lessee pays to the Government dead rent from the date of commencement of the Abolition Act. Subsequently, this Court granted leave in the special leave petition and continued the aforesaid interim order.

The Justice Shah Commission and its Report

5. As reports were received from various State Governments of widespread mining of iron ore and manganese ore in contravention of the provisions of the MMDR Act, the Forest (Conservation) Act, 1980, the Environment (Protection) Act, 1986 and other rules and guidelines issued thereunder, the Central Government appointed the Justice Shah Commission under Section 3 of the Commissions of

(109)

Inquiry Act, 1952 by Notification dated 22-11-2010. Paras 2 and 3 of the Notification, which are relevant, are extracted hereinbelow:

"2. The terms of reference of the Commission shall be-

(i) to inquire into and determine the nature and extent of mining and trade and transportation, done illegally or without lawful authority, of iron ore and manganese ore, and the losses therefrom; and to identify, as far as possible, the persons, firms, companies and others that are engaged in such mining, trade and transportation of iron ore and manganese ore, done illegally or without lawful authority;

(ii) to inquire into and determine the extent to which the management, regulatory and monitoring systems have failed to deter, prevent, detect and punish offences relating to mining, storage, transportation, trade and export of such ore, done illegally or without lawful authority, and the persons responsible for the same;

(iii) to inquire into the tampering of official records, including records relating to land and boundaries, to facilitate illegal mining and identify, as far as possible, the persons responsible for such tampering; and

(iv) to inquire into the overall impact of such mining, trade transportation and export done illegally or without lawful authority, in terms of destruction of forest wealth, damage

(110)

to the environment, prejudice to the livelihood and other rights of tribal people, forest dwellers and other persons in the mined areas, and the financial losses caused to the Central and State Governments.

3. The Commission shall also recommend remedial measures to prevent such mining, trade, transportation and export done illegally or without lawful authority."

6. The Justice Shah Commission visited Goa and issued notices under Section 4 of the Commissions of Inquiry Act, 1952 calling for information from the authorities concerned and the lessees and submitted its interim report on 15-3-2012 to the Ministry of Mines, Union of India. On 7-9-2012, the Justice Shah Commission Report on Goa was tabled in Parliament along with an Action Taken Report of the Ministry of Mines and on 10-9-2012 the State Government of Goa passed an Order suspending all mining operations in the State of Goa with effect from 11-9-2012. Pursuant to this Order of the State Government, on 11-9-2012 and 12-9-2012 the District Magistrates of the State of Goa banned transportation of iron ore in their respective districts and the Director of Mines and Geology ordered for verification of mineral ore which was already extracted. On 13-9-2012, the Director of Mines and Geology, Government of Goa issued show-cause notices to 40 mining leases. On 14-9-2012, the Ministry of Environment and Forests of the Union of India also directed that all

environmental clearances granted to mines in the State of Goa be kept in abeyance.

7. On the basis of findings in the Report of the Justice Shah Commission on illegal mining in the State of Goa, Goa Foundation has filed Writ Petition (C) No. 435 of 2012 as public interest litigation praying for directions to the Union of India and the State of Goa to take steps for termination of the mining leases of lessees involved in mining in violation of the Forest (Conservation) Act, 1980, the Mines and Minerals (Development and Regulation) Act, 1957, the Mineral Concessions Rules, 1960, the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 as well as the Wild Life (Protection) Act, 1972. Goa Foundation has prayed that a direction be issued to the respondents to prosecute all those who have committed offences under the different laws and are involved in the pilferage of State revenue through illegal mining activities in the State of Goa including the public servants who have aided and abetted the offences. Goa Foundation has also sought for appointment of an independent authority with full powers to take control, supervise and regulate mining operations in the State of Goa and to ensure the implementation of the laws. Besides, the aforesaid main reliefs, Goa Foundation has also prayed for some incidental and consequential reliefs.

8. On 5-10-2012, this Court issued notice in Goa Foundation v. Union of India to the respondents and

(112)

directed the Central Empowered Committee (for short "CEC") to submit its report on the writ petition and also directed that till further orders, all mining operations in the leases identified in the report of the Justice Shah Commission and transportation of iron ore and manganese ore from those leases, whether lying at the mine-head or stockyards, shall remain suspended, as recommended in the report of the Justice Shah Commission.

9. Different mining lessees of the State of Goa and the Goa Mining Association also filed writ petitions in the Bombay High Court, Goa Bench for a declaration that the report of the Shah Commission is illegal and for quashing the findings in the Report of the Justice Shah Commission and also for quashing the Order dated 10-9-2012 of the Government of Goa suspending mining operations in the State of Goa and the Order dated 14-9-2012 of the Ministry of Environment and Forests, Government of India, directing that the environmental clearances granted to the mines in the State of Goa be kept in abeyance. These writ petitions have been transferred to this Court for hearing along with the hearing of Writ Petition (Civil) No. 435 of 2012 filed by Goa Foundation.

10. The writ petitions and the transferred cases were heard during September, October and November 2013. On 11-11-2013 an order was passed by this Court directing that the inventory of the excavated mineral lying ores in different mines/stockyards/jetties/ports in the State of Goa made by the Department of Mines and Geology of

(113)

the Government of Goa be verified and thereafter the whole of the inventoried mineral ores be sold by e-auction and the sale proceeds (less taxes and royalty) be retained in separate fixed deposits (leasewise) by the State of Goa till the Court delivers the judgment in these matters on the legality of the leases from which the mineral ores were extracted. The Court has also directed that this entire process of verification of the inventory, e-auction and deposit of sale proceeds be monitored by a Monitoring Committee appointed by the Court. By the said order dated 11-11-2013, this Court also constituted an Expert Committee to conduct a macro-EIA study on what should be the ceiling of annual excavation of iron ore from the State of Goa considering its iron ore resources and its carrying capacity, keeping in mind the principles of sustainable development and intergenerational equity and all other relevant factors. On 11-11-2013 the case was also reserved for judgment."

16. Upon considering the submissions, Their Lordships in Goa Foundation-I held thus :

"87. In the result, we declare that:

87.1. The deemed mining leases of the lessees in Goa expired on 22-11-1987 and the maximum of 20 years renewal period of the deemed mining leases in Goa expired on 22-11-2007 and consequently mining by the lessees after 22-11-2007 was illegal and hence the impugned Order dated 10-9-2012 of Government of Goa and the impugned Order dated

14-9-2012 of MoEF, Government of India are not liable to be quashed.

87.2. Dumping of minerals outside the leased area of the mining lessees is not permissible under the MMDR Act and the Rules made thereunder.

87.3. Until the order dated 4-8-2006 of this Court is modified by this Court in IA No. 1000 in *T.N. Godavarman Thirumulpad v. Union of India*, there can be no mining activities within one kilometre from the boundaries of national parks and sanctuaries in Goa.

87.4. By the order dated 4-12-2006 in *Goa Foundation v. Union of India*, this Court has not prohibited mining activities within 10 kilometres' distance from the boundaries of the national parks or wildlife sanctuaries.

87.5. It is for the State Government to decide as a matter of policy in what manner mining leases are to be granted in future but the constitutionality or legality of the decision of the State Government can be examined by the Court in exercise of its power of judicial review."

17. After the declaration and directions in Goa Foundation-I, some controversy arose as the State of Goa granted second renewals to the mining lease holders. It was one of the contention of the petitioners in Goa Foundation-II that the State of Goa was obliged to grant fresh mining leases in accordance with law and not second renewals to the mining lease holders. The observations of Their Lordships in Goa

(115)

Foundation-II which also contains reference to the observations in Goa Foundation-I are significant, which read thus :

> "1. Rapacious and rampant exploitation of our natural resources is the hallmark of our iron ore mining sector coupled with a total lack of concern for the environment and the health and well-being of the denizens in the vicinity of the mines. The sole motive of mining leaseholders seems to be to make profits (no matter how) and the attitude seems to be that if the rule of law is required to be put on the backburner, so be it. Unfortunately, the State is unable to firmly stop violations of the law and other illegalities, perhaps with a view to maximise revenue, but without appreciating the long- term impact of this indifference. Another excuse generally put forth by the State is that of development, conveniently forgetting that development must be sustainable and equitable development and not otherwise.
>
> 2. Effective implementation and in some instances circumvention of the mining and environment related laws is a tragedy in itself. Laxity and sheer apathy to the rule of law gives mining leaseholders a field day, being the primary beneficiaries, with the State being left with some crumbs in the form of royalty. For the State to generate adequate revenue through the mining sector and yet have sustainable and equitable development, the implementation machinery needs a tremendous amount of strengthening while the law enforcement machinery needs strict vigilance.

(116)

Unless the two marry, we will continue to be mute witnesses to the plunder of our natural resources and left wondering how to retrieve an irretrievable situation.

3. The Government of India appears to have received information of large-scale illegal mining of iron ore and manganese ore in different States in contravention of the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 (the MMDR Act); the Forest (Conservation) Act, 1980; the Environment (Protection) Act, 1986 and other rules and guidelines issued on the subject from time to time.

4. Acting on this information, the Government of India appointed Justice M. B. Shah, a former Judge of this Court as a Commission of Inquiry under Section 3 of the Commissions of Inquiry Act, 1952 by a Notification dated 22-11-2010. The terms of reference of the Commission for the State of Goa were as follows:

"2. The terms of reference of the Commission shall be-

(i) to inquire into and determine the nature and extent of mining and trade and transportation, done illegally or without lawful authority, of iron ore and manganese ore, and the losses therefrom; and to identify, as far as possible, the persons, firms, companies and others that are engaged in such mining, trade and transportation of iron ore and manganese ore, done illegally or without lawful authority;

(ii) to inquire into and determine the extent to which the management, regulatory transportation, trade and export of such

(117)

ore, done illegally or without lawful authority, and the persons responsible for the same;

(iii) to inquire into the tampering of official records, including records relating to land and boundaries, to facilitate illegal mining and identify, as far as possible, the persons responsible for such tampering; and

(iv) to inquire into the overall impact of such mining, trade, transportation and export, done illegally or without lawful authority, in terms of destruction of forest wealth, damage to the environment, prejudice to the livelihood and other rights of tribal people, forest dwellers and other persons in the mined areas, and the financial losses caused to the Central and State Governments.

3. The Commission shall also recommend remedial measures to prevent such mining, trade, transportation and export done illegally or without lawful authority."

5. Justice Shah visited Goa and after calling for and receiving information from the authorities concerned as well as the mining leaseholders, he submitted a report on 15-3-2012 and another on 25-4-2012 to the Ministry of Mines in the Government of India. The reports were tabled in Parliament on 7-9-2012 along with an Action-Taken Report and as a result, the Government of Goa passed an order dated 10-9-2012 suspending all mining operations in the State with effect from 11-9-2012. The Ministry of Environment and Forests (MoEF) of the Government of India acted similarly and kept in abeyance the environmental clearances granted to 139 mines (actually 137 mines - there is some duplication) in the State of Goa by an order dated 14-9-2012.

6. Subsequent to the reports given by Justice Shah, a writ petition was filed by Goa Foundation in this Court being WP (C) No. 435 of 2012. The writ petition was a public interest litigation praying, inter alia, for directions to the Union of India and the State of Goa to take steps to terminate the mining leases where mining was carried out in violation of various statutes.

7. Similarly, several mining leaseholders preferred writ petitions in the Bombay High Court for a declaration that the reports given by Justice Shah are illegal and also for quashing the orders dated 10-9-2012 and 14-9-2012 whereby mining operations were suspended and environmental clearances were kept in abeyance. The writ petitions filed in the High Court were transferred to this Court for hearing along with WP (C) No.435 of 2012.

8. This Court heard all these matters and rendered its decision in Goa Foundation v. Union of India on 21-4-2014. Among other conclusions arrived at, it was held by the Court that all the iron ore and manganese ore leases had expired on 22-11-2007. Consequently, any mining operation carried out by the mining leaseholders after that date was illegal. It was also held that all the mining leaseholders had enjoyed a first deemed renewal of the mining lease and for a second renewal an express order was required to be passed in view of and in terms of Section 8(3) of the MMDR Act. For a second renewal of the mining lease, it was held that the State Government must apply its mind and record reasons for renewal being in the interest of mineral

(19)

development and the necessity to renew the mining lease. Any decision taken by the State Government should also be in conformity with the constitutional provisions. The decision taken by the State of Goa to grant a mining lease in a particular manner or to a particular party could be examined by way of judicial review. It was also held that the orders dated 10-9-2012 and 14-9-2012 are not liable to be quashed and that they would continue till decisions are taken to grant fresh leases and fresh environmental clearances for mining projects." (emphasis supplied)

18. The Supreme Court in Goa Foundation-II concluded thus :

"154 - In view of our discussion, we arrive at the following conclusions:

154.1. As a result of the decision, declaration and directions of this Court in Goa Foundation, the State of Goa was obliged to grant fresh mining leases in accordance with law and not second renewals to the mining lease holders.

154.2. The State of Goa was not under any constitutional obligation to grant fresh mining leases through the process of competitive bidding or auction.

154.3. The second renewal of the mining leases granted by the State of Goa was unduly hasty, without taking all relevant material into consideration and ignoring available relevant material and therefore not in the interests of mineral development. The decision was taken only to

augment the revenues of the State which is outside the purview of Section 8(3) of the MMDR Act. The second renewal of the mining leases granted by the State of Goa is liable to be set aside and is quashed.

154.4. The Ministry of Environment and Forest was obliged to grant fresh environmental clearances in respect of fresh grant of mining leases in accordance with law and the decision of this Court in Goa Foundation and not merely lift the abeyance order of 14th September, 2012.

154.5. The decision of the Bombay High Court in Lithoferro v. State of Goa (and batch) (2014 SCC Online Bom 997) giving directions different from those given by this Court in Goa Foundation is set aside.

154.6. The mining lease holders who have been granted the second renewal in violation of the decision and directions of this Court in Goa Foundation are given time to manage their affairs and may continue their mining operations till 15th March, 2018. However, they are directed to stop all mining operations with effect from 16th March, 2018 until fresh mining leases (not fresh renewals or other renewals) are granted and fresh environmental clearances are granted.

154.7. The State of Goa should take all necessary steps to grant fresh mining leases in accordance with the provisions of the Mines and Minerals(Development and Regulation) Act, 1957. The Ministry of Environment and Forest should also take all necessary steps to grant fresh environmental clearances to those who are successful in obtaining

(21)

fresh mining leases. The exercise should be completed by the State of Goa and the Ministry of Environment and Forest as early as reasonably practicable.

154.8. The State of Goa will take all necessary steps to ensure that the Special Investigating Team and the Team of Chartered Accountants constituted pursuant to the Goa Grant of Mining Leases Policy, 2014 give their reports at the earliest and the State of Goa should implement the reports at the earliest, unless there are very good reasons for rejecting them.

154.9. The State of Goa will take all necessary steps to expedite recovery of the amounts said to be due from the mining lease holders pursuant to the show cause notices issued to them and pursuant to other reports available with the State of Goa including the report of Special Investigating Team and the Team of Chartered Accountants.

155. The writ petitions and SLPs are disposed of in accordance with the above conclusions and directions."

19. The State of Goa, therefore, now had to proceed with the auction of the ore ('e-auction ore'), which was already extracted; and secondly, initiate the process of issuing fresh mining leases (allotment of blocks) in accordance with the directives of the Supreme Court as per law.

20. What is in issue in this PIL are the problems caused by bulk transport of minerals (iron ore) through mining villages in the mining zone of Goa that have plagued village communities in the past. The petitioner expects the Government to accept their rights to a clean, healthy and pollution free environment as the primary consideration which should guide them while granting transport permissions to the mining companies/transporters of the minerals, rather than the commercial interests of the project proponent/transporters. The grievance is that though statutory provisions are in place to regulate such operations, they are grossly inadequate and worse still poorly implemented. The submission is that poor implementation of norms lead to road deaths, insufferable dust pollution, destruction of roads and water delivery infrastructure, occupation of the road by heavy vehicles from dawn to dusk resulting in the degeneration of quality of life in the villages. It is submitted that with a fresh regime of mining now commencing, it was necessary that the transportation Rules ought to have been comprehensively re-examined especially in the context of findings of the two-year study of environmental impacts of mining done by the Dhanbad Institute of Mines, by the Ministry of Environment. According to the petitioners there is no scientific study of the village routes for sustainable transport before granting the permissions. Thus, it is vehemently urged that the transportation of the ore by means of trucks/tippers will not only disturb the peace and

tranquillity of the villages but seriously affect the safety of the villagers apart from increased pollution which will have an adverse effect on the health of the villagers.

21. As indicated earlier, learned Advocate General submitted that so far as village Mayem is concerned, the grievance is worked out as no transportation will be permitted from this village. It is further submitted that there are adequate safeguards in place in the form of rules, notifications, under the EP Act and also SOPs have been issued pursuant to the interim orders passed by this Court providing for adequate safety measures for safeguarding life and property of the villagers apart from addressing environmental concerns expressed.

22. We completely agree with learned Counsel for the petitioners, that there is bound to be heavy increase of transportation through the village roads as the materials on record indicate. However, in balancing the conflicting rights, we must bear in mind the observations of the Supreme Court in the matter in **Rajeev Suri vs. Delhi Development Authority & Ors.**(supra). Their Lordships made significant observations for striking a just balance between two competing environmental and development concerns. Paragraph 519 to paragraph 528 reads thus :

(24)

"519. Indubitably, environment and development are not sworn enemies of each other. It would be an anomalous approach to consider environment as a hurdle in development and vice versa. The entities like EAC and NGT are created to strike a just balance between two competing interests and a time-tested principle of striking this balance is timely invocation of mitigating environmental measures amidst a development activity. True that mere application of certain mitigating measures may not alleviate environmental concerns in all matters and in some circumstances, the project is simply incomprehensible with the environment. But as long as a legitimate development activity can be carried on in harmony with the idea of environmental protection and preservation including sustainable development, the Courts as well as expert bodies should make their best endeavour to ensure that harmony is upheld and hurdles are minimised by resorting to active mitigating measures.

520. The principle of sustainable development and precautionary principle need to be understood in a proper context. The expression "sustainable development" incorporates a wide meaning within its fold. It contemplates that development ought to be sustainable with the idea of preservation of natural environment for present and future generations. It would not be without significance to note that sustainable development is indeed a principle of development, it posits controlled development. The primary requirement underlying this principle is to ensure that every development work is *sustainable*;

(125)

and this requirement of sustainability demands that the first attempt of every agency enforcing environmental rule of law in the country ought to be to alleviate environmental concerns by proper mitigating measures. The future generations have an equal stake in the environment and development. They are as much entitled to a developed society as they are to an environmentally secure society.

521. By the Declaration on the Right to Development, 1986, the United Nations has given express recognition to a right to development. Article 1 of the Declaration defines this right as:

> " i. The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized."

522. The right to development, thus, is intrinsically connected to the preservance of a dignified life. It is not limited to the idea of infrastructural development, rather, it entails human development as the basis of all development. The jurisprudence in environmental matters must acknowledge that there is immense interdependence between the right to development and the right to natural environment.

523. In *International Law and Sustainable Development*, Arjun Sengupta in the chapter "*Implementing the Right to Development* [*International Law and Sustainable Development*

– *Principles and Practice* (Publisher : Martinus Nijhoff, Edn. 2004) p. 354.] " notes thus:

> "... Two rights are interdependent if the level of enjoyment of one is dependent on the level of enjoyment of the other..."
>
> The concern of the regulatory agencies is to weed out the unsustainable from the development plan and to parallelly ensure that the right to development is not trumping upon any other right. Sengupta further notes:
>
> "... There is an improvement in the right to development only if at least one of the constituent rights improves and no other right deteriorates or is violated, which means the right to development conforms to the principle of the indivisibility of human rights... [*International Law and Sustainable Development — Principles and Practice* "

524. The precautionary principle duly mandates that all agencies of the State, including Courts, must make their best endeavour to ensure that precaution is instilled in the process of development. The very requirement of prior EC is born out of this need for precaution. It is a manifestation of the precautionary principle in India and if development work is carried out in furtherance of prior EC and such EC is not vitiated by illegality, it would be a case of proper adherence with the precautionary principle.

525. In matters of balancing between competing environmental and development concerns, the Court has to be project-specific. In environmental matters, even one fact here or there may have the effect of attributing a totally distinct character to the project and accordingly, the scope of judicial review may vary. This sentiment is best reflected in the following words of Professor Schotland [D.C. Circuit Judicial

(128)

Conference, *Environmental Protection : Law and Policy*, 2nd Edn. (Cambridge : Cambridge University Press, 2007) p. 122.] who proposed ranking of standards of judicial review according to strictness:

> "3. ... I have always thought of scope of review as a spectrum, with de novo at one end, with unconstitutionality at the other end, and in between a number of what I will call "mood-points" or degrees of judicial aggressiveness or restraint, such as preponderance of the evidence, clearly erroneous, substantial evidence on the whole record, scintilla of evidence, abuse of discretion and last, right next to or even into unconstitutionality, arbitrary and capricious. And since these are only "mood-points", there is considerable room within each for difference."

526. The proper balance of judicial review in environmental matters in a constantly developing society is a matter of great debate across all jurisdictions. In *Ethyl Corpn.* v. *Environmental Protection Agency* [*Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976). Ed. : Cert. denied in *Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976) against *Ethyl Corpn.* v. *Environmental Protection Agency*, 541 F 2d 1 (DC Cir 1976).] , the observations of Wright, J. present a just balance. He observed thus:

> "There is no inconsistency between the deferential standard of review and the requirement that the reviewing court involve itself in even the most complex evidentiary matters; rather, the two indicia of arbitrary and capricious review stand in careful balance. The close scrutiny of the evidence is intended to educate the court. It must understand enough about the problem confronting the agency to comprehend the meaning of the evidence relied upon and the evidence discarded; the questions

(128)

addressed by the agency and those bypassed; the choices open to the agency and those made. The more technical the case, the more intensive the court's effort to understand the evidence, for without an appropriate understanding of the case before it the court cannot properly perform its appellate function. ..."

527. Wright, J. in *Ethyl Corporation* [*Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976). **Ed.** : Cert. denied in *Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976) against *Ethyl Corpn.* v. *Environmental Protection Agency*, 541 F 2d 1 (DC Cir 1976).] then notes the need for realising the limits of judicial function thus:

"*But the function must be performed with conscientious awareness of its limited nature. The enforced education into the intricacies of the problem before the agency is not designed to enable the court to become a superagency that can supplant the agency's expert decision-maker.* To the contrary, the court must give due deference to the agency's ability to rely on its own developed expertise. The immersion in the evidence is designed solely to enable the court to determine whether the agency decision was rational and based on consideration of the relevant factors. It is settled that we must affirm decisions with which we disagree so long as this test is met...." (emphasis supplied)

528. They must always look for a careful balance when two equally relevant interests compete with each other. The task may not be easy, but is the only reasonable recourse. For the proper application of these principles, the first and foremost thing to be kept in mind is the nature of the project. In the present case, the subject project is an independent building and construction project wherein one-time

(129)

> construction activity is to be carried out. It is not a perpetual or continuous activity like a running industry. It is absolutely incomprehensible to accept that a project of this nature would be unsustainable with the needs and aspirations of future generations. Furthermore, the increase in footprint is not shown to be substantial and the inclusion of new Members of Parliament after the delimitation exercise is anyway going to lead to an inevitable increase in footprint (floating though) that cannot be countenanced as a concern here."

23. We have therefore to look for a careful balance when two equally relevant interests compete with each other. At this juncture itself, we may refer to the MCA No. 239 of 2024 filed by Vedanta Limited. Shri Janak Dwarkadas submitted that Vedanta Limited has been granted Environmental Clearance (EC) to the project for Block – I, Bicholim Mineral Block and Block VII-Cudnem Mineral Block. It is submitted that the EC is granted after following a detailed procedure laid down under the EP Act and the Rules framed thereunder. Our attention is invited to the Notification dated 14.09.2012 published by the Ministry of Environment, Forest and Climate Change, which provides for requirements of prior environmental clearances for matters falling under category 'A' of the Schedule. Shri Dwarkadas submitted that the Expert Appraisal Committee comprises of domain experts. It is submitted that rigorous conditions are imposed in the EC. It is further submitted that transportation is a mechanism

(136)

provided under the Expert Appraisal Committee (EAC) regime. It is submitted that the EAC comprises of persons who are outstanding environmental policy experts with wide expertise in the relevant development sector. It consists of only professionals and experts fulfilling the qualifying criteria provided by the notification. It is submitted that a detailed procedure is prescribed for appraisal. A procedure is conducted for public hearing. It is thus submitted that before granting EC, it has to pass the muster of the stringent provisions of the EP Act and the Rules framed therein.

24. It is already indicated by us that we are not examining the challenge to the EC hence we refrain from expressing any opinion to the legality or otherwise of the EC. In appropriate proceedings, such challenge can be gone into. We also make it clear that what is being recorded by us are the assurances accepted by Vedanta in the matter of transportation. We may not be understood to mean that we have examined the legality and propriety of the conditions for transport in the EC and the Consent to Operate ('CTO' for short). The challenge to these conditions in the EC and the CTO regarding the transport and the measures incorporated is kept open for consideration in appropriate proceedings before the appropriate forum as and when a proper challenge to the EC as well as the CTO is made.

(181)

25. Shri Dwarkadas was at pains to point out that Vedanta's consent to operate incorporates all the safeguards necessary to ensure that the competing rights of the villagers regarding their safety and environmental concern are properly balanced with that of the right of the project proponent to carry mining operations pursuant to the valid EC. Shri Dwarkadas submitted that Vedanta's affidavit dated 17.06.2024 provides for measures of safeguards to prevent pollution under CTO. On instructions, Shri Dwarkadas submits that Vedanta shall be strictly complying with all conditions of transportation mentioned at serial nos. 13 to 24 of the CTO.

26. The CTO has been granted by the GSPCB under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6(i) of the Hazardous and Other Wastes (Management and Transboundry Movement) Rules 2016, as amended thereafter. In the EC granted to Vedanta Limited, we find that during the site inspection, certain observations were made by the sub-committee. The observations at item 4 and the reply of the project proponent thereon are relevant, reading thus :

> "4. The Project Proponent needs to bypass the public road and also to explore the possibility of increasing the capacity of the truck so as to reduce the no. of trips. The EAC opined that the Project

(132)

Proponent needs to revisit the traffic load by considering the cycle time and waiting time. The Project Proponent needs to submit the action plan for strengthening the road and for converting the unpaved road into concrete road.

The Project Proponent submitted the map showing the transportation route comprising of dedicated road corridor and public road. The total travel distance upto Jetty is 5.48 kms (4.54 km dedicated road and 0.94 km MDR-20 Public Road). Traffic load and effective distance between two trucks are as follows :-

S.No.	Transportation working days	Quantity (In TPA)	Tonnes/Day	Trips per day	Mode of trnasport
1	237	30,00,000	12658	1205	Road
	Total trips per day			1205	

The road witdth details for various segments are as follows :

Dedicated Road corridor	
3.31 km	1.23 km
12-15 mts wide Road	7 mts wide Road

Further, the Project Proponent submitted the following details :

i. Capacity of truck is 10.5 tons as per directives of Dept: Of Mines & Geology, Goa.

(133)

ii. Total Handling per day is 12658 tons/day

iii. Transportation timings are 6.00 a.m. to 7.00 am, 8.00 a.m. to 12.45 pm and 2.00 p,m to 5.45 pm. Therefore, the effective transportation time is 9.30 hrs.

iv. Per Hour Handling is : 1332 tons/hour

v. No. of vehicles per Hour (One Way): 127 vehicles

vi. No. of Vehicles per Hour (to and fro) : 254 vehicles

vii. The Speed of vehicle is 25 KMPH and the lead distance is 5.48 kms.

viii. The time taken for 5.48 km is 13.15 mins for each truck and loading time is 1 min, weighment time at both source location is 2 min, Tarpaulin typing and untying time is 2 min, unloading time 1 min and waiting time 10 min.

ix. Each truck length is 15'.5" (4.58 m)

x. Distance from truck to truck is 5 m both side – 10 m

xi. Each vehicle occupies a min. distance of 14.58 m =~ 15 m

xii. The length of road is 5.48 Km = 5480

xiii. No. of vehicle which can travel on this road for one side =5480/15=365, However we would be plying only 127 trucks hence effective distance between two vehicles is 43 m.

The Project Proponent submitted the following mitigation measures for transportation :

i. Public road is hot mixed and same will be maintained.

ii. Dedicated road is proposed to be hot mixed in phased manner.

iii. Entire Dedicated transportation route is surrounded by thick Green Belt

(134)

iv. Transportation vehicles shall be properly maintained to minimize the exhaust emission.

v. Regular tests shall be carried out to check exhaust emission and PUC certification of transportation vehicles at prescribed interval.

vi. Transportation trucks will be loaded with prescribed capacity and covered with tarpaulin before leaving mines premises.

vii. Overloading of the material will be avoided.

viii. Regular monitoring of the emission levels.

ix. Over speeding of Vehicle will not be allowed.

x. Traffic Marshalls shall be provided for regulating movement of vehicles as well as for safety of persons.

xi. Training will be given to all drivers about safe driving.

xii. Regular water sprinkling by means five hired water tanker of 10kL capacity on haul road and loading points will be carried out.

xiii. Used of fixed dust suppression system on haul roads

xiv. Installation of two wheel washed system (one each at the exit of the dedicated road and jetty exit respectively.

xv. Manual and mechanised machines for road sweeping.

xvi. Washing of mine exit points/Junctions (Mayem, Pilgao and Jetty exit area) after transportation hours/at night with water tanker having pipe arrangements

xvii. Underpass proposed at Mayem junction to prevent interface with public."

(85)

27. By way of a note submitted at the time of hearing, a summary of major compliances ensured by Vedanta are as under:

CTO CONDITION	COMPLIANCE	STATUS
13	The mining unit shall install online noise monitoring station approved by USEPA, TUV or CPCB, CSR or MCERTs at the transportation route near sarmanas in consultation with the Board and connect the same to thye Board server within one month of receipt of this Consent and submit compliance report to the Board.	24 x 7 real time online monitoring station connected with GSPCB has been set-up
14	The mining unit shall install CCTV Camera at exit gate from mine towards the jetty to monitor if the trucks are properly covered with tarpaulin before exit and should	Installed Camera shall give the status of compliance by Trucks to GSPCB

	be connected online to GSPCB, within one month of receipt of this Consent to Operate	
16	The trucks/tippers engaged in transportation of ore shall have with atleast six inches free board after filling the cargo box to avoid spillage	This shall be complied with
17	All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box ensure the ore does not get air borne or spill on the road.	
20	The mining unit shall provide wheel washing facility for the ore transport vehicles shall be provided at the	Wheel Washing System already set-up

	exit point of the mine	
23	The mining company should submit details regarding transportation of ore mentioning Source, Destination, Qty., No. Of trips (tipper trucks), Route (names of villages through which transportation takes place), Remarks	This shall be complied with

28. Shri Dwarkadas submitted, on instructions, that Vedanta is bound by the aforesaid conditions and the mitigating measures provided for transportation. Furthermore, even the CTO has provided for conditions for transportation mentioned at serial nos. 13 to 24. In the affidavit dated 17.06.2024 filed by Vedanta, it is assured that all the conditions pertaining therein will be strictly adhered to. Statements in the affidavit and the assurances aforementioned are accepted as an undertaking to this Court.

(138)

29. This Court by an Order dated 22.04.2024, directed the GSPCB to file an affidavit pursuant to the inspection carried out and place a status report on record. So far as Vedanta is concerned, the route applied for permission was NSP-1, Top-NBP Junction-NBP-Matwada Junction-Sarmanas jetty. As directed by DMG, the Board officials inspected the site along with unit representative on 03.05.2024. Following were the recommendations for pollution control safeguard:

> **"Recommendations for pollution control safeguard**
>
> • The truck/tippers engaged in transportation of ore shall have sufficient free board after filling the cargo box to avoid spillage.
>
> • All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box to ensure the ore does not get air borne or spill on the road.
>
> • In case of break down of loaded trucks/tippers unloading of ore at the road side shall be strictly avoided.
>
> • The roads within mining lease areas shall be sprinkled with water to suppress dust pollution.
>
> • Spillage of ore on the public roads shall be removed immediately on occurrence.
>
> • The mining company should make suitable arrangement for sweeping of roads affected due to transportation of iron ore.
>
> • The mining firm should manage the daily trips in staggered manner in consultation with DMG, so that traffic congestion is avoided at major junctions.
>
> • The Board shall carry out monitoring along the route through the Ministry of Environment, Forests and Climate

(189)

Change approved lab and monitoring charges shall be recovered from the transporters/mining firms as per actual. The Transportation/mining firms shall pay an advances of Rupees Three lakhs towards the monitoring charges.

- The Department of Mines to provide the transportation route for enabling the Board to identify suitable monitoring locations. The Department may also ensure power supply for the monitoring stations.
- Speed of ore carrying trucks should be controlled by online GPS monitoring done by DMG through its authorized agency.
- Road sweeping machines may be jointly/severally developed in hotspot areas/ stretches.
- The shoulders of the mining transport roads may be tarred whenever needed.
- DMG may ensure maintenance of public road in the mining area with respect to repair of potholes/widening of roads whenever necessary.
- The Operator is required to carry out manual wheel washing in order to clean the wheels of the trucks and subdue dust arising out of it whenever wheel washing stations are not installed.
- In case the air quality standards are breached the transport frequency should be reduced and the transporters to be levied polluter pays penalty.

Permission can be granted to above mentioned route."

30. Shri Dwarkadas submitted that the Project Proponent-Vedanta is accepting all these safeguards and assures this Court on instructions that the conditions will be strictly followed and implemented. The learned Advocate General as well as learned Counsel for the implementing agencies assures that the monitoring will be strict and

effective and not an eye wash. We accept these assurances as undertaking to this Court.

31. It is submitted by Shri Dwarkadas that in any case the transportation of Vedanta is through a dedicated corridor and not through village roads. The stretch of 0.9 kms though not a part of dedicated corridor is not a village road. Learned Senior Advocate submitted that they are even willing to provide for additional safeguards for this non-village/Major District Road of 0.9 kms by deployment of traffic marshals to avoid congestion and inconvenience to the public at large on arrival of the ferry. Whether to accept these additional safeguards is something which the DMG and transport authorities shall look into and take an informed decision depending on the ground conditions.

32. MCA No.1416/2024, is an intervention filed by Shri Shankar Chandrakant Jalmi and others in Vedanta's application. Upon hearing Mr. Frias, learned Counsel for the interveners, we are satisfied that the grievance about the road being illegally constructed through the lands of the interveners cannot be made a subject matter of this PIL Petition as and by way of an intervention application. It is for the Applicant-intervener to resort to appropriate remedies available in law. If any authority is required in support of this view, we may refer to the decision of the Supreme Court in **Saraswati Industrial Syndicate**

Ltd. vs. Commissioner of Income Tax, Haryana, Rohtak[7]. In paragraph 12, Their Lordships held that the only purpose of granting an intervention application is to entitle the intervener to address arguments in support of one or the other side. Keeping all contentions open with liberty to avail of appropriate remedies in accordance with law, the intervention application is disposed of.

33. Let us now examine the measures and safeguards provided for transportation of 'e-auction ore'. A meeting was convened by DMG along with the Officials of GSPCB, Transport Department, Police Department, Stakeholders, Transporters, Panchayat Representatives on 29.01.2024 at 3.30 p.m. It was decided that the DMG and GSPCB should mutually devise a Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads. The Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads, reads thus :

> "1. The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation. In their application they shall indicate the approximate width of the road and facts about number of houses along the route and availability of alternate route. The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation. Upon such approval, the transporter

7 (1999) 3 SCC 141

(142)

will apply to the GSPCB for setting up monitoring stations on the route. 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.

2. The transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied. All trucks shall be registered with the Department and fitted with GPS.

3. GEL shall continuously monitor Vehicle speed and any Violation (above 40 km/hr) shall entail penalty i.e. Trucks shall be blocked for 3 days and further as per the Order dated 26/04/2016.

4. On the Bhumija Potal GEL through VTS System shall ensure that the total number of trips shall be restricted per Operator on the route to min 20 and maximum 40 per hour.

5. The road congestion shall be monitored by GEL on Bhumija Ore Monitoring System on a real time basis and accordingly trips shall be restricted.

6. Intimation about permitted transport shall be made to SP. North, SP. South and SP Traffic informing them that transporter has to strictly follow the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, Order of the Directorate of Mines & Geology dated 26/04/2016, check whether the above conditions are followed by the Transporters and monitor the same.

7. The timing of the Ore Transportation along the designated route should be from 8.00 am to 1.00 pm

(148)

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.

8. GEL should ensure that no trip sheets are generated beyond the prescribed time so that transportation of Ore happens only within the specified time."

34. Apart from the aforesaid, there are in place "The Goa (Prevention of Illegal Mining Storage and Transportation of Minerals) Rules 2013, published in the Official Gazette, of the Government of Goa, dated 17.10.2013. Rule 17 under Chapter V deals with Regulation of Transport and Extraction. The Regulation provides for various stipulations regarding transporting the ore. These Rules shall be scrupulously followed and measures provided effectively monitored. Rule 23 provides for reasonable restrictions on transport reading thus :

"23. Reasonable Restriction on Transport.- The Government shall have power to impose reasonable restrictions, such as, restricting the number of carriers to be permitted for transport of mineral, fixing the maximum number of years for using carriers for mining transport, deciding a cut off date after which the carrier registered with Transport Department shall not be registered for transportation of the mining ore or any other similar restriction that may be necessary to ensure smooth

(144)

flow of traffic in the State, to counter congestion on State roads. for public safety, to regulate damage to ecology and environment of the State due to haphazard movement of trucks or vehicles or due to any other mode of transport authorized to carry ore including barges."

35. Our attention is also invited to the instructions containing route safety in the matters concerning transportation on road issued by the DMG on 26.04.2016. The instructions are for strict compliance by the truck owners, machinery owners, leaseholders, traders, end users, etc. These instructions are issued in exercise of powers under the Goa (Prevention of illegal Mining, Storage and Transportation of Minerals) Rules, 2013 and all other powers enabling in this behalf. The instructions are thus :

"INSTRUCTIONS CONCERNING ROAD SAFETY IN MATTERS CONCERNING TRANSPORTATION ON ROAD

Following instructions are issued to all Truck Owners, Machinery Owners, Leaseholders, Traders, Endusers, etc. for strict compliance in exercise of powers under the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013 and all other powers enabling in this behalf:

1. Since Hon'ble Supreme Court of India in Writ Petition No. 435/2012 in order dated 21/04/2014 directed the State Government to strictly enforce the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, as such in exercise of power under Rule 17(10) of Goa (Prevention of Illegal Mining, Storage and

Transportation of Minerals) Rules, 2013, the speed limit for vehicles used for transportation of minerals is fixed at 40 km/hr.

2. The upper speed limit is applicable to the trucks registered with department irrespective of the facts whether it is involved in transportation of minerals or is driven for any other purpose. The speed limit shall be applicable to all such registered vehicles throughout the State of Goa and throughout the year so that confidence is reposed in the citizen that such vehicles shall not endanger the lives of other commuters on road.

3. The software with the help of VTS device fitted on transportation vehicles shall automatically debar all the trucks found to be exceeding the speed limit for the period mentioned as under:

(1) 1st Violation: Debarred upto 1 day
(2) 2nd Violation: Debarred upto 3 days
(3) 3rd Violation: Debarred upto 7 Days
(4) 4th Violation: Debarred upto 10 days
(5) 5th Violation: Debarred upto 15 days
(6) 6th Violation: Debarred upto 30 days
(7) 7th Violation: Debarred upto 60 days
(8) 8th Violation: Debarred upto full season

4. If in exigency situation if the truck exceeds limit beyond 40 km/hr. upto 50 km/hr., it shall not be treated as wilful violation of the speed limit. For this purpose any increase in speed of vehicle above 40 km/hr. up to 60 second at a time shall be presumed to be such exigency and shall not be treated as wilful violation of speed limit.

5. The list of violators shall be displayed on the website in the late evening of the same day or on next day.

6. It shall be the duty of the Leaseholder/Trader/end User, Transportation Contractors etc. not to employ such debarred vehicles' for any activities concerning Major Minerals like using such vehicles for internal movements within lease or jetty or storage points.

(146)

7. If the debarred vehicle is used for transportation of the minor minerals like sand, laterite stones, rubbles, murram etc. during when it was debarred, such vehicle may be made liable for exorbitant fines' so also person who employed such vehicles.

8. Since debarring of trucks is done by use of software, the Social Status, Political Status or Economical Status either of the truck owner or driver shall not influence either monitoring or process of debarring trucks.

9. The registration of vehicles with the department is voluntary, as such once registered with the department, the owner and driver of the truck or machinery shall be governed by provisions of the MMDR Act, 1957 and rules made therein, so also administrative instructions issued by Department from time to time.

10. Irrespective of financial arrangements or other commercial decision with regards to employing of vehicle between Lease Holders, traders and endusers etc. and owner of vehicles or machinery, the department shall fake serious note if any attempt by owner of vehicle or through others' to illegal stop the transport. The department reserves the right to take stern action against such person if they are found to have stopped or abated legal transportation in accordance with law which is authorised by this department.

11. The department shall monitor all the vehicles registered with it throughout the year, as such VTS device of all the vehicles registered with department shall be active throughout the year irrespective of the fact whether it is mining season or otherwise.

12. The choice of vehicles to be used for transportation concerning the particular lease holder, traders or end users shall be exclusively left to the choice of lease holders, traders or end users. As such mere registration of vehicle with department shall not give any rights to any of the vehicle owner

to get business of transportation as a matter of right from the department/lease holder, end user etc.

13. The vehicle engaged for one lease hold area/end user shall be expressively barred for undertaking transportation or other allied activities for other lease holder/end user on the same day.

14. The time for transportation of minerals though starts from 6 a.m. to 10 p.m. the same may be modified from time to time at different locations' taking into accounts the usage of infrastructure facilities by members of public, so also all school going children etc.

15. To decongest the roads it is hereby ordered that there shall be equal way bridges at loading and unloading points.

16. Proper care shall be taken by the owner and driver of the vehicle to cover the minerals with turpentine etc. so that no wastage of mineral takes place at the same time dust pollution is avoided.

17. The Lease Holders or transportation contractors, end users shall ensure that before vehicles leaves their premises, the tyres of the vehicles are washed properly so that dust pollution on the road due to tyres 'can be avoided.

18. The trucks owners shall ensure that speedometer of vehicles are in good condition so as to enable the driver to control the speed of the vehicle and drive within the speed limit.

19. When any violation shall be noticed, the message of debarring of the truck shall be sent to all the owners/drivers on mobile numbers provided by them to department for over speeding. The duration for which they are debarred shall be intimated by auto generated SMS and when such message is received, it shall be the duty of such owner/driver not to use vehicle for any mining related activity during such period, any wilful defines of such instruction shall be solely attributed to such owner/driver and

(148)

employing of such debarred vehicle shall be liable for further grievous action both monitory and otherwise.

20. In case when vehicle registered with the department meets with an accident, it shall be presumed to be at fault and strict action shall be initiated against such vehicle. It shall be the duty of the vehicle owner to prove his innocence.

21. It is hereby clarified that whenever the old vehicles shall be replaced, they shall be replaced with new vehicles of capacity of at least 15 tons.

The above instructions are issued not only for implementation of the Goa (Prevention of illegal Mining, Storage and Transportation of Minerals) Rules, 2013 but also for honouring directions of the Hon'ble Supreme Court of India. The said action is initiated so that confidence is reposed in the minds of general public that the transportation of ore is not only in compliance with legal requirements but also keeping in mind safety of the general public, which is of paramount importance.

Since actions are initiated by the help of software with electronics monitoring devices there is no scope of human intervention for favouring any person or against any person as such should be taken into right spirit so that necessary corrective majors are taken.

Place: Panaji sd/-
(Prasanna A. Acharya)
Dated: 26th April, 2016. Director of Mines & Geology

(emphasis supplied)

36. The underlined portion of the instructions is significant. DMG is conscious of the directions of the Supreme Court. It also has in mind safety of the general public. As far as back as in 2016, the need

(149)

was felt to use software to do away with the scope for any human intervention. As experts concerned with the safety of citizens, adopting modern technology, upgrading software should be routine. To this end, we expect the DMG and GSPCB to be proactive. The suggestions of learned Counsel for the petitioners which we have dealt with in the later part of this judgment assumes relevance and need to be seriously looked into. As an expert body, we expect the DMG and GSPCB to examine these suggestions and depending on the scientific study enforce them if found useful.

37. In respect of transportation of 'e-auction ore', vide Corrigendum dated 06.06.2023, the DMG has imposed the following restrictions on traffic movement on different transportation routes. Such restrictions read thus:

CORRIGENDUM

Subject: Transportation of Ore

This Department vide Memorandum No.03/66/2023/Major/Mines/194 dated 05/04/2023 had put restriction on number of trips per hour to avoid traffic congestion on village roads. This restriction stands amended to the extent given below:

The traffic movement on different transportation routes will be monitored by Goa Electronics Limited on real time basis and the number of trips will be staggered between

(150)

20 trips to 40 trips per hour depending on the traffic congestion on the roads.

Sd/-
(Dr. S. Shanbhogue)
Director & Ex-officio Joint Secretary

38. Now we come to OM dated 29.10.2014 issued by the Ministry of Environment, Forests and Climate Change, as regards the 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. The said OM provides thus :

OFFICE MEMORANDUM

Subject: 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- Regarding.

The Ministry has been receiving mining proposals wherein the habitations and villages are part of mine lease areas or habitations and villages are surrounded by the mine lease area.

2. To discuss the impact of mining activities on habitations and to develop a code of practice on these issues, a meeting was held under the Chairmanship of Shri M.S. Nagar, Chairman EAC (Non Coal Mining Sector) on 23.06.2014. After detailed deliberations by the Experts, the following suggestions were made as part of mitigation

(151)

measures to avoid adverse impact of mining operations in the case of such habitations/villages:-

a) The Project Authority shall adopt Best Mining Practice for the given mining conditions. In the mining area, adequate number of check dams, retaining walls/structures, garland drains and settling ponds should be provided to arrest the wash-off with rain water in catchment area.

b) The natural water bodies and or streams which are flowing in and around the village should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Authorities have to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table.

c) 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. The Project Proponents (PPs) must ensure that the

(152)

biological clock of the villagers is not disturbed by orienting the floodlights/ masks away from the villages and keeping the noise levels well within the prescribed limits for day/night hours.

d) The Project Authority shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate arrangements for livestock grazing. In this context, Project Authority should implement the directions areas for the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun should be scrupulously guarded against felling, lest the cattle abandon the grazing ground or return home by noon.

e) Where ever blasting is undertaken as part of mining activity, the Project Authority shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the zone of influence and impact of blasting on the neighbourhood. Within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/rock breakers/surface miners etc. should be seriously considered and practiced

(153)

wherever practicable. A provision for monitoring of each blast should be made so that the impact of blasting on nearby habitation and dwelling units could be ascertained. The covenant of lease deed under Rule 31 of MCR 1960 provides that no mining operations shall be carried out within 50 meters of public works such as public roads and buildings or inhabited sites except with the prior permission from the Competent Authority.

f) Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry fogging system. Belt- conveyors should be fully covered to avoid air borne dust.

g) The Project Authority shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop Liability Insurance Policy has to be taken by the PP as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease area for such insurance policy. In case, several mines are located in a cluster, the Associations of owners of the cluster mines, formed inter-alia, to sub-serve such an

objective. shall take responsibility for securing such Crop Liability Policy.

h) In case any village is located within the mining leasehold which is not likely to be affected due to mining activities during the life of mine, the Expert Appraisal Committee (EAC) should consider the proposal of Environmental Clearance (EC) for reduced mining area. The Mining lease may be executed for the area for which EC is accorded. The mining plan may also be accordingly revised and required stipulations under the MMDR Act, 1957 and MCR, 1960 met.

i) Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The PP shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

j) Likewise, alteration or re-routing of foot paths, pagdandies, cart roads, and village infrastructure/public utilities or

(155)

roads (for purposes of land acquisition for mining) shall be avoided to the extent possible and in case such acquisition is inevitable, alternative arrangements shall be made first and then only the area acquired. In these types of cases, Inspection Reports by site visit by experts may be insisted upon which should be done through reputed Institutes.

k) As CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial turn-over, Socio Economic Development of the neighborhood Habitats could also be planned and executed by the PPs more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers on the lines as required under TOR. "R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the

(156)

village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the EIA report."

3. The matter was examined in the Ministry and accordingly, it has been decided that the above mentioned conditions at para-2 (a-k) may be included as a condition of Environmental Clearance letter to mitigate the adverse impact of mining operations in the case of such habitations/villages.

4. This issues with the approval of Competent Authority." (emphasis supplied)

39. It is therefore not as if transportation of the ore through village roads is completely prohibited as fairly submitted by the learned Counsel for the petitioner. Moreover, the aforesaid SOPs/measures are put in place to mitigate the adverse impact of mining operations in the case of such habitations/villages. Learned Counsel for the petitioners fairly submitted that the spirit of the OM dated 29.10.2014 is imbibed in the SOPs issued by the authorities from time to time. The safeguards imposed by way of SOPs, instructions, Rules and Regulations before and after filing of the PIL accords with the spirit of the OM dated 29.10.2014. These measures be strictly implemented.

(157)

40. Learned Counsel for the petitioners made a fervent plea that the number of trips per hour be reduced and that there should be real time monitoring about the impact of pollution caused as a result of such transport. Learned counsel submitted that so far as transport is concerned, as a result of this Court's intervention, the SOP was evolved jointly by the DMG and the GSPCB. Learned Counsel submitted that the timing of ore transportation should be from 9.00 a.m. instead of 8.00 a.m. to 1.00 p.m. as per the SOP condition no.7. It is submitted that time period of 8.00 a.m. to 9.00 a.m. is the peak time for people travelling, large number of children going to school, etc. It is submitted that heavy truck movement is dangerous for human safety and it would seriously impede and inconvenience the day to day travel of a large number of people during this period from 8.00 a.m. to 9.00 a.m. It is then submitted that the total number of trips be restricted to the minimum or less than 20 trucks per hour and not the upper cap of 40 trucks per hour. It is submitted that no technical study has been carried out for the capacity of village roads and the figure proposed in the SOP is an adhoc figure not backed by data. The constant movement of the trucks would be hazardous for the locals. It is requested that the total number of trips ought not to be higher than 20 (load) trips per hour.

41. So far as monitoring of ore transportation operation by GSPCB and DMG is concerned, learned Counsel for the petitioners submitted that the monitoring of ore transportation is proposed to be done under the new regime i.e. installation of monitoring stations along the ore transportation route, readings of air quality taken twice a week and averaged out for 24 hours and results obtained after six days. She submits that the use of 24-hour ambient air quality monitoring data for truck transport of ore is wholly inappropriate since the truck transport does not happen over a 24-hour period as is the case with an industrial unit working three shifts. Thus, while the actual transportation period in which air pollution levels are higher are approximately 8 hours only, these air pollution readings are merged into the readings captured over the period of 24 hours, which results in the air pollution levels being averaged out and almost always being within permissible limits on account of no major activity taking place in the balance 16 hours (i.e. of non transportation). According to learned Counsel, the average pollution level readings are thus deemed to be within the norms (Ambient Air Quality for Residential Areas). Learned Counsel for the petitioners suggested that, (a) the monitoring of air pollution needs to be done daily and exclusively within the ore transportation timings and (b) monitoring should be in the nature of real time, online monitoring, with the equipment linked with the PCB servers and Panchayat. Learned Counsel submitted that at present the

(179)

monitoring system neither indicates the true picture of dust pollution levels during ore transportation nor does it enable the Board to respond quickly by reducing the transport or shutting it down temporarily and more focused method is required to achieve proof of air pollution and most importantly, enable the Board to conduct what is actually "point source" monitoring. It is further submitted that while the movement and timing of trucks is already subject to real time monitoring online by the DMG, the measurement of pollution levels (in terms of PM10 and PM2.5) is available only six days after the actual events, due to outdated technology. Learned Counsel submitted that with the outdated system, the chance of policy intervention and quick action being taken against excessive pollution is ruled out.

42. Learned Counsel for the petitioners urged that the need of the hour is to ensure the updation of pollution monitoring technology to keep up with scientific advancements. According to her, Real Time monitoring of air pollution levels will enable the Pollution Control Board to swiftly take action in the event air pollution levels are breached on a particular day. The petitioner wants this Court to recommend to the Board to invest in and use low-cost air quality monitoring for dust pollution in village settlements and crowded roads in the forthcoming season itself, commencing September 2024. It is

submitted that the costs may be recovered from the transporter. It is submitted that the transportation of 'e-auction ore, which is actually never ending process will always be an ongoing phenomenon. Learned Counsel urged that the Board must take a proactive approach while entering a new phase of mining. It is submitted that trials of the new, low-cost electronic sensor-based air quality technologies (also used by Govt. Pollution Control Boards in Rajasthan, Maharashtra and - Karnataka) should be started during the monsoon itself, so that the difference between pure air and polluted air will be obvious, if pollution is generated by this activity. The low-cost systems suggested (or any other sensible equivalent) would enable the person at the monitoring station /P.C.B. officer to immediately shut down the activity or warn the transporter (and connected leaseholder), if the PM standards (100 for PM10 and 60 for PM 2.5) are breached. This according to the learned Counsel would be similar to the real time action that the D.M.G. states it will take if the number of trucks deployed is in violation of the number permitted, or if stipulated speed levels are exceeded. The petitioners have provided details about some of the low cost air quality monitoring device which has been deployed in various cities. Learned Counsel suggested that 'ATMOS' real time Air Quality Monitoring Device, developed by the research team at IIT Kanpur is useful. The features of this device are :

(161)

- It enables real time monitoring of PM 1, PM 2.5 and PM 10 levels.

- The average cost per unit is Rs,30,000/-

- It has an inbuilt GPRS module and does not require additional WIFI/network setups.

- Monitoring data is transmitted real time and is accessible on an online dashboard.

- On a full charge, the device can monitor air levels for a period of 8 hours.

43. Pursuant to the orders passed by this Court, we find that the DMG and the GSPCB have suggested measures and put SOPs in place which are mitigating measures. We have no manner of doubt that the GSPCB and DMG will adopt a proactive approach in embracing modern technology which will go a long way in striking a just balance between two competing interests as the time tested principle of striking this balance is primary invocation of mitigating measures amidst such activity. We have no manner of doubt that the suggestions made by the learned Counsel for the petitioners which we find worth considering will be given due weightage. The GSPCB as an expert body should make best possible endeavor to ensure that harmony is upheld and hurdles for the citizens are minimised by resorting to active mitigating measures. The suggestions of the learned Counsel for the petitioners be given serious consideration by

the authorities. It is the primary duty of the expert agencies to ensure a right balance and we expect that a proactive approach be adopted in the best interest of the villagers.

44. The DMG and GSPCB to ensure that the measures aforesaid are strictly monitored and implemented in its true letter and spirit. Any violation be dealt with firmly.

45. We thus find from the materials that the expert bodies like GSPCB and the DMG have issued the SOPs and imposed necessary safeguards in the transportation of the 'e-auction ore'. It is not possible for us to substitute our opinion for that of the expert body like the GSPCB and DMG. The recommendations and decision of the DMG and GSPCB cannot be undermined in a light manner and due deference must be accorded to expert agencies when the decisions do not attract the taint of legal unjustness/infirmity. We, however, feel the need to record that the mitigating measures must be strictly observed by the project proponent/transport operators in letter and spirit during the transportation of the ore. They shall ensure regular monitoring. Any infraction be dealt with seriously. The suggestions made by the petitioners be given due weightage by the GSPCB and DMG. The GSPCB and the DMG should make every possible endeavour to strike a just balance in the conflict of competing interests by resorting to modern techniques amidst the transportation activity.

(163)

46. We find it necessary to direct that a proper study be carried out by preparing a report specific to each route permitted by DMG and GSPCB for transportation of ore through the villages on the basis of carrying capacity of each road. The DMG and GSPCB undoubtedly will have to consider the length of the route, number of houses/hamlets, situated on the route with the study of the population enroute, the details of schools or other such activities that may exist along the route apart from other factors while taking a decision on granting transport permission based on the carrying capacity set down for each route. This will accord with the spirit of the OM issued by the Ministry of Environment. The DMG and GSPCB shall, as far as possible, monitor the trucks on each route on Real Time basis, install CCTV cameras connected to DVR devices at Panchayat Ghars and/or public schools and/or the office of the GSPCB and DMG to enable the DMG/GSPCB and/or Panchayat officials or other designated officials to monitor and observe the movement of trucks carrying such ore along the route.

47. The DMG and GSPCB shall as far as possible install pollution monitoring devices of the nature that may upload information/data to the server of the DMG and GSPCB in Real Time to enable the Departments to monitor the air quality along the designated routes in Real Time and to arrest the movement of trucks, if required to bring air pollution to within permissible norms.

48. We reserve the liberty of the petitioners/any of the affected person or in public interest to approach this Court in case of difficulty in the implementation of the aforesaid measures, breach of any conditions or for any other genuine cause concerning the transport activity at any stage when necessary.

49. The PIL Writ Petition is disposed of in the above terms. No order as to costs.

VALMIKI MENEZES, J. **M. S. KARNIK, J.**

Signed by: ANDREZA RODRIGUES EPEREIRA
Designation: Private Secretary
Date: 03/07/2024 10:17:49

A-4

Annexure - A-4

Quantity of ore transported and amount paid to the State Government

Month	Quantity Transported (Ton)	Premium (Cr.)	Royalty (Cr.)	DMF (Cr.)	NMET (Cr.)	Other levies (Cr.)
Jul-24	29,305	1.52	0.72	0.07	0.01	0.48
Aug-24	34,741	0.69	0.33	0.03	0.01	0.22
Sep-24	51,127	1.93	0.91	0.09	0.02	0.61
Oct-24	1,02,473	9.05	4.27	0.43	0.09	2.85
Nov-24	85,942	8.32	3.93	0.39	0.08	2.62
Dec-24	52,657	3.47	1.64	0.16	0.03	1.09
Total (Actual)	3,56,246	24.97	11.79	1.18	0.24	7.86

A-5

(166)

IN THE HIGH COURT OF BOMBAY AT GOA

WRIT PETITION NO.3139/2024 (F)

TRUCK OWNERS
ASSOCIATION OF SESA
MINING BICHOLIM
MINE,REP. BY ITS
PRESIDENT RAJARAM
GAONKAR AND ANR.

··· PETITIONERS

Versus

STATE OF GOA, THR.
CHIEF SECRETARY & 3 ORS.

··· RESPONDENTS

Mr Yogesh Nadkarni with Mr Nilay Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Mr Deep Shirodkar, AGA for Respondents No.1 to 4.

WITH
WRIT PETITION NO.3140/2024 (F)

M/S. VEDANTA LIMITED,
REP. BY AUTH. SIGNOTARY
KARNI SINGH RAJORA AND
ANR.

··· PETITIONERS

Versus

STATE OF GOA, THR. THE
CHIEF SECRETARY AND 5 ORS.

··· RESPONDENTS

Mr S. S. Kantak, Senior Advocate with Mr A. Gosavi, Ms Neha Kholkar, Mr G. Kerkar and Ms K. Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Ms Maria Correia, AGA for Resp. No.1 to 6.
Ms Norma Alvares, Senior Advocate with Mr Om D' Costa, Advocate for Respondent No.7.

CORAM: M. S. KARNIK &
NIVEDITA P. MEHTA, JJ.

DATE: 17th DECEMBER 2024

P.C.:

1. We have heard Mr S. S. Kantak, learned Senior Advocate and Mr Yogesh Nadkarni for the petitioners appearing in the connected Writ Petition. We have also heard learned Advocate General representing the State. Ms Norma Alvares, learned Senior Advocate appears for respondent no.7.

2. The grievance of the petitioners is that though they are duly authorised to transport the ore through the road which has been mentioned in the Environmental Clearance Order, some of the villagers are illegally obstructing the transportation of ore.

3. At this juncture, considering the rival claims set up in respect of the road in question, we find it appropriate to direct the respondents to look into and take a decision on the representation/communication dated 09.12.2024 which is at page 100 of Writ Petition No.3139/2024 (F) and the representation/ communication dated 07.12.2024 which is at page 153 of Writ Petition No.3140/2024 (F) in accordance with law expeditiously.

4. Keeping all contentions of all parties open, both the Writ Petitions are disposed of without any order for costs.

NIVEDITA P. MEHTA, J. **M. S. KARNIK, J.**

Signed by: SUCHITRA NANDAN SINGBAL
Designation: Personal Assistant
Date: 18/12/2024 16:06:11

A-6 (168)

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To

The Sub-Inspector of Police
Bicholim Police Station, Bicholim, Goa

Date: 23/12/2024

Sub: Request for providing Police protection to transport Iron Ore from Bicholim Block to Sarmanus Jetty

Ref.: (i) Letter to SP North Goa requesting for police protection dated 07.12.2024
(ii) Order dated 17.12.2024 passed by the Hon'ble Bombay High Court in Writ Petition No. 3140/2024 (F)

Respected Sir/Madam,

Please refer our letter referred at (i) above requesting police protection to pass through the road being used for iron ore transportation from Bicholim Mine to Sarmanus Jetty for more than last 4 (four) decades.

As informed earlier, certain individuals are attempting to interfere with our usage of this road and are blocking the road passing through survey nos. 154, 164 & 184 of village Pilgao, Tehsil Bicholim thereby preventing us from carrying out transportation of iron ore in lawful manner and after obtaining all the permissions & consents.

A writ petition (No. 3140/ 2024(F)) was also filed by us in the matter before the Hon'ble Bombay High Court seeking directions to give Police protection to enable iron ore transportation through this route.

It is to bring to your attention the Hon'ble High Court of Bombay at Goa on 17.12.2024 has passed following Order in this matter:

> *"3. At this juncture, considering the rival claims set up in respect of the road in question, we find it appropriate to direct the respondents to look into and take a decision on the representation/ communication dated 09.12.2024 which is at page 100 of Writ Petition No. 3139/ 2024(F) and the representation/ communication dated 07.12.2024 which is at page 153 of Writ Petition No. 3140/ 2024 (F) in accordance with law expeditiously."*

Received (sd.) 23/12/2024
Directorate of Mines & Geology
Government of Goa

VEDANTA LIMITED
Sesa Goa Iron Ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com
Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

vedanta
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In view of the above direction, we request you to register complaint against the individuals attempting to create obstruction/ hinderance in iron ore transportation and provide necessary police protection in the captioned matter as expeditiously as possible.

We look forward to your immediate action in this regard.

Please let us know in case any further information or clarification is required from our end in this matter.

Thanking you,

Yours Faithfully,

(Karni Singh Rajora)
Head Legal – Sesa Goa

Cc.:

1. Director, Department of Mines & Geology, Goa
2. Collector, North Goa, Office of the Collector, Panaji, Goa
3. Superintendent of Police, Office of Superintendent of Police, North Goa
4. Deputy Collector, Bicholim, Office of the Deputy Collector, Bicholim, Goa

Despatch Clerk
C. P. North Office
Porvorim

Office Received
Date 23/12/24

VEDANTA LIMITED
Sesa Goa Iron Ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com
Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

IN THE HIGH COURT OF BOMBAY AT GOA, PORVORIM

610

A-7

170

Misc. Civil Application No. /2024

In

P.I.L. W.P. No. 6 / 2024

Vedanta Limited

V/s ...Applicant

The Mulakh Khajan Farmers Association & Anr.

And ...Respondent

Shankar Chandrakant Jalmi & Ors. ... Interveners

INDEX

SR. NO	PARTICULARS	Annexure	Page No.
1.	Intervention Application		
2.	The copies of Form I and XIV	'A' Colly	
3.	The photographs taken on 14/06/2024	'B' Colly	
4.	Copy of the objections dated 8/4/2024	C	
5.	Copy of the objections dated .13/06/2024	D	

Porvorim, Goa

Adv. for the Applicant/Intervener

18/06/2024

(171)

Mr. Benecio Menezes,

56 years of age, Indian National,

Having residence at St. Roque Waddo,

Colvale, Bardez, Goa.

In

1. The Mulakh Khajan Farmers Association,

   Thr. Its secretary Sakharam Ananat Pednekar

2. The Goa Foundation,

   Through its Secretary,

   Dr. Claude Alvares,

   Having registered office at Room No. 7,

   Above Mapusa Clinic,

   Mapusa, Goa 403 507

V/s

1. The Directorate of Mines and Geology,

   Through its Director,

   Ground Floor of Institute Menezes Braganza,

   Panaji, Goa 403001

2. The State of Goa

(12)

Through its Chief Secretary,

Having office at the Secretarial Complex,

Porvorim, Bardez, Goa

3. The Deputy Collector and SDO, Bicholim,

Office of the Deputy Collector and SDO, Bicholim

Bicholim, Goa.

4. The Mamlatdar,

Office of the Mamlatdar,

Bicholim, Goa

5. The Bicholim Police Station,

Through its Police Inspector,

Bicholim, Goa.

6. The Goa State Pollution Control Board,

Through its Member secretary,

Near Pilerne Industrial Estate,

Opposite Saligao Seminary,

Saligao, Goa 403511

7. Blueglobe Esports Private Limited,

Through its Director,

B-3, F-1 Prudential Paradise Peddem,

Mapusa, North Goa, GA 403507 In.

The Union of India
Through the Secretary,
Ministry of Environment,
Forests and climate Change,
Government of India,
Indira Paryavaran Bhavan,
Jor Bagh Road,
Aligang, New Delhi, 110003. .. Respondents

AND

1. Shankar Chandrakant Jalmi,
2. Savlo Raghu Kavlekar,

Both major, residents of H.No. ....,

Bagwada, Pilgao, Bicholim, Goa

3. Sudhakar Vasudev Vaignkar,

Major, resident of H.No.65, Bagwada,

Pilgao, Bicholim, Goa.

4. Govind Shankar Kavlekar,

Major, resident of H.No. 23,

Gaonkar Wada,

Pilgao, Bicholim, Goa .. Interveners

(Registered addresses of the parties are above)

(124)

APPLICATION FOR INTERVENTION

MAY IT PLEASE YOUR LORDSHIPS :-

The applicant / interveners respectfully states and submits as under:-

1 The applicants are residents of Pilgao in Bicholim Taluka and all are all agriculturalists. The applicants are co-tenants of the properties bearing survey nos. 164/5, 164/23, 164/29, 164/35, 164/41, 154/9, 154/17, 154/29 of village Pilgao which are all paddy fields. The name of their ancestor Shri Shankar Govind Jalmi is recorded in the tenants column of the form I and XIV of the said properties. Hereto annexed and marked as **Annexure 'A'** Colly are the copies of Form I and XIV.

2. The applicants have learned that the applicant in MCA No. 239/2024 M/s Vedanta Limited has applied for leave to transport iron ore through a dedicated road for transportation of ore which according to them is a private road to the Sarmanas Jetty.

3. The applicants have learned that the Goa State Pollution Control Board has recommended grant of permission to the applicant for transportation of ore through the said road which according to the interveners is illegal and ought not to have been granted for the following reasons.

   (a) The said road is an illegally constructed road through agricultural land. If ore is permitted to be transported to the said road, the paddy fields along the said road would get polluted and be

(175)

rendered unfit for cultivation due to spillage, dust pollution etc.

Hereto annexed and marked as **Annexure 'B' Colly** are photographs taken on 14/06/2024.

4. The applicant states that they have filed objections on 8/4/2024 to the Deputy Collector, Bicholim, The Director, Directorate of Mines and Geology, The Director of Agriculture and the Member Secretary of the Goa State Pollution Control Board with regard to the proposed transportation of ore through the said road and also bringing to their notice that the road was illegally constructed through their agricultural lands. Hereto annexed and marked as **Annexure 'C'** is the copy of the objections dated 8/4/2024.

5. The applicants/interveners state that upon learning of the permission granted for transportation of ore to the applicant they have filed additional objections before the authorities on 13/6/2024. Hereto annexed and marked as Annexure 'D' is a copy of the objections dated 13/06/2024.

6. The applicants state that in the event the applicant M/s Vedanta Limited is permitted to transport ore through the said road, they will suffer grave and irreparable loss as their paddy fields which is their source of income will be rendered unfit for cultivation.

7. The principals of sustainable development would have to be applied to such cases where the rights and interest of the local communities have to be safeguarded when

granting permissions for development and other commercial activities such as mining, etc.

8. The applicants/interveners therefore submit that it is just and proper that they be permitted to intervene in this matter and be heard before any order is passed by this Hon'ble Court on the application of M/s Vedanta Limited.

9. It is therefore prayed that the

   a) The applicants be permitted to intervene in MCA 239/2024 in PIL WP No. 6/2024 and file their reply.

Place: Porvorim, Goa

Date: 18/06/2024

Adv. for the Applicants/Intervener

(177)

Annexure 617 A

10

FORM 1 & XIV
नमुना नं १ व १४

1000184864147

Date: 07/04/2024

Page 1 of 2

Taluka: BICHOLIM
तालुका

Survey No 164 1
सर्वे नंबर

Village: Pilgao
गांव

Sub Div No 4
हिस्सा नंबर

Name of the Field Lonar
शेताचे नांव

Tenure
वर्ग प्रकार

Cultivable Area (Ha Are Sq Mts) लागवत क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice भाती	Khajan खाजन	Kar वैर	Morad पोरड	Total Cultivable Area एकूण लागवत क्षेत्र
0000.00.00	0000.00.00	0000.01.25	0000.00.00	0000.00.00	0000.00.00	0000.01.25

Un-cultivable Area (Ha Are.Sq.Mtrs) नापिक क्षेत्र (हे. आर. चौ. मी.)

Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण	Remarks शेरा
0000.00.00	0000.00.00	0000.00.00	0000.01.25	

Assessment भाडपट्टा Rs. 0.00 Foro फोरु Rs. 0.00 Predial भेदिपट्टा Rs. 0.00 Rent रु Rs 0.00

S.No.	Name of the Occupant कब्जेदाराचे नाव	Khata No खाते नंबर	Mutation No फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	

S.No	Name of the Tenant रयतचे नाव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Ganu Kauloker		465	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणाऱ्याचे नांव व हक्क प्रकार	Mutation No फेरफार न	Remarks शेरा
Nil		

(12)

FORM 14 XIV
नमुना नं १४ व १४

100018864747

Date 27/04/2024 | Page 2 of 2

Taluka BICHOLIM | Survey No. 164
तालुका | सर्वे नंबर

Village Pilgao | Sub Div. No. 6
गांव | हिस्सा नंबर

Name of the Field Lonar | Tenure
शेताचे नांव | सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator लागवड करणाऱ्याचे नांव	Mode पेरा	Season हंगाम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha Are Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य Nature प्रकार	Area क्षेत्र Ha.Are.Sq.Mts हे. आर. चौ. मी.	Source of Irrigation सिंचनाचा स्रोत	Rem शेरा
199119 92	Raghu Ganu Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
198719 93	Raghu Ganu Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
198319 94	Raghu Ganu Kavalekar	Local	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
199419 95	Raghu Ganu Kavalekar	Local	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
196519 96	Raghu Ganu Kavalekar	S	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
198619 97	Raghu Ganu Kavalekar	S	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
198719 98	Raghu Ganu Kavalekar	S	Kharif	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	
197919 99	Raghu Ganu Kavlekar	Labour	Sarad	Paddy	0000.00.00	0000.01.25		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

FORM I & XIV
नमुना नं १ व १४

Date 07/04/2024 | 100018664746

Taluka BICHOLIM | Page 1 of 2

तालुका

Village Pilgao | Survey No. 184 1

गांव | सर्वे नंबर

Name of the Field Lonar | Sub Div. No. 22

शेताचे नांव | हिस्सा नंबर

Tenure

सत्ता प्रकार

Cultivable Area (Ha.Ars.Sq.Mts) लागवण क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice शेती	Khajan खाजन	Ker खर	Morad मोरड	Total Cultivable Area एकूण लागवण क्षेत्र
0000.00.00	0000.00.00	0000.05.25	0000.00.00	0000.00.00	0000.00.00	0000.05.25

Un-cultivable Area (Ha.Ars.Sq.Mts) नागेफ क्षेत्र (हे. आर. चौ. मी.)

Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नागेफ क्षेत्रफळ
0000.00.00	0000.00.00	0000.00.00

Grand Total एकूण
0000.05.25

Remarks शेरा

Assessment : Rs. 0.00 आकार | Foro Rs. 0.00 फोरु | Predial प्रीदेयान Rs. 0.00 | Rent रेंट Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	

S.No.	Name of the Tenant कुळाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Guno Kasleker		465	

Other Rights इतर हक्क Name of Person holding rights and nature of rights. इतर हक्क धारण करणाऱ्याचे नांव व हक्क प्रकार	Mutation No. फेरफार नं	Remarks शेरा
Nil		

(180)

13

FORM I & XIV
नमुना नं १ व १४

100018864746

Date 07/04/2021

Page 2 of 2

Taluka BICHOLIM
तालुका

Village Piligao
गांव

Name of the Field Lonar
शेताचें नांव

Survey No. 164
सर्वे नंबर

Sub Div. No 22
हिस्सा नंबर

Tenure
सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator शेतकरी-वर्गाचे नांव	Mode रीत	Season मोसम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha.Are Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha.Are Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य Nature प्रकार	Area क्षेत्र Ha Are Sq.Mts हे. आर. चौ. मी.	Source of irrigation सिंचनाचा प्रकार	Remar रेमा
198119 82	Raghu G Kaulekar	Labour	Khant	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
198719 83	Raghu G Kaulekar	Labour	Khant	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
198319 84	Raghu G Kaulekar	Local	Khant	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
198419 85	Raghu G Kaulekar	Local	Kharif	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
195519 86	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
198619 87	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
198719 88	Raghu Guno Kaulekar	S	Khant	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	
197919 80	Raghu Guno Kaulekar	Labour	Sarad	Paddy	0000.00.00	0000.05.25		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

FORM I & XIV
नमुना १ व १४

Date 07/04/2024

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

Name of the Field Lonar
क्षेत्राचे नांव

100018684750

Page 1 of 2

Survey No. 169/1
सर्वे नंबर

Sub Div. No. 28
हिस्सा नंबर

Tenure
सत्ता प्रकार

Cultivable Area (Ha.Are.Sq.Mts) लागवण क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice भाती	Khajan खाजण	Ker खेर	Morad मोरा	Total Cultivable Area एकूण लागवण क्षेत्र
0000.00.00	0000.00.00	0000.05.75	0000.00.00	0000.00.00	0000.00.00	0000.05.75

Un-cultivable Area (Ha.Are.Sq.Mtrs) नागेर क्षेत्र (हे. आर. चौ. मी.)
Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नागेर जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.05.75

Remarks शेरा

Assessment : Rs. 0.00
भोगवटा

Form फॉर्म Rs. 0.00

Predial शेतीपाणी Rs. 0.00

Rent भाडे Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Fia D'Souza		137	

S.No.	Name of the Tenant कुळाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Guno Kavlekar		465	

Other Rights इतर हक्क: Name of Person holding rights and nature of rights इतर हक्क धारण करणाऱ्याचे नांव व हक्क प्रकार	Mutation No फेरफार नं	Remarks शेरा
Nil		

15

182

Date 07/04/2024

FORM I & XIV
नमुना नं १ व १४

100018664750

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

Page 2 of 2

Survey No. 164
सर्वे नंबर

Name of the Field Lonar
शेताचे नांव

Sub Div. No. 28
हिस्सा नंबर

Tenure
सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator खातेदार-कारे नांव	Mode मोड	Season मोसम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation खातेदार पडीत Nature प्रकार	Area क्षेत्र Ha.Are.Sq.Mts हे. आर. चौ. मी	Source of Irrigation सिंचनाचा स्रोत	Remarks शेरा
198319 82	Raghu Guno Kaulekar	Labour	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198319 83	Raghu Guno Kaulekar	Labour	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198319 84	Raghu Guno Kaulekar	Local	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198419 85	Raghu Guno Kaulekar	Local	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198519 86	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198519 87	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198719 88	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
197919 80	Raghu Guno Kaulekar	Labour	Sarad	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

183

16

FORM I & XIV
नमुना नं १ व १४

10001888475

Date 07/08/2024 Page 1 of 2

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

Name of the Field Lonar
शेताचे नांव

Survey No. 164
सर्वे नंबर

Sub Div. No. 34
हिस्सा नंबर

Tenure
सत्ता प्रकार

Cultivable Area (Hs.Ars.Sq.Mts) लागवड क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice भाटी	Khajan खाजण	Ker हेर	Morad मोरड	Total Cultivable Area एकूण लागवड क्षेत्र
0000.00.00	0000.00.00	0000.05.75	0000.00.00	0000.00.00	0000.00.00	0000.05.75

Un-cultivable Area (Hs.Ars.Sq.Mts) नापिक क्षेत्र (हे. आर. चौ. मी.)
Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.05.75

Remarks शेरा

Assessment : Rs. 0.00 आकार
Foro फोर Rs. 0.00
Predial शेरिबान Rs. 0.00
Rent रेट Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	

S.No.	Name of the Tenant कुळाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Guno Kauleker		485	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणा-यांचे नांव व हक्क प्रकार	Mutation No फेरफार नं	Remarks शेरा
Nil		

17

184

Date : 07/04/2024

FORM I & XIV
नमुना नं १ व १४

100018864751

Taluka BICHOLIM
तालुका

Page 2 of 2

Village Pilgao
गांव

Survey No. 154
सर्वे नंबर

Name of the Field Lonar
शेताचे नांव

Sub Div. No. 34
हिस्सा नंबर

Tenure
सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator खातेदार कब्जा-वहिवाटदार यांचे नाव	Mode रीत	Season मोसम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha Are Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha Are Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य		Source of irrigation सिंचनाचा स्रोत	Remarks शेरा
							Nature प्रकार	Area क्षेत्र Ha Are Sq.Mts हे. आर. चौ. मी.		
1981-19 82	Raghu Guno Kaulekar	Labour	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198219 83	Raghu Guno Kaulekar	Labour	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198319 84	Raghu Guno Kaulekar	Local	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
1984-19 85	Raghu Guno Kaulekar	Local	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198519 86	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198619 87	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
198719 88	Raghu Guno Kaulekar	S	Kharif	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	
1987-19 90	Raghu Guno Kaulekar	Labour	Sarad	Paddy	0000.00.00	0000.05.75		0000.00.00	Rain	

End of Report

For any further enquires, please contact the Mamlatdar of the concerned Taluka.

(185)

18

FORM I & XIV
नमुना नं १ व १४

100018564755

Page 1 of 2

dte 07/04/2024

Taluka तालुका BICHOLIM

Village गांव Pilgao

Survey No. सर्वे नंबर 164

Sub Div. No. हिस्सा नंबर 40

Name of the Field शेतातचें नांव Lonar

Tenure सत्ता प्रकार

Cultivable Area (Ha Ars.Sq.Mtrs) लागवण क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice भाती	Khajan खाजन	Ker खेर	Morad मोरड	Total Cultivable Area एकूण लागवण क्षेत्र
0000.00.00	0000.00.00	0000.05.50	0000.00.00	0000.00.00	0000.00.00	0000.05.50

Un-cultivable Area (Ha.Ars.Sq.Mtrs) लागवडीक क्षेत्र (हे. आर. चौ. मी.)
Pot-Kharab पॉट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण लागवडीक क्षेत्र	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.05.50

Remarks शेरा

Assessment : आकार Rs. 0.00 Foro फोरो Rs. 0.00 Predial वैदिवाड Rs. 0.00 Rent रेट Rs. 0.00

S.No.	Name of the Occupant कब्जेदारचे नांव	Khata No. खाते नंबर	Mutation No फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	

S.No.	Name of the Tenant कुळाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Guno Kauleker वगैरे		455	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणाऱ्याचे नांव व हक्क प्रकार	Mutation No. फेरफार नं	Remarks शेरा
----------Nil----------		

19

186

Date 07/04/2024

FORM 1 & XIV
नमुना नं १ व १४

100018664755

Page 2 of 2

Taluka तालुका BICHOLIM

Village गांव Pilgao

Survey No. सर्वे नंबर 164

Name of the Field शेताचे नांव Lonar

Sub Div. No. हिस्सा नंबर 40

Tenure सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator खातेदार इसमाचे नांव	Mode पीक	Season मोसम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडी योग्य नसलेली		Source of irrigation सिंचनाचा स्रोत	Remarks शेरा
							Nature प्रकार	Area क्षेत्र Ha.Are.Sq.Mts हे. आर. चौ. मी.		
1983192	Raghu G Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	S	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	S	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1983192	Raghu G Kavlekar	S	Kharif	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	
1979192	Raghu Guno Kavlekar	Labour	Sorad	Paddy	0000.00.00	0000.05.50		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

(187)

20

Date 07/04/2024

FORM I & XIV
नमुना नं १ व १४

100016664757

Taluka BICHOLIM
तालुका

Page 1 of 2

Village Pilgao
गांव

Survey No. 154 1
सर्वे नंबर

Name of the Field Molo
शेताचें नांव

Sub Div. No. 6
हिस्सा नंबर

Tenure
सत्ता प्रकार

Cultivable Area (Ha.Ars.Sq.Mtrs) लागवण क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice शेती	Khajan खाजण	Kar खेर	Morad मोरड	Total Cultivable Area एकूण लागवण क्षेत्र
0000.00.00	0000.00.00	0000.01.00	0000.00.00	0000.00.00	0000.00.00	0000.01.00

Un-cultivable Area (Ha.Ars.Sq.Mtrs) नापिक क्षेत्र (हे. आर. चौ. मी.)
Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.01.00

Remarks शेरा

Assessment : Rs. 0.00 आकार Foro फोर Rs. 0.00 Predial ऐसिवाय Rs. 0.00 Rent रेट Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचें नांव	Khata No खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	
2	Anant Shath Maideker		P	

S.No.	Name of the Tenant कुळाचें नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Gune Kauleker		455	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणा-यांचें नांव व हक्क प्रकार	Mutation No फेरफार नं	Remarks शेरा
——————Nil——————		

188

21

FORM I & XIV
नमुना नं १ व १४

Date 07/04/2024

1000186847F7

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

Name of the Field Molo
शेताचे नांव

Survey No. 154
गर्वे नंबर

Sub Div. No. 8
हिस्सा नंबर

Tenure
गणा प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator लागवड करणाऱ्याचे नांव	Mode पध्द	Season ऋतू	Name of Crop पिकाचे नांव	Irrigated बागायत Hc.Are Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Hc.Are Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation नापीक क्षेत्र Nature प्रकार	Area क्षेत्र Hc.Are Sq.Mts हे. आर. चौ. मी	Source of Irrigation सिंचनाचा स्रोत	Remarks शेरा
198119 87	Raghu Ganesh Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198219 83	Raghu G. Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198319 84	Raghu G. Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198419 85	Raghu G. Kavlekar	Labour	Kharif	Paddy	0050.00.00	0000.01.00		0000.00.00	Rain	
198519 86	Raghu Ganesh Kavlekar	4	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198619 87	Raghu Ganesh Kavlekar	4	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198719 88	Raghu Ganesh Kavlekar	4	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	
198819 89	Raghu Ganesh Kavlekar	4	Kharif	Paddy	0000.00.00	0000.01.00		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

(189)

22

FORM I & XIV
नमुना नं १ व १४

100018864761

Date 07/04/2024 Page 1 of 2

Taluka BICHOLIM
तालुका

Village Piligao
गांव

Survey No. 164/1
सर्वे नंबर

Sub Div. No. 16
हिस्सा नंबर

Name of the Field Molo
शेताचे नांव

Tenure
सत्ता प्रकार

Cultivable Area (Ha.Are.Sq.Mtrs) लागवण क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice भाती	Khajan खारबंद	Ker खेर	Morad मोरड	Total Cultivable Area एकूण लागवण क्षेत्र
0000.00.25	0000.00.00	0000.02.50	0000.00.00	0000.00.00	0000.00.00	0000.02.75

Un-cultivable Area (Ha.Are.Sq.Mtrs) नापिक क्षेत्र (हे. आर. चौ. मी.)
Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.02.75

Remarks शेरा

Assessment : Rs. 0.00 आकार | Foro फोरु Rs. 0.00 | Predial शेतियाण Rs. 0.00 | Rent रेंट Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	
2	Anant Sheth Maidekar		9	

S.No.	Name of the Tenant भाडेपट्टेदाराचे नांव	Khata No खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Guno Kavlekar		465	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणा-यांचे नांव व हक्क प्रकार	Mutation No. फेरफार नं	Remarks शेरा
——————NIL——————		

(19

23

Date : 07/04/2024

FORM 1 & XIV
नमुना नं १ व १४

100018664761

Page 2 of 2

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

Survey No. 154
सर्वे नंबर

Name of the Field Molo
शेताचें नांव

Sub Div. No. 18
हिस्सा नंबर

Tenure
सत्ता प्रकार

Details of Cropped Area पिकखालील क्षेत्राचा तापशील

Year वर्ष	Name of the Cultivator लागवड करणा-याचें नांव	Mode रीत	Season मोसम	Name of Crop पिकाचें नांव	Irrigated बागायत Ha Are Sq Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha Are Sq Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य Nature प्रकार	Area क्षेत्र Ha Are Sq Mts हे. आर. चौ. मी.	Source of irrigation सिंचनाचा स्रोत	Rem शेरा
198119 87	Raghu Guno Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198219 83	Raghu G.Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198319 84	Raghu G.Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198415 85	Raghu G Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198519 86	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198619 87	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198719 88	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198813 89	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	

End of Report

For any further inquiries, please contact the Mamlatdar of the concerned Taluka.

(191)

24

Date 07/04/2024

FORM I & XIV
नमुना नं १ व १४

1000186864766

Page 1 of 2

Taluka तालुका BICHOLIM

Village गांव Pilgao

Survey No. सर्वे नंबर 154

Sub Div. No. हिस्सा नंबर 24

Name of the Field शेताचे नांव Molo

Tenure मत्ता प्रकार

Cultivable Area (Ha.Ars.Sq.Mtrs) लागवत क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice वरी	Khajan खाजन	Ker खेर	Morad मोरड	Total Cultivable Area एकूण लागवत क्षेत्र
0000.00.25	0000.00.00	0000.02.50	0000.00.00	0000.00.00	0000.00.00	0000.02.75

Un-cultivable Area (Ha.Ars.Sq.Mtrs) नापिक क्षेत्र (हे. आर. चौ. मी.)

Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.02.75

Remarks शेरा

Assessment : आकार Rs. 0.00 Foro मोर Rs. 0.00 Predial पेदिवान Rs. 0.00 Rent रेट Rs. 0.00

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	
2	Anant Shet Maidekar		9	

S.No.	Name of the Tenant कुलाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Raghu Gund Kavlekar		465	

Other Rights इतर हक्क Name of Person holding rights and nature of rights: इतर हक्क धारण करणा-याचे नांव व हक्काचा प्रकार	Mutation No. फेरफार नं	Remarks शेरा
——————Nil——————		

25

Date 07/04/2024

FORM I & XIV
नमुना नं १ व १४

100018864766

Page 2 of 2

Taluka BICHOLIM
तालुका

Village Piligao
गांव

Survey No. 154
सर्वे नंबर

Name of the Field Moto
शेताचे नांव

Sub Div. No. 24
हिस्सा नंबर

Tenure
सत्ता प्रकार

Details of Cropped Area पिकाखालील क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator शासक करता-याचे नांव	Mode मोड	Season मौसम	Name of Crop पिकाचे नांव	Irrigated बागायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Ha.Are.Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य Nature प्रकार	Area क्षेत्र Ha.Are.Sq.Mts हे. आर. चौ. मी.	Source of irrigation सिंचनाचा स्रोत	Remark शेरा
198119 82	Raghu Guno Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198219 83	Raghu G Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198319 84	Raghu G. Kavlekar	Local	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198419 85	Raghu G. Kavlekar	Labour	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198519 86	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198619 87	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198719 88	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	
198819 89	Raghu Guno Kavlekar	4	Kharif	Paddy	0000.00.00	0000.02.50		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

(193)

26

Date 07/04/2024

FORM I & XIV
नमुना नं १ व १४

Taluka BICHOLIM
तालुका

Village Pilgao
गांव

100018664766

Name of the Field Molo
शेताचे नांव

Survey No. 154
सर्वे नंबर

Sub Div. No. 30
हिस्सा नंबर

Tenure
सत्ता प्रकार

Cultivable Area (Ha.Ars.Sq.Mtrs) लागवत क्षेत्र (हे. आर. चौ. मी.)

Dry Crop जिरायत	Garden बागायत	Rice वरी	Khajan खाजन	Ker खेर	Morad मोरद	Total Cultivable Area एकूण लागवत क्षेत्र
0000.00.25	0000.00.00	0000.02.25	0000.00.00	0000.00.00	0000.00.00	0000.02.50

Un-cultivable Area (Hs.Ars.Sq.Mtrs) नापिक क्षेत्र (हे. आर. चौ. मी.)

Pot-Kharab पोट खराब

Class (a) वर्ग (अ)	Class (b) वर्ग (ब)	Total Un-Cultivable Area एकूण नापिक जमीन	Grand Total एकूण
0000.00.00	0000.00.00	0000.00.00	0000.02.50

Remarks शेरा

Assessment : Rs. 0.00 Foro Rs. 0.00
आकार पोत

Predial Rs. 0.00
भेदिवम

Rent Rs. 0.00
रेंट

S.No.	Name of the Occupant कब्जेदाराचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Olivia Pia D'Souza		137	
2	Anara Shaih Maideker		9	

S.No.	Name of the Tenant कुलवाचे नांव	Khata No. खाते नंबर	Mutation No. फेरफार नं	Remarks शेरा
1	Radhu Guno Kevalekar		455	

Other Rights इतर हक्क
Name of Person holding rights and nature of rights.
इतर हक्क धारण करणाऱ्याचे नांव व हक्क प्रकार

Nil

Mutation No. फेरफार नं	Remarks शेरा

2.1)

Date 07/04/2023

Taluka तालुका BICHOLIM

Village गांव Pilgao

Name of the Field शेताचे नांव Molo

FORM I & XIV नमुना नं १ व १४

100018664766

Page 2 of 2

Survey No. सर्वे नंबर 154

Sub Div. No. हिस्सा नंबर 30

Tenure गत प्रकार

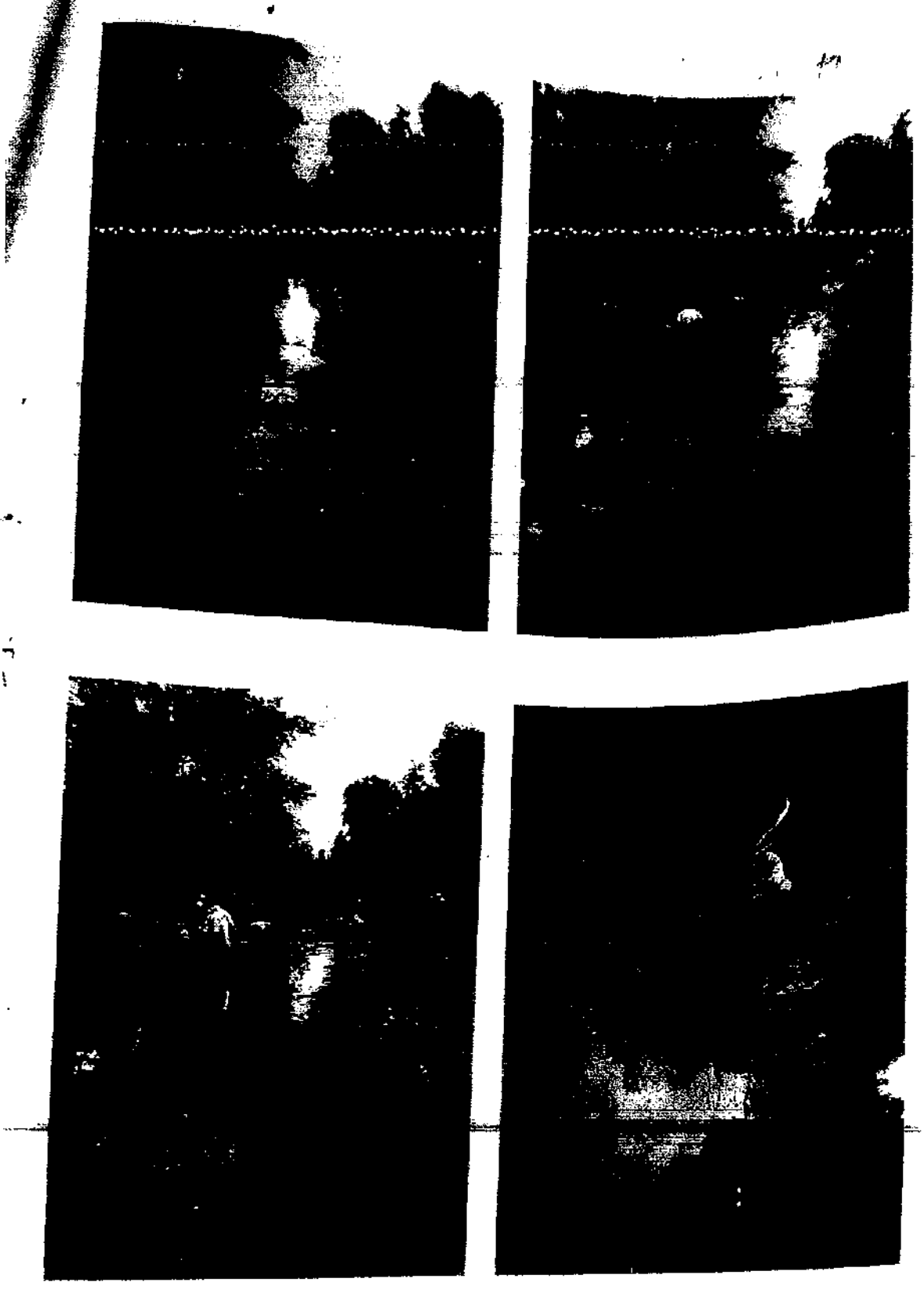
Details of Cropped Area पिकलेल्या क्षेत्राचा तपशील

Year वर्ष	Name of the Cultivator कास्तकार शेतकऱ्याचे नाव	Mode मोड	Season मोसम	Name of Crop पिकाचे नांव	Irrigated बागायत Hc.Are.Sq.Mts हे. आर. चौ. मी.	Unirrigated जिरायत Hc.Are.Sq.Mts हे. आर. चौ. मी.	Land not Available for Cultivation लागवडीस अयोग्य Nature प्रकार	Land not Available for Cultivation लागवडीस अयोग्य Area क्षेत्र Hc.Are.Sq.Mts हे. आर. चौ. मी.	Source of irrigation सिंचनाचा स्रोत	Remarks शेरा
198119 87	Raghu Guno Kavalekar	Local	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198219 83	Raghu G Kavalekar	Local	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198319 84	Raghu G. Kavalekar	Local	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198419 85	Raghu G Kavalekar	Labour	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198519 86	Raghu Guno Kavalekar	4	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198618 87	Raghu Guno Kavalekar	4	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198719 86	Raghu Guno Kavalekar	4	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	
198819 89	Raghu Guno Kavalekar	4	Kharif	Paddy	0000.00.00	0000.02.25		0000.00.00	Rain	

End of Report

For any further inquires, please contact the Mamlatdar of the concerned Taluka.

(195)

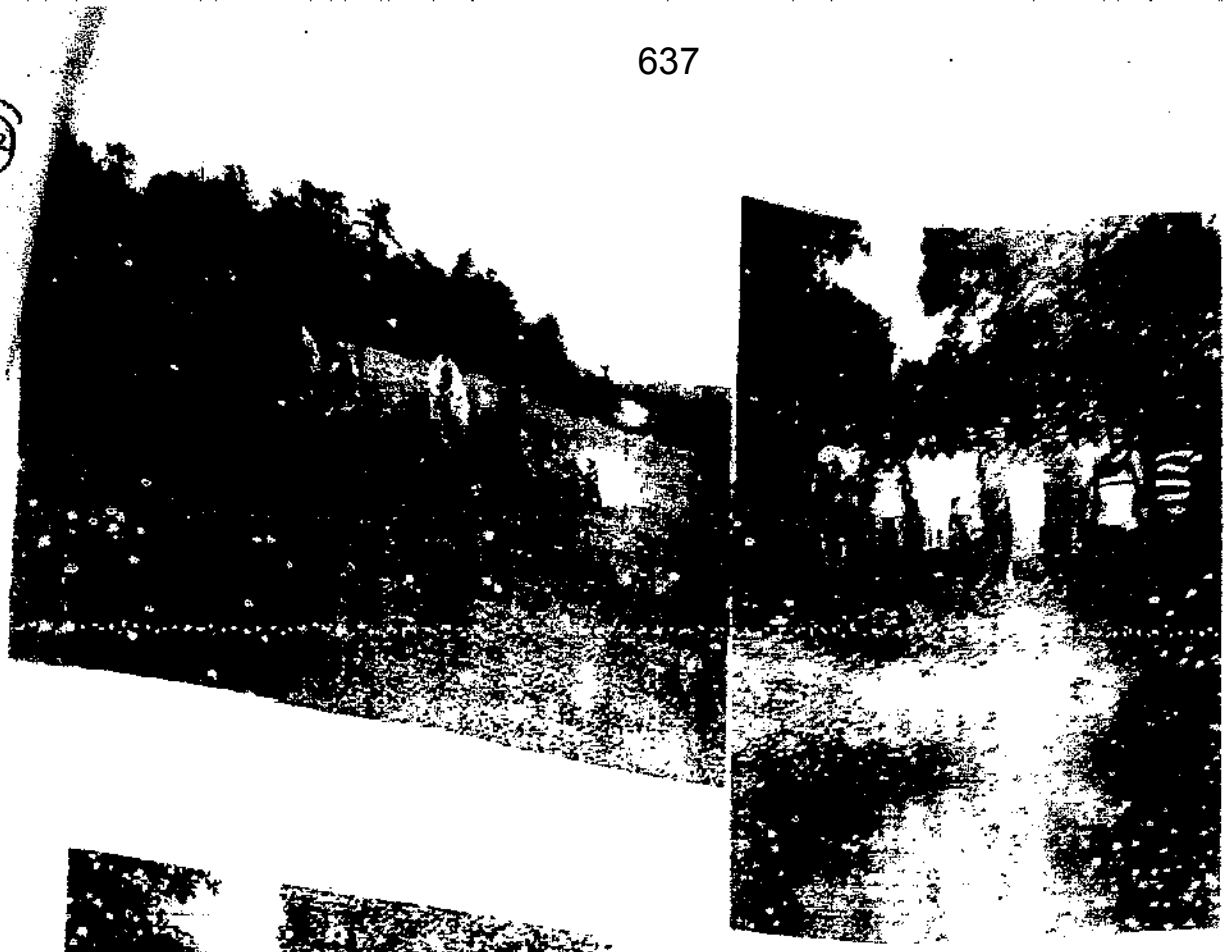


(196)

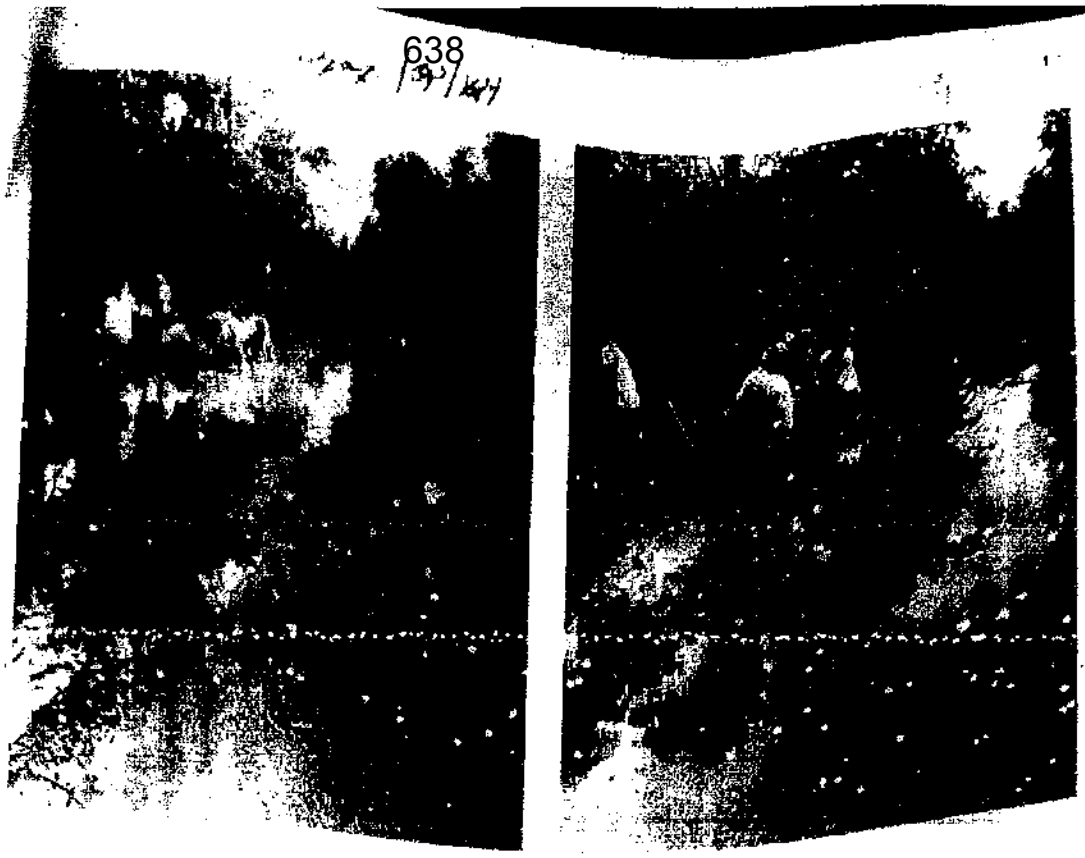


14/6/2024

(197)









(99) Annexure C 32

OFFICE OF THE SENIOR TOWN PLANNER
Town & Country Planning Dept., North Goa District Office,
302, Govt. Building Complex, Mapusa, Bardez - Goa.

Ref No.: TPB/6044/SOC/TCP-2024/3311 Dated: 5/4/2024

To,
The Sarpanch/ Secretary,
Village Panchayat of Socorro,
Bardez Goa.

Sub: Complaint regarding encroachment in open space admeasuring an area 645.00m2 in property bearing Sy.No. 376/2 of Socorro village Bardez Taluka.

Ref: Complaint letter received under inward no. 3670 dt. 04/04/2024.

Sir/Madam,

This office is in receipt of copy of complaint letter dt. 04/04/2024 from **Avertino Miranda** regarding encroachment in open space admeasuring an area 645.00m2 in property bearing Sy.No. 376/2 of **Socorro** village Bardez Taluka., which is Self-explanatory. (Copy enclosed for your ready reference)

In this regards, you are requested to investigate/examine the matter as per the complaint and take further necessary action as per the Panchayat Raj Act.

Yours faithfully,

05/4/2024
(Zaidev R. Aldonkar)
Dy. Town Planner

Copy to:-
Avertino Miranda,
H.No. 594, Shambhavi Apartments,

640 Annexure A

37

200

From,

Sudhakar Vaigankar,
Bag Wada, Pilgaon,
Richolim, Goa.

Date: 13.06.2024

To,

The Secretary,
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhawan,
Jorbagh Road, New Delhi - 110003.

To,

The Collector - North Goa.
Office of the North Goa Collectorate,
Panaji, Goa - 403001.

Office of the Collector (N)
Received
Date: 13/6/24 Signature

To,

The Member Secretary,
Goa State Pollution Control Board,
Saligao, Bardez, Goa -403511.

13/06/24
Goa State Pollution Control Board
Opp. Saligao Seminary
Saligao Goa 403 511

To,

The Director,
Directorate of Mines & Geology,
GF, Institute Menezes Braganza,
Panaji, Goa - 403001.

13/06/24
Geology

201

34

Sub: Objection to the Environment Clearance granted to Vedanta limited for Bicholim Block-I Mine.

Sir/Madam,

This is with reference to the Environmental Impact Assessment (EIA) & Environment Management Plan of Block-I (Bicholim Mineral Block) submitted by Vedanta Limited in June 2023 for obtaining Environmental Clearance (EC) for operating Mine located at Bicholim Block-I. In context of the same I would like to state that:

1. The Said EIA report is misleading on the fact that there is no exclusive private road dedicated to transport the ore and hence the details mentioned on Page no: 18 in Para 2.6.1.4 is false and incorrect.
2. The areas marked as Company owned dedicated road in Fig. No. 2.1 mentioned in Para 2.6.1.4 is incorrect as the part of the said marked areas are tenanted properties of farmers and farmers are solely dependent on the same for their daily livings.
3. The False submissions are made by the Management of Vedanta Limited to obtain EC and hence the Environment Clearance may be kept in Abeyance till further enquiry.

In context of above I hereby request you to Kindly review the EC granted to Vedanta Limited in the interest of the son of the soil /local framers and further be pleased to keep it in abeyance or to the extent of setting aside the same.

Sudhakar Vaigankar

A-8 202

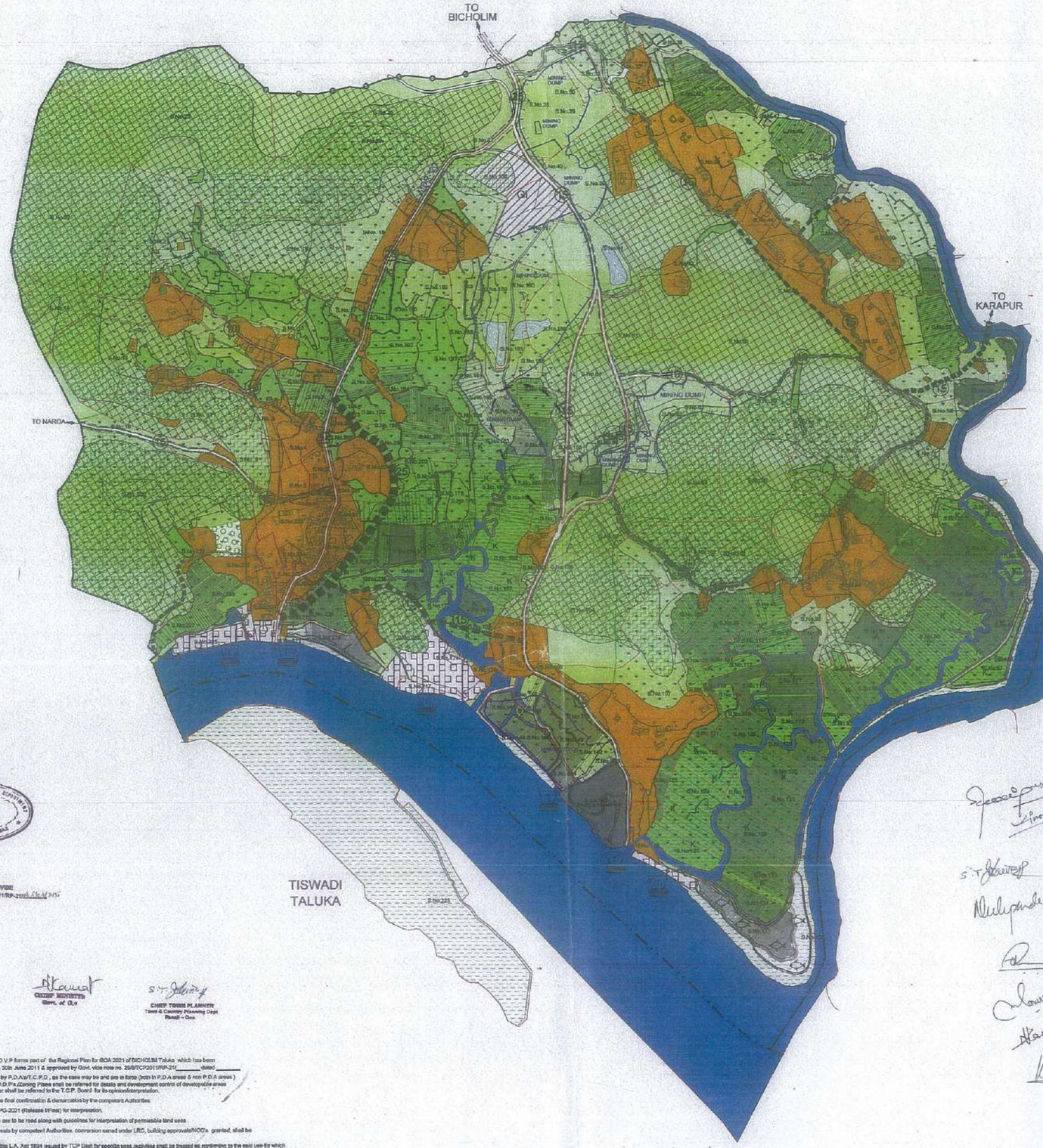
PILIGAO PANCHAYAT

BICHOLIM TALUKA

SCALE 1: 5000

KEY MAP
VILLAGE PANCHAYAT





LAND USES

ECOLOGICALLY SENSITIVE AREAS (ECO-1)

- NO DEVELOPMENT SLOPES
- PADDY FIELDS/KAZAN LAND
- RIVER / NALLAS & POND

OTHER ECOLOGICALLY SENSITIVE AREAS (ECO-2)

- CULTIVABLE LAND
- ORCHARD
- NATURAL COVER
- FISH FARMS
- IRRIGATION COMMAND AREAS

INDUSTRIAL

- GENERAL INDUSTRY
- SHIPYARD/ REPAIR DRY DOCKS

SETTLEMENTS

- SETTLEMENT AREA

TRANSPORTATION

- MAJOR DISTRICT ROAD (25m)
- MAIN PANCHAYAT ROADS (15m)
- OTHER PANCHAYAT ROADS (10m)
- OTHER ROADS (MINIMUM 6m)
- PROPOSED ROADS (25m)
- PROPOSED ROADS (15m)
- PROPOSED ROADS (10m)
- TRADE & TRANSPORT

ADMINISTRATIVE BOUNDARIES

- TALUKA BOUNDARY
- PANCHAYAT BOUNDARY
- MUNICIPAL BOUNDARY
- SURVEY BOUNDARY
- SUB DIVISION BOUNDARY

OTHERS

- PLAY GROUND
- MINING ACTIVITY / DUMPS OUT SIDE MINING AREA
- GMS — GARBAGE MANAGEMENT SITE
- TEMPLE
- P — PASSENGER JETTY
- T — TRANSPORT JETTY
- PROPOSED BRIDGE

TOWN & COUNTRY PLANNING DEPTT. GOVT. OF GOA, PANAJI

APPROVED BY GOVT. VIDE
NOTE No. 28/8/TCP/2011/RP-24/[illegible] dated [illegible]

Secretary
Government of Goa
Co-Parish.

CHIEF MINISTER
Govt. of Goa

CHIEF TOWN PLANNER
Town & Country Planning Dept
Panaji – Goa

Original of Approved Sub - Division Plan upto 500 m² will be allowed upto 612 FAR irrespective of the 4th Status of Schedule Complex.

PILIGAO PANCHAYAT
BICHOLIM TALUKA

AREA SCALE

N

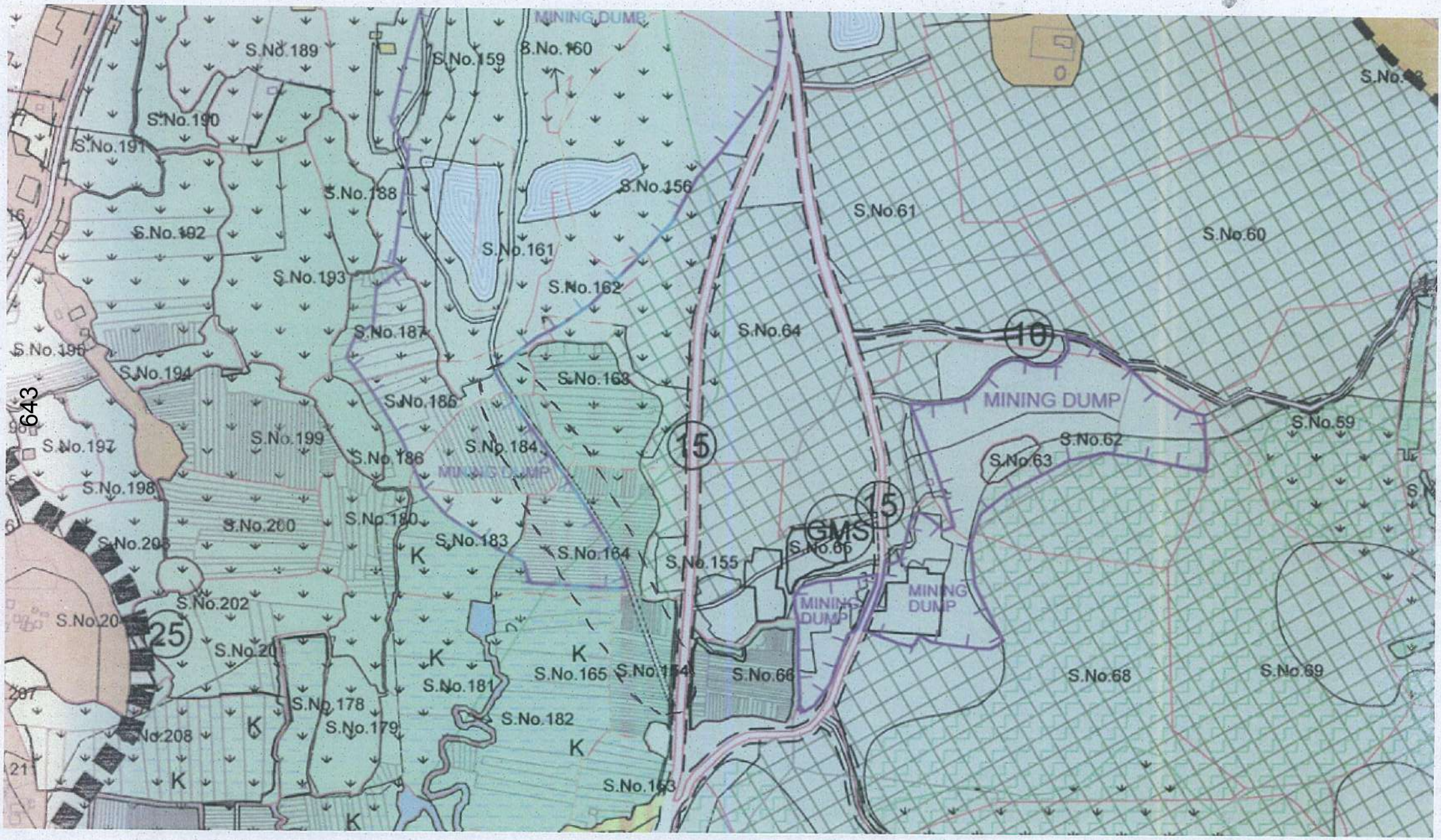
POPULATION 2001 - 2453 2021 - 2784	REGIONAL PLAN FOR GOA 2021 (RPG 21)
DPR STATUS VP-2	JUNE 2011 FINAL / 30.09.2011
MAX. FAR PROPOSED BELOW 4000 m² 80	REGIONAL PLAN DIVISION TOWN AND COUNTRY PLANNING DEPT. GOVT. OF GOA

100 50 0 300m

NOTE :-

1. This plan showing proposed Surface Utilization of PILIGAO V.P forms part of the Regional Plan for GOA 2021 of BICHOLIM Taluka which has been approved by the T.C.P. Board in its 1389th meeting held on 30th June 2011 & approved by Govt. vide note no. 28/8/TCP/2011/RP-24/_____ dated _____
2. All the O.D.P's & Zoning Plans (ZPs) prepared in the past by P.D.A/T.C.P.D., as the case may be and are in force (both in P.D.A areas & non P.D.A areas) have been incorporated in to the RPG-2021. Respective O.D.P's /Zoning Plans shall be referred for details and development control of developable areas only as per RPG-2021. In case of any variations, the matter shall be referred to the T.C.P. Board for its opinion/interpretation.
3. Private Forest areas indicated in this plan are subject to the final confirmation & demarcation by the competent Authorities.
4. Surface Utilization Plans shall be read with the report of RPG-2021 (Release II/Final) for interpretation.
5. This Surface Utilization Plan shows broad land uses which are to be read along with guidelines for interpretation of permissible land uses.
6. All new commitments/developments like subdivision approvals by competent Authorities, conversion sanad under LRC, building approvals/NOC's granted, shall be honoured for specific uses, if not reflected in this plan.
7. All NOCs for Land Acquisition for specific purposes under the L.A. Act 1894 issued by TCP Dept for specific uses /activities shall be treated as conforming to the said use for which NOC was issued. The same shall not hold good, in case where acquisition proceedings are dropped by the Govt. and shall be treated as per uses indicated in the Surface Utilization Plan.
8. Not withstanding anything contained in this Plan, the developments shall be subject to the provisions of Tenancy Act, Land Use Regulation Act, Forest Conservation Act, Highways Act, Ancient Monuments and Archaeological Sites and Remains Act (State and Central) EIA notifications issued by the MOEF or any other Act/rule as applicable.

202A


MINING DUMP
S.No.189
S.No.159
S.No.160
S.No.190
S.No.191
S.No.188
S.No.156
S.No.61
S.No.60
S.No.192
S.No.161
S.No.193
S.No.162
S.No.187
S.No.64
S.No.196
S.No.194
S.No.163
S.No.185
MINING DUMP
S.No.59
S.No.197
S.No.199
S.No.184
S.No.62
S.No.186
S.No.63
S.No.198
S.No.200
S.No.180
S.No.183
S.No.164
S.No.155
S.No.202
S.No.66
S.No.68
S.No.69
S.No.178
S.No.179
S.No.182
S.No.165
S.No.154
S.No.181
S.No.208
S.No.163
643
10
15
25
GMS
K

A-9 203

IN THE COURT OF DISTRICT & SESSION

JUDGE, NORTH AT PANJIM - GOA

Civil Suit No. 42 /2024

1). Shri. Dayanand Datta Kawlekar ...Plaintiffs

Versus

1). Vedanta Limited ... Defendants

INDEX

SR. NO	PARTICULARS	PAGE NOS
1.	Plaint	1-30
2.	List of Documents	31-433
3.	Application for Temporary Injunction	434-444
4.	Memorandum of Addresses	445-448
5.	Process fee	449
6.	Wakalatnama	450

Place: Panjim - Goa

Dated: 06/11/2024 Adv for the Plaintiff

204

IN THE COURT OF DISTRICT & SESSION

JUDGE, NORTH AT PANAJI - GOA

Civil Suit No. 2024

1. Shri. Dayanand Datta Kawlekar

   S/o. of late Shri. Datta Kawlekar

   Age 49 years, Indian National,

   R/o. H.no. 359, New wada,

   Piligao, Bicholim – Goa

205

2. Shri. Govind Shankar Kawlekar

S/o. of late Shri. Shankar Kawlekar

Age 62 years, Indian National,

R/o. H.no. 23, Gaonkar wada,

Piligao, Bicholim - Goa

3. Shri. Shankar Chandrakant Jalmi

S/o. late Shri. Chandrakant Jalmi

Age 24 years, Indian National,

R/o. Bagwada, Piligao,

Bicholim - Goa

4. Shri. Manohar Ramchandra Jalmi

S/o. late Shri. Ramchandra Jalmi,

Age 53 years, Indian National,

R/o. H. no. 19, Piligao,

Bicholim Goa

5. Shri. Chandrakant Ganesh Jalmi

S/o. Shri. Ganesh Jalmi

Age 53 years, Indian National,

R/o. H.no. 18/C, Bagwada, Piligao,

Bicholim – Goa

6. Shri. Babuso Sukdo Kawlekar,

S/o. late Shri. Sukdo Kawlekar

Age 54 years, Indian National,

R/o. H. no. 22, Mathwada, Piligao

Bicholim - Goa

7. Shri. Ramesh Shablo Kawlekar

S/o. late Shri. Shablo Kawlekar

Age 62 years, Indian National,

R/o. H. no. 15, Mathwada, Piligao,

Bicholim – Goa

8. Shri. Vishnu Padurang Kavlekar

Son of late Shri. Pandurang Kavlekar

Age 32 years, Indian National,

R/o. Mathwada, Piligao,

Bicholim Goa

207

9. Shri. Savlo Raghu Kawlekar

S/o. late Shri. Raghu Kawlekar

Age 50 years, Indian National,

R/o. H. no. 14, Mathwada, Piligao,

Bicholim – Goa ..... Plaintiffs

Vs.

1. Vedanta Limited,

Having its registered addresses at 1st floor, C

wing, Unit 103, Corporate Avenue Atul

Projects, Chakala, Andheri (East) NA Mumbai,

Mumbai City MH 400093 IN

Having local office at

Sesa Ghar, 20 EDC Complex,

Patto, Panjim - Goa 403 001.

2. The State of Goa

Through its Chief Secretary,

Porvorim - Goa

208

3. The Directorate of Mines & Geology,

Through its Director,

Ground Floor, Institute Menezes Braganza,

Panjim - Goa - 403 001

4. The Village Panchayat of Pilgao

Through its Secretary,

Piligao, Bicholim - Goa

5. The Goa State Pollution Control Board

Through its Member Secretary,

Near Pilerne Industrial Estate,

Opp. Saligao Seminary,

Saligao, Bardez – Goa,

403 511 .....Defendants

(All the above are the registered addresses)

SUIT UNDER SECTION 34, 37 AND 39 OF THE SPECIFIC RELIEF ACT 1963 FOR DECLARATION, PERMANENT INJUNCTION,

209

MANDATORY INJUNCTION AND FOR OTHER CONSEQUENTIAL RELIEF'S.

MAY IT PLEASE YOUR HONOUR

The plaintiffs respectfully state and submit as under;

1. The plaintiffs are the Indian National and the residents of the above-mentioned addresses.

2. The defendant no. 1 is a public company duly incorporated under the provisions of the Indian Companies Act, 1956, engaged in ore transportation of Bicholim, Block – I mine. The Defendant no. 2 is State of Goa. The Defendant no. 3 is the authority under the Mines and Minerals (Development and Regulations) Act, 1957 and is responsible for work of mineral administration and regulates the grant of mineral/mining concessions. The Defendant no. 4 is a local body at the village level, constituted under the Goa

Panchayat Raj Act, 1994, representing the residents of the village of Pilgao, Bicholim - Goa. The defendant no. 5 is the authority who has issued permissions for ore transportation to the defendant no. 1.

3. The plaintiffs state that the following are the suit properties which are subject matter of the present suit.

   i. There exists a larger property known as **'MOLO'** bearing survey nos. 154/6, 154/8, 154/9, 154/10, 154/17, 154/18, 154/19, 154/20, 154/22, 154/23, 154/24, 154/25, 154/26, 154/28, 154/29, 154/30, 154/31, 154/32 & 154/34 of village Piligao, Bicholim - Goa.

   The property described herein above shall be herein after referred to as a **"SUIT PROPERTY NO. I"** for the sake of brevity.

211

ii. There exists a larger property known as **'LONAR'** bearing survey nos. 164/1, ,164/2, 164/3, 164/4, 164/5, 164/6, 164/22, 164/23, 164/24, 164/25, 164/26, 164/27, 164/28, 164/29, 164/30, 164/31, 164/32, 164/33, 164/34, 164/35, 164/36, 164/37, 164/38, 164/39, 164/40, 164/41, 164/42 and 164/43 of village Piligao, Bicholim - Goa.

The property described herein above shall be herein after referred to as a **"SUIT PROPERTY NO. II"** for the sake of brevity.

iii. There exists a larger property known as **'KOSO' OR 'KUSO'** bearing survey nos. 184/18, 184/19, 184/20 and 184/21 of village Piligao, Bicholim - Goa.

212

The property described herein above shall be herein after referred to as a "**SUIT PROPERTY NO. III**" for the sake of brevity.

4. The plaintiffs state that late Shri. Datta Mahadev Kavlekar is a father of the plaintiff no. 1, late Shri. Shankar Raghoba Kavlekar is a father of the plaintiff no. 2, late Shri. Shankar Govind Jalmi is a grandfather of the plaintiff no. 3, late Shri. Vishnu Sako Jalmi is a grandfather of the plaintiff no. 4, late Shri. Ganesh Ramgo Jalmi, is a father of plaintiff no. 5, late Shri. Sukdo Masno Kavlekar is a father of the plaintiff no. 6, late Shri. Shablo Pundalik Kavlekar is a father of the plaintiff no. 7, late Shri. Vishnu Pundalik Kavlekar is a grandfather of plaintiff no. 8, late Shri. Raghu Guno Kavlekar is a father of the plaintiff no. 9.

213

5. The plaintiffs state that the names of their ancestors'/ fathers/ grandfathers are recorded in the tenant's column of the suit properties. Upon their demise the suit properties have come to be devolved upon the plaintiffs and their family members and thus the plaintiffs have become the co-tenants in possession and enjoyment of suit properties. The tenancy rights of the plaintiffs are protected under the provisions of the Goa Daman & Diu Agricultural Tenancy Act, 1964.

6. The Plaintiffs are the tenants of the suit properties, they are doing regular farming activities/ cultivation of crop in the suit properties and enjoying the yield which they get through said cultivation. The plaintiffs are enjoying the suit properties peacefully, continuously, openly without interruption and interference from anybody for last several years.

7. The plaintiffs state that the suit properties are agricultural & tenanted lands (paddy fields) and the same are cultivated by the plaintiffs being the tenants of the suit properties. Therefore, no construction and / or alternate land use can be permitted within the suit properties.

8. The plaintiffs state that there exists a traditional access of 1.5 meters width and approximately 900 meters in length, passing from the suit properties. The plaintiffs for last several years are using the said access to bring their bullock carts, tractors etc. and light vehicles to shift the crop grown from the suit properties. The said access was created by the fathers / grandfathers / ancestors of the plaintiffs with mutual agreement amongst themselves as they all were involved into community farming

215

practices. The said access is a mud access and not the tarred access.

The said access described herein above shall be herein after referred to as a **"SUIT ACCESS"** for the sake of brevity. The suit access is marked in red circle on the plan annexed hereto.

9. The plaintiffs state that in the month January 2024, the representatives of the defendant no. 1 forcefully entered in the suit properties and started doing cleaning activities on the suit access and the work of widening the suit access. The said activities were done without obtaining consent of the surface right holders and the permissions from the authorities.

10. The plaintiffs state that when they got the knowledge of the above activities, they stopped the defendant no. 1 from carrying such further activities as the same was

causing damages to the cultivation of the plaintiffs and in the other surrounding fields.

11. The defendant no. 1 therefore filed a complaint dated 02/03/2024, before the Bicholim Police Station against Shri. Ramesh S. Kavlekar and Shri. Shablo Kavlekar (the plaintiff nos. 7 & 9 herein), for blocking a road access for transportation of Ore from the suit properties bearing survey nos. 154/10 & 154/11 of village Piligao, Bicholim - Goa. The defendant no. 1 in the said complaint had mentioned that these haul roads will be utilized for transportation of ore from plants to Jetty once mining resumes.

12. The plaintiffs therefore filed an objection dated 08/04/2024, before the defendant nos. 3 and 5, the Deputy Collector of Bicholim Taluka and the Directorate of Agriculture, with regards to the proposed transportation

217

of ore through the said road (suit access) passing through the suit properties and also brought to their notice that the said road (widening of the suit access) was illegally done through their agricultural lands.

13. The plaintiffs state that they had filed a complaint dated 10/04/2024, before the defendant nos. 3, 5 and the Deputy Collector of Bicholim and the Department of Agriculture, stating that the defendant no. 1 has done an illegal mining transportation road passing through the suit properties. Therefore, the necessary action be taken against the defendant no. 1.

14. The plaintiffs state that the defendant no. 1 had subsequently filed a Miscellaneous Civil Application no. 239/2024, in PIL WP no. 6/2024, before the High Court of Bombay at Goa on 19/04/2024, thereby seeking leave of the Hon'ble High Court, to transport iron ore

218

through a dedicated said road passing through suit properties.

15. The plaintiffs state that the defendant no. 5 had filed an affidavit dated 08/05/2024, in PIL WP no. 6/2024, stating that they have recommended grant of permission to the defendant no. 1, for transportation of ore through the said road passing through the suit properties i.e. NSP-1, Top-NBP Junction -NBP- Matwada Junction – Sarmanas jetty.

16. The plaintiffs state that the Department of Mines & Geology have issued transit permission nos. IRT072400081 dated 24/07/2024, IRT072400082 dated 24/07/2024, IRT072400023 dated 05/07/2024, IRT072400020 dated 05/07/2024, IRT072400024 dated 05/07/2024, IRT072400028 dated

219

11/07/2024, IRT072400029 dated 11/07/2024, to Vedanta Limited, to carry ore transportation from the said properties and the said access.

17. The plaintiffs state that the said transit permissions are issued without taking them into consideration and without their permissions.

18. The plaintiffs state that that defendant no. 6 had issued the environmental clearance dated 23/01/2024, to the defendant no. 1 for Block 1 – Bicholim Mineral Block for Iron ore, without taking into consideration the views of the plaintiffs and the other farmers of the suit properties. In the said Environmental Clearance it is mentioned that "the total distance from the mine to jetty is 5.58 km of which 0.94 km stretch is public road and remaining 4.64 km is company

220

owned dedicated road. This is false as the defendant no. 1 doesn't own any dedicated road in the village of Piligao, but is illegally trying to use the suit access as a road for its ore transportation.

19. The plaintiffs state that the above clause in the environment clearance clearly mentions that the defendant no. 1 has falsely claimed that the suit access is owned by them and the based on this false misrepresentation the defendant no. 6 has issued them the Environmental Clearance dated 23/01/2024.

20. The plaintiffs state that the suit access is illegally shown through the agricultural land by the defendant no. 1 and if the said transportation of iron ore is permitted through suit access, the paddy fields from the suit properties along the suit access would get polluted and be rendered unfit for cultivation due to spillage dust pollution etc.

221

21. The plaintiffs had filed an objection dated 13/06/2024, before the defendant nos. 3, 5, and the Ministry of Environment, Forest & Climate Change to the Environment Clearence granted to the defendant no. 1 for Bicholim Block – 1 Mine, stating that there is no exclusive private road dedicated to transport the ore and the areas marked as Company own dedicated are tenanted properties of farmers, hence requested to review the Environment Clearance, granted to the defendant no. 1.

22. The plaintiffs state that the plaintiff no. 9 and the other villagers of Village Piligao have challenged the aforesaid Environmental Clearence issued by the Ministry of Environment, Forest & Climate Change to the defendant no. 1, before the Hon'ble National Green Tribunal Western Zone

222

Bench, Pune in Appeal no. 73/2024 (WZ) and Appeal no. 30/2024 (WZ).

23. The Hon'ble National Green Tribunal, Western Zone Bench, Pune has already admitted the appeal bearing no. 73/2024 (WZ) vide an order dated 16/10/2024 and the same is kept for further consideration on 15/01/2025.

24. The plaintiffs state that since there is no other alternate route for the defendant no. 1 to transport the said ore, they have illegally trespassed into the suit properties of the plaintiffs. The Plaintiffs also fear that the defendant no. 1 may put tar / concreate in the fields for converting the Khuchaa / mud road to tarred / concreate road after illegally widening the suit access.

223

25. The plaintiffs have filed several complaints before the defendant nos. 2 to 5 and the other authorities, to take immediate action against the defendant no. 1. The said complaints are still pending before the defendant no. 2 to 5 and the other authorities, however till date no action has been taken by the defendant nos. 2 to 5 and the other authorities against the defendant no. 1.

26. The plaintiffs had filed an Intervention application bearing no. MCA no. 1416/2024, before the High Court of Bombay at Goa in P.I.L.W.P. no. 6/2024, raising the grievances about the road being illegally constructed through the suit properties. The Hon'ble High Court vide order dated 29/06/2024, disposed of the said application and held thus;

"That the grievance about the road being illegally constructed through the lands of the intervenors cannot be made a subject matter

224

of PIL petition as and by way of an intervention application.

Keeping all contentions open with liberty to avail of appropriate remedies in accordance with law, the intervention application is disposed of".

27. The plaintiffs state that on 01/07/2024, the defendant no. 1 started with the activities of ore transportation from the suit access, which is passing through suit properties. The plaintiffs state that due to the said ore transportation, the paddy fields along the suit access is getting polluted and if the said activities continue, it will be unfit for cultivation due to spillage dust pollution etc. in the suit properties.

28. The plaintiffs state that the defendant no.1 has got no right and is not legally entitle to trespass in the suit properties and as such the plaintiffs are legally entitle for the order of

225

permanent injunction thereby restraining the defendant no. 1 their agents, family members, servant and any other person perpetually from interfering in the suit properties in any manner whatsoever and using the suit access.

29. The plaintiffs are agricultural tenants of the suit properties, the same are in their lawful possession and they are deemed owners of the same by virtue of the provisions Goa, Daman & Diu Agricultural Tenancy (Amendment) Act, 1966. The interference by the defendant no.1 with the suit access which is private access passing through private properties is violative of the plaintiff's proprietary rights.

30. The plaintiffs state that the defendant no. 1 is trespassing in the suit properties by continuing ore transportation, as such the plaintiffs are also legally entitled for an order

226

of injunction thereby restraining the defendant no.1, their agents, servants, family members, relatives and or person or persons purporting to act on behalf of the defendant no.1 from going ahead with the illegal trespass in the suit properties in any manner whatsoever.

31. The plaintiffs state that if the defendant no. 1, is not restrained from going ahead with the illegal trespass, grave and irreparable loss and injury shall be caused to the plaintiffs and the compensation in terms of money shall not afford an adequate relief.

32. The cause of action to file the present suit first arose to the plaintiffs, in the month of January 2024, when the defendant no. 1 trespassed in the suit properties and also on-01/07/2024 when the plaintiffs got the knowledge that the defendant no.1 has started with the ore transportation through

227

the suit access which is passing through the suit properties. Therefore, the cause of action is of continuing nature.

33. The suit is therefore filed within time and not barred by the law of limitation.

34. The plaintiffs have received the copy of caveat application dated 27/06/2024, from the defendant no. 1, filed before this Hon'ble Court.

35. The plaintiffs have sent a notice under section 80 of Civil Procedure Code, 1908, to the defendant nos. 2, 3 & 5.

36. The suit property is situated at Piligao, Taluka Bicholim, North Goa, within the jurisdiction of this Hon'ble Court. Hence this Hon'ble Court has jurisdiction to entertain, try and dispose of the present suit.

228

37. For the purpose of jurisdiction and Court fee the suit is valued at Rs. 4,00,000/- and the prescribed court fee of Rs. 12,430/- is paid herewith.

38. The Plaintiffs have not filed any other suit in any Court in respect of the subject matter of this suit.

39. The Plaintiffs therefore pray for:-

a) For a decree or judgment to revoke/ set aside the transit permission nos. IRT072400081 dated 24/07/2024, IRT072400082 dated 24/07/2024, IRT072400023 dated 05/07/2024, IRT072400020 dated 05/07/2024, IRT072400024 dated 05/07/2024, IRT072400028 dated 11/07/2024, IRT072400029 dated 11/07/2024, issued to the defendant no. 1, to carry ore the

229

transportation activities from the suit properties and the suit access.

b) For an order of permanent injunction thereby restraining the defendant no 1, their agents, servants, relatives or any person or person claiming through or under them from in any manner interfering with the suit properties.

c) For an order of permanent injunction thereby restraining the defendant no 1, their agents, servants, relatives or any person or person claiming through or under them from any manner using the suit access passing from the suit properties.

d) For an order of permanent injunction thereby restraining the defendant no 1, their agents, servants, relatives or any person or person claiming through or

230

under them from carrying any illegal constructions in the suit properties.

e) For an order of mandatory injunction thereby directing the defendant nos. 1 their agents, servants, relatives or any person or persons claiming through or under them to remove the illegal encroachment done by the defendant nos. 1 in the suit properties and to restore possession of the encroached land to the plaintiffs.

f) For interim relief in terms of prayer clauses 'b', 'c' & 'd' above.

g) Any other relief this Hon'ble court may deem it fit and proper according to the circumstances of the case.

Date: 04/11/2024

Place: Panjim

231

Plaintiff no. 1

Plaintiff no. 2

Plaintiff no. 3

Plaintiff no. 4

Plaintiff no. 5

Plaintiff no. 6

Plaintiff no. 7

Plaintiff no. 8

 232

Plaintiff no. 9

VERFICATION

I, Shri. Savlo Raghu Kawlekar, S/o. Late Shri. Raghu Kawlekar, age 50 years, Married, resident of H. no. 14, Mathwada Piligao, Bicholim - Goa, 403 504, the plaintiff no. 9 herein, do hereby on solemn affirmation verify that the contents of Paras 1 to 31, 34, 35, 37 & 38 are true to my own knowledge and the contents of Para nos. 32, 33, 36 are submissions based on legal advice which I believe to be true.

Solemnly verified at Panjim on this 04th day of November 2024.

Deponent

Identified by me:

Adv. for the Plaintiffs

283

AFFIDAVIT

I, Shri. Savlo Raghu Kawlekar, S/o. Late Shri. Raghu Kawlekar, age 50 years, Married, resident of H. no. 14, Mathwada Piligao, Bicholim Goa, 403 504, the plaintiff no. 9 herein do hereby on solemn affirmation states that the contents of Paras 1 to 31, 34, 35, 37 & 38 are true to my own knowledge and the contents of Para nos. 32, 33 & 36 are submissions based on legal advice which I believe to be true.

Solemnly affirmed at Panjim on this 02nd day of November 2024.

Deponent

Identified by me:

Adv. for the Plaintiffs

234

IN THE COURT OF DISTRICT & SESSION

JUDGE, NORTH AT PANJIM - GOA

Civil Suit No. /2024

1). Shri. Dayanand Datta Kawlekar ...Plaintiffs

Versus

1). Vedanta Limited & others ... Defendants

LIST OF DOCUMENTS

SR. NO	PARTICULARS	REMARK	ANNEXURES	PAGE NOS
1.	Copies of Death Certificates of the ancestors/ grandfather/ father of the plaintiffs	Xerox	A	33-41
2.	Copies of Birth certificates of the plaintiffs	Xerox	B	42-50

235

3.	Form I & XIV of the properties bearing survey nos. 154/6, 154/8, 154/9, 154/10, 154/17, 154/18, 154/19, 154/20, 154/22, 154/23, 154/24, 154/25, 154/26, 154/28, 154/29, 154/30, 154/31, 154/32 & 154/34 of village Piligao, Bicholim - Goa.	Xerox	C	51-88
4.	Form I & XIV of properties bearing survey nos. 164/1, 164/2, 164/3, 164/4, 164/5, 164/6, 164/22, 164/23, 164/24, 164/25,	Xerox	D	89-122

236

	164/26, 164/27, 164/28, 164/29, 164/30, 164/31, 164/32, 164/33, 164/34, 164/35, 164/36, 164/37, 164/38, 164/39, 164/40, 164/41, 164/42 and 164/43 of village Piligao, Bicholim - Goa.			
5.	Form I & XIV of the properties bearing survey nos. 184/18, 184/19, 184/20 and 184/21 of village Piligao, Bicholim - Goa.	Xerox	E	123 - 130
6.	Complaint dated 02/03/2024 filed by the defendant no. 1	Xerox	F	131

237

	before the Bicholim Police Station			
7.	Complaints dated 08/04/2024 filed by the plaintiffs before the defendant nos. 3 & 5	Xerox	G	132-217
8.	Copy of Miscellaneous Civil Application no. 239/2024 filed by the defendant no. 1 in PILWP no. 6/2024	Xerox	H	218-247
9.	Copy of affidavit filed by Member Secretary of the defendant no. 5 dated 08/05/2024	Xerox	I	248-262

238

	Copy of Environmental Clearance dated 23/01/2024 issued by the Ministry of Environment, Forest and Climate Change to the defendant no. 1	Xerox	J	263 - 301
10	Copy of the Misc. Civil Application no. 1416/2024 (f) filed by the plaintiffs in PIL WP no. 6/2024	Xerox	K	302 - 336
11.	Copy of the objection dated 13/06/2024 filed by the plaintiffs before the Ministry of	Xerox	L	337 - 338

239

	Environment, Forest & Climate Change			
12.	Copy of the order dated passed by the Hon'ble High Court dated 29/06/2024	Xerox	M	339-417
13.	Copy of the sketch of the road shown in red colour circle on land use map	Xerox	N	418
14.	Copy of sketch showing the suit access passing from the suit properties	Xerox	O	419
15.	Copies of the transit permits dated 24/07/2024, 05/07/2024 and 11/07/2024 issued	Xerox	P	420-426

240

	Directorate of Mines & Geology at Panjim Goa			
16.	Copy of Notice dated 28/08/2024 under section 80 of the Code of Civil Procedure, 1908	Xerox	Q	427 - 433

Originals of the said documents will be produced at the stage of evidence. Any other document with the leave of this Hon'ble court.

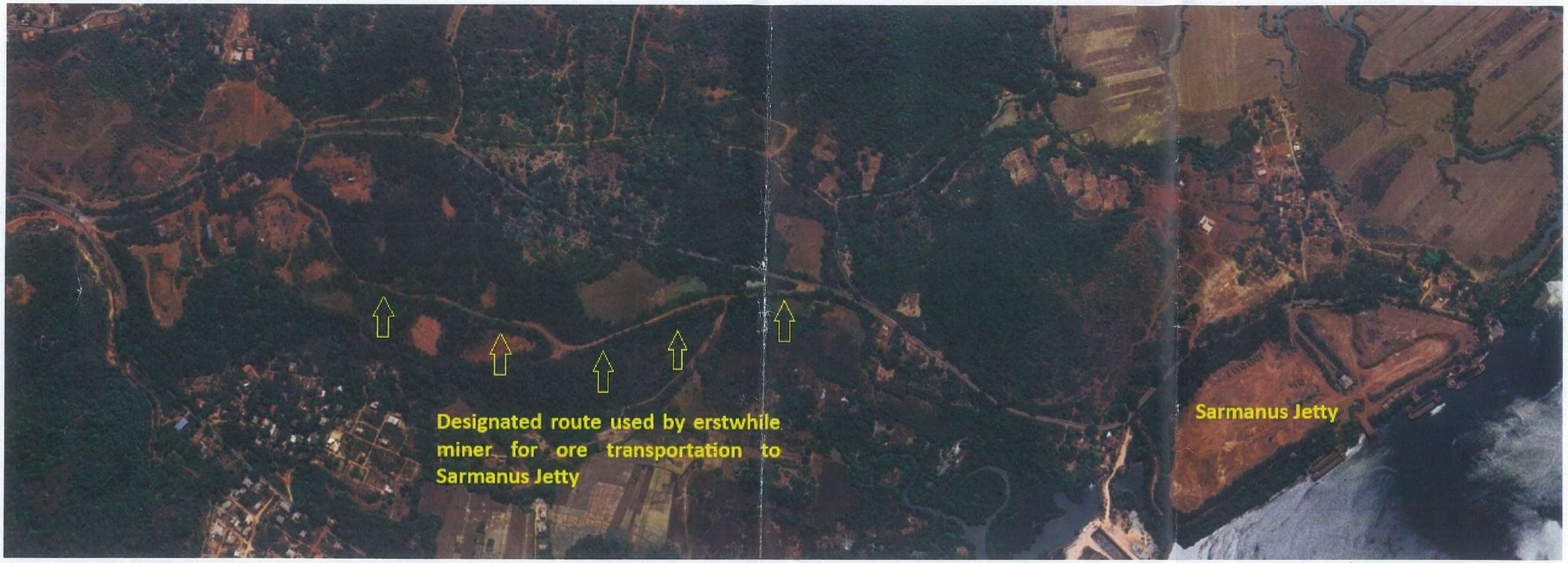
Place: Panjim - Goa

Dated: 06/11/2024

Adv for the Plaintiffs

A-10

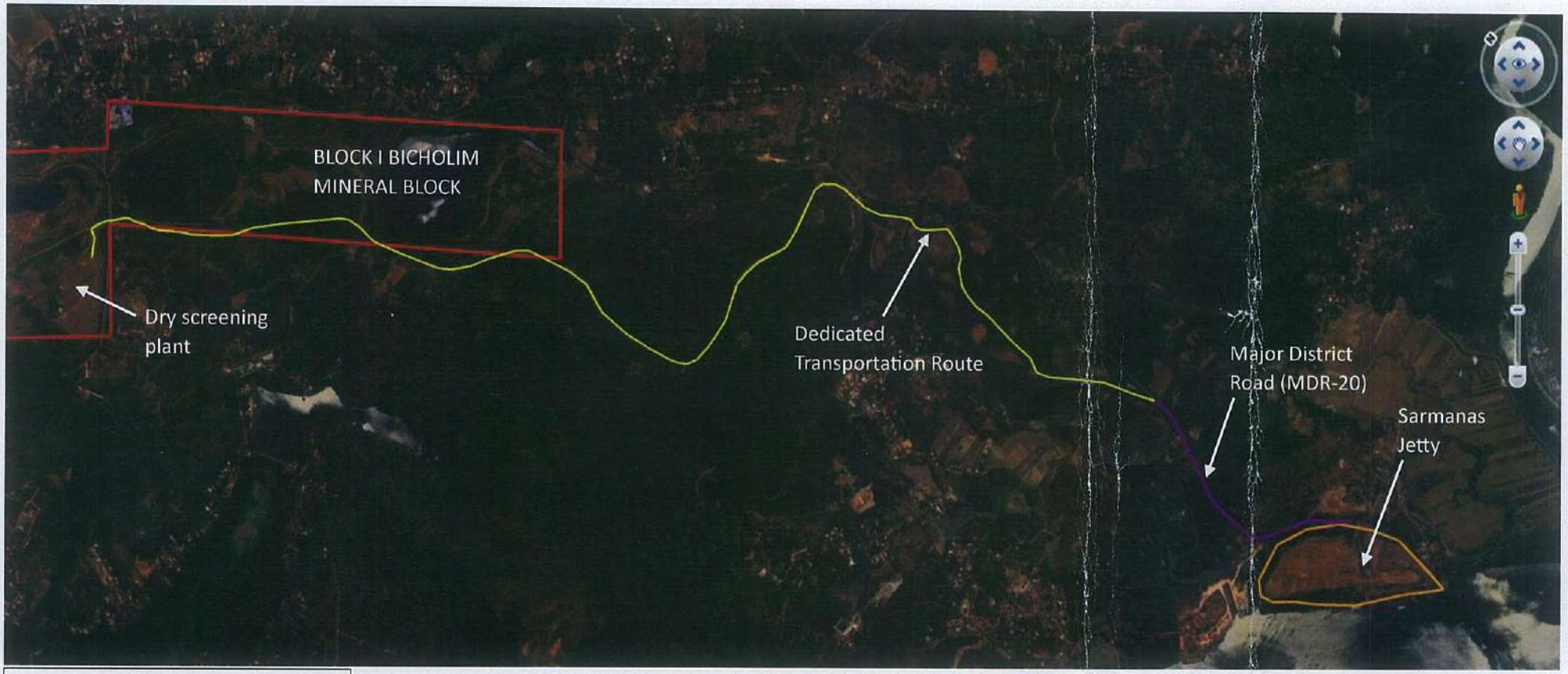
241


Designated route used by erstwhile miner for ore transportation to Sarmanus Jetty
Sarmanus Jetty

A-11

242

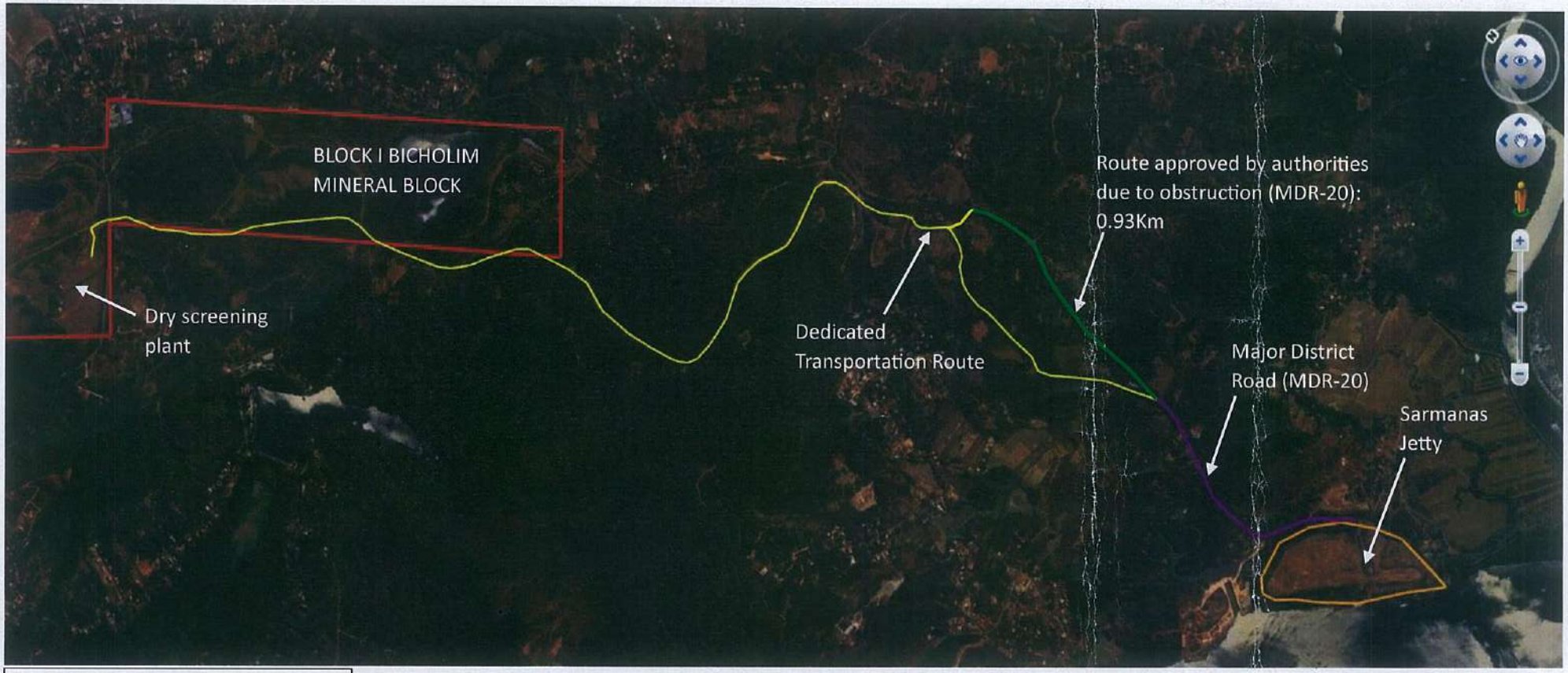
GOOGLE MAP OF EXISTING TRANSPORTATION ROUTE FROM BICHOLIM MINERAL BLOCK TO SARMANAS JETTY



INDEX	
	Dedicated ore transportation route
	ore transportation by major district road (MDR-20)

243

GOOGLE MAP OF EXISTING TRANSPORTATION ROUTE AND ROUTE APPROVED BY AUTHORITIES DUE TO OBSTRUCTION FROM BICHOLIM MINERAL BLOCK TO SARMANAS JETTY



INDEX	
	Dedicated ore transportation route
	ore transportation by major district road (MDR-20)
	Route approved by authorities due to obstruction (MDR-20): 0.93Km

Sensitivity: Public (C4)

Annexure A-3

IN THE HON'BLE HIGH COURT OF JUDICATURE OF BOMBAY AT PORVORIM, GOA

Miscellaneous Civil Application No. 229/2025 [F]

in P.I.L. Writ Petition No. 6/2024

M/s. Vedanta Limited ....Applicant

V/s

The Directorate of Mines and Geology & Ors. ...Respondents

AFFIDAVIT IN REPLY OF THE RESP. NO. 10

I, Anil Datta Salelkar, aged 44 years, the Resp. No. 10 herein, do hereby solemnly affirm and state as under:

1. I state that I have read and understood the contents of the instant Application filed by M/s. Vedanta Ltd., and am filing this affidavit in response thereto. I state that I am not replying to each and every statement made in the said Reply, and nothing may be deemed to be admitted unless the same is specifically admitted in this reply but should be treated as though the same has been set out seriatim and denied and disputed specifically.

2. This Application by M/s. Vedanta Ltd. *inter alia* seeks directions from this Hon'ble Court on account of certain disruptions/blockages purportedly by local villagers to the ore transportation being carried out by the company. Before dealing with certain pleadings concerning this Respondent, the deponent would first and foremost deal with the reliefs sought by the Company in this M.C.A.

3. In as far as the first alternative prayer sought in Para. 33 [a] is concerned, the deponent submits that this Hon'ble Court in its judgement dt. 29.06.2024 has made it unequivocally clear that it would not be going into any merits or examination of the E.C. dt. 23.01.2024 granted to the Applicant Company. A reading of this M.C.A. itself [*para 11, for instance*] makes it clear that this position is also understood by the Company. Further, the Applicant company has not placed any material on record to indicate that the State Authorities are restricting or otherwise not co-operating in as far as ore transportation by the company is concerned. In these circumstances, no question arises of any order being passed by the Hon'ble Court to direct the State Authorities to "permit transportation in terms of the E.C. … ."

4. In as far as the second alternative prayer sought in Para. 33 [a] is concerned, the Applicant is wholly opposed to any order being passed which permits the Applicant to use the "additional route" referred to by the company. The only approved route is the route as per the E.C. granted to the

company. The use of the seemingly innocuous phrases "additional route indicated and approved by the State Government" and "minor deviation" by the Company are nothing but a convenient euphemism for a route which is not approved by the Ministry in terms of the E.C. dt. 23.01.2024. It is respectfully submitted that no order may be passed by this Hon'ble Court permitting the use of such "additional route", as it would amount to a modification of the E.C. dt. 23.01.2024, which as per the Applicant itself was granted by the MOEF&CC after a comprehensive screening process; a public hearing; and examination by the Expert Appraisal Committee of the Ministry.

5. From the information known to this Applicant, the villagers being agricultural tenants of a portion of the land along which the E.C. route passes through have been agitating on account of ore transportation through their tenanted lands. This issue has arisen principally because M/s. Vedanta Ltd. misrepresented to the Ministry prior to the grant of the E.C. that the lands in question were "company owned". It is for the Applicant company to now deal with the fallout and consequences of this issue arising out of transportation along the E.C. approved route.

6. In the event that the Applicant company presents its grievance on the use of the E.C. approved route to the Ministry, and obtains any order permitting the use of a route not originally approved in the E.C., I submit that all the conditions of the

S.O.P. framed by the State Govt. applicable to ore transport in village roads across Goa, i.e., in terms of number of trucks, timings, etc. would apply to such transportation since it would no longer be a "dedicated road." Due compliance with the S.O.P. is necessary to prevent further dust pollution and noise pollution being caused to the villagers of Pilgaon, who have already suffered on account of the transportation carried out on the non-E.C. route by the Applicant company from time to time.

7. In relation to the prayer sought in Para. 33 [b], I state categorically that the Answering Respondent has had no role to play in any impediments or obstructions purportedly caused to the Applicant company. The company, apart from making vague and unsubstantiated allegations implicating the Applicant in the obstructions faced in ore transportation, has not produced any material on record or specific pleadings explaining how this Respondent has been involved in the protests and/or blockades by the local villagers against the ore transportation. It is therefore submitted that no such order as sought in Para 33[b] *qua* this Respondent may be passed by this Hon'ble Court.

8. As such, it is submitted that absolutely no case is made out for this Hon'ble Court granting any relief to the Applicant as is sought by it, let alone any interim relief is sought in Para. 33[c]. The answering Respondent now hereunder deals with certain pleadings specifically concerning the deponent, and/or related to the M.C.A. 102/2025 [F] filed by this Respondent.

9. With respect to the contents of paragraph 13, it is denied that the Applicant company has complied with all the terms and conditions including those submitted to this Hon'ble Court, in relation to ore transportation. The Applicant for a certain period starting from Dec. 2024 began carrying out ore transportation along a non-E.C., non-approved route; and to make matters worse, began transporting ore throughout the night contrary to the approved timings in the E.C. applicable for ore transportation, which ends at 5:45 pm.

10. With respect to the contents of paragraph 14 and 15, the answering Respondent vehemently denies any involvement of the deponent in the allegations made in this paragraph. The submissions of the deponent in this regard in para 7 above are reiterated.

11. With respect to the contents of paragraph 20, it is pertinent to point out that no approval from the State Government [*which has no role to play in E.C. conditions including the* route] has been produced by the Applicant company.

12. In paragraph 25, the Applicant company makes a statement that the effect of the order dt. 13.01.2025 passed by this Hon'ble Court is that the trips of the Applicant for ore transportation have been further reduced. This statement is without factual basis, for the simple reason that even in terms of the E.C. dt. 23.01.2024, the Applicant is permitted to

transport ore only up till 5:45 p.m., and certainly not at night. As such, it is misleading and incorrect to suggest the stoppage of ore transportation at night being carried by the Company adversely affects its rights in terms of the E.C. in any manner.

13. I state that the contents of paragraphs 1(p), 2 (p), 4(p), 5(p), 6(p), 7(p), 9(p), 10 (p), 11(p) and 12 (p) are correct and true to my own knowledge and as per official documents/records, and that the contents of paras 3, 4(p), 5(p), 6(p), 7(p), 8, 9(p), 10(p), 11(p) and 12 (p) are my submissions made on legal advice which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

Solemnly affirmed at Porvorim, Goa,
this the 29th day of January 2025

Deponent

Annexure A-4

IN THE HON'BLE HIGH COURT OF BOMBAY, AT GOA

M.C.A. No. 229/2025 (F)

In

PILWP/6 /2024

M/s Vedanta Limited ... Applicant IN

The Mulakh Khajan Farmers Association and Anr. ...Petitioners

V/s

Director of Mines and Geology, Government of Goa & Ors.

...Respondents

AFFIDAVIT-IN-REJOINDER ON BEHALF OF APPLICANT TO THE AFFIDAVIT-IN-REPLY OF RESPONDENT NO. 10. AND AFFIDAVIT-IN-REJOINDER OF RESPONDENT NO. 16.

MOST RESPECTFULLY SHOWETH:-

I, Karni Singh Rajora, major of age, Indian National, having office at Sesa Ghor, Patto, Panaji, Goa, Authorised Signatory

of Applicant Company, do hereby on solemn affirmation state and submit as under:-

1. I am filing this affidavit-in-rejoinder to deal with the contents of the affidavit-in-reply filed by Respondent no. 10 as well as the affidavit-in-reply filed by Respondent no. 16. I deny all averments and allegations made in the said affidavits-in-replies. Any averment/allegation not specifically dealt with shall not be deemed to be admitted for want of specific traverse.

2. At the outset, I wish to place on record that the facts and circumstances clearly establish that the MCA No. 102/2025 filed by Respondent no. 10 is for collateral purposes. As stated earlier in the earlier pleadings, Respondent no. 10 was the workman of the erstwhile mining company and by way of the said MCA No. 102/2025, is seeking to compel the Applicant into submitting to his terms and conditions for recruiting him and other ex-workmen as employees of the Applicant.

Respondent no. 10 has an axe to grind against Applicant herein and the claim of public interest is nothing but a subterfuge adopted by Respondent no. 10 to redress his personal agenda. The same is clear from the following news report:-

i. News report published on the Marathi newspaper "Gomantak" on 6th December 2024, under the title originally in Marathi which, when translated in English for the purpose of this application reads as "Problems of mining transportation intensifies".

The said article published on 6th December, 2024, reports the statement of Respondent no. 10 in a press conference that Respondent no. 10 and the others will continue the protest unless and until their demands are met and they will not allow transportation of ore. Respondent no. 10 is seen in the photograph accompanying the said news report.



ii. News report published on the Marathi newspaper "Gomantak" on 20th December 2024, under the title originally in Marathi which, when translated in English for the purpose of this application reads as "Farmers hint at fighting legal battle".

The said article published on 20th December 2024, reports the participation of Respondent no.10 in the agitation of transportation of ore by the Applicant herein. In the said article, it is further reported that the agitation pertains to farmers and ex-workers of erstwhile lessee demand. It further records that if the proposal given by the farmers and ex-workers of erstwhile lessee are finally decided and arrived into an agreement, then there are chances that the agitation may be called off. Respondent no. 10 is also seen in the photograph accompanying the said news report.

The above publications demonstrate that Respondent no. 10 has resorted to filing proceedings before this Hon'ble Court to primarily arm-twist the Applicant into submitting to demands of the ex-workers of erstwhile lessee, which includes himself. I request this Hon'ble Court to take cognizance for the *mala fide* intent of Respondent no. 10 in filing MCA No. 102/2025(F). The above news reports also establish that Respondent No. 10 has approached this Hon'ble Court with unclean hands. It bears mentioning that on one hand, Respondent no. 10 is claiming to espouse a public cause and invoking the equitable and discretionary jurisdiction of this Hon'ble Court to create obstacles in the legitimate transportation of ore by Applicant and on the other hand, Respondent no. 10 is resorting to illegal acts of physical obstruction and veiled threats, which conduct cannot be countenanced in law. Copies of the said News Reports mentioned above at para 1(i) and 1(ii) are annexed hereto as Annexure A-1 (col).



3. On the said count, I urge this Hon'ble Court to dismiss the Respondent No. 10's application and order deletion of the Respondent No. 10 and furthermore, take appropriate action against Respondent no. 10 for abusing the process of law, for collateral purpose.

4. As stated in the above MCA No. 229/2025 (F), Applicant is only seeking to enforce its rights to carry on legitimate activity of ore transportation within the framework of law. I deny that there is any restriction in undertaking of ore transportation by the route indicated in EC (hereinafter referred to as the "Original Dedicated/ Designated Route"). As clearly stated in the said application, on account of illegal acts of obstruction and blockade created by some persons including the Respondent No. 10, the transportation of ore from the original Dedicated/ Designated route is severely impeded. It is not the case of the Applicant that it does not desire to undertake transportation by the Original

Dedicated/ Designated Route as is sought to be projected by Respondent no. 10 in the reply. Applicant only desires to undertake mining business in terms of the permissions granted by the authorities including the EC. It is in that context that the above application needs to be considered. I deny that there was misrepresentation by the Applicant at the time of grant of EC. The statement in the EC was made in the context of the fact that the said Original Dedicated/ Designated Route was used by the erstwhile mining company for decades whilst undertaking mining activity in respect of the very same mining lease. The existence of route is clear from the extract of the Regional Plan, which identifies the said route as "Road". Respondent No. 10 is attempting to interpret the said statement out of context so as to suit his misconceived interpretation and mislead this Hon'ble Court. The extract of the Regional Plan is annexed herewith as Annexure A-2. Applicant has obtained a Report dated 31.01.2025 from a reputed

institution namely Goa Engineering College in respect of Geospatial Verification of Road from Bicholim Mine to Sarmanas jetty, which concludes that the analysis of the integrated DGPS data with the historical satellite data image of 1989 and 1995 confirms the existence and continuity of the 'dedicated transport road from 1989 till date'. The said report also confirms the relevant survey numbers of village Pilligao as forming part of the Original Dedicated/ Designated road. Annexed herewith as Annexure A-3 is a copy of the report dated 31.01.2025.

5. The issue pertaining to the SOP framed by the State Government was duly considered by this Hon'ble Court in PIL/6/2024 and the operations of the Applicant were linked to the EC granted, which was not interfered by this Hon'ble Court in the said judgment. The SOP framed by the State Government is applicable only to transportation of e-auctioned ore and not transportation



and the instance of mining lessee who is governed by terms and conditions of EC.

6. I deny that there is any dust or noise pollution caused by transportation undertaken by Applicant in the other route approved by the authorities. Suffice it to say that the Applicant has been following all norms stipulated in the permissions granted by the authorities whilst undertaking transportation through the Original Dedicated/ Designated Route as well as the other route approved by the Authorities.

7. I deny that Applicant has any role to play in the obstructions caused, through the original Dedicated/ Designated route. The circumstances mentioned above clearly establish that Respondent No. 10 is in cahoots with the other persons, who are instrumental in creating obstructions to the transportation. This shows that the Applicant is put under duress on account of the illegal obstruction/ blockade created by certain individuals

preventing the Applicant from carrying out ore transportation in terms of the EC.

8. It bears mentioning that specific representations dated 7th December 2024 was addressed to the Police Inspector, Police Station Bicholim and other authhorities, were made by Applicant on account of the obstructions caused by the said persons. Since there was no response, Applicant was constrained to approach the Hon'ble High Court in WP. No. 3140/2024 (F), which is also stated in the application. In view of the same, the allegation of Respondent no. 10 that there is no material to substantiate protest/ blockage in respect of ore transportation is incorrect and dehors the record.

9. As stated earlier, the transportation through the other route approved by the Authorities was borne out of compelling circumstances created by some persons, who had resorted to taking law into their own hands and

creating physical obstructions to the transportations through the Dedicated/ Designated route. Applicant has undertaken transportation in terms of the approvals granted from time to time and therefore the contention that the Applicant has indulged in any illegality is fallacious.

10. I say that the Respondent no. 16 has misconstrued the import of Section 8(b) of MMDR Act, 1957 and the ratio laid down in the case of *Sociedade de Fomento Industrial* whilst contending that the said provision is not applicable to the case of Applicant.

11. I deny that any false statement is made by the Applicant in the MCA. The statement of transportation being undertaken through the Original Dedicated/ Designated Route and/or the other route approved by the Authorities is categorical in terms of the period of operations and it is in that context that the words "till date" employed in the application should be construed. I deny that I have

not played fairly before the EC authorities. The statement made at the time of EC is sought to be interpreted completely out of context by Respondent no. 10 and Respondent no. 16 to suit their misconceived interpretation.

12. I say that the contents of the above paras are true to my own knowledge and/or based on records.

Solemnly affirmed at Porvorim, Goa
On this 3rd day of February, 2025

DEPONENT

Identified by me:

Adv. for ~~Petitioner~~ Applicant

HIGH COURT OF BOMBAY AT GOA

Solemnly affirmed before me by Mr. Karni Singh Rajoura who is identified before me by Adv. Riyen Anvekar from personally known. Dated this 3rd day of Febry 2025

Section Officer
High Court of Bombay
at Goa, Porvorim

खनिज वाहतुकीचा गुंता वाढला..!

पिळगाव-सारमानस रस्त्याने वाहतुकीस शेतकऱ्यांचा विरोध

डिचोली, ता. ६ (प्रतिनिधी): खनिज वाहतुकीवरून डिचोलीत निर्माण झालेला 'गुंता' मिटता मिटत नसून अजूनही 'वेदांता'ची खनिज वाहतूक बंदच आहे. मागण्या मान्य होईपर्यंत आमचे आंदोलन चालूच राहणार असे आंदोलनकर्त्या शेतकरी आणि कामगारांनी स्पष्ट करून अन्य कोणत्याही रस्त्याने खनिज वाहतूक करायला देणार नाही, असा इशारा सुधाकर वायंगणकर, अनिल सालेलकर आणि इतरांनी आज (शुक्रवारी) डिचोलीत घेतलेल्या पत्रकार परिषदेत दिला.

'वेदांता' खाणीवरील खनिज वाहतुकीचा रस्ता शेतकऱ्यांनी अडवला असून पर्यायी रस्त्यानेही खनिज वाहतूक करण्यास शेतकऱ्यांचा विरोध आहे. त्यामुळे गेल्या सतरा दिवसांपासून 'वेदांता'ची खनिज वाहतूक बंद आहे. सर्व पर्याय अपयशी ठरल्याने आता डिचोली-सारमानस या सार्वजनिक रस्त्यावरून खनिज वाहतूक करण्याच्यादृष्टीने 'वेदांता' कंपनीने हालचाली सुरू केल्या आहेत. अशी शक्यता गृहीत धरून शेतकरी आणि कामगारांमध्ये खळबळ माजली आहे.



डिचोली : आपले म्हणणे मांडताना शेतकरी. (तुकाराम सावंत)

सार्वजनिक रस्त्याला हरकत

शेतकरी आपल्या मागण्यांवर ठाम असल्याने 'रस्ता बंद' आंदोलनाचा तिढा अजून सुटत नाही. डिचोली-सारमानस या सार्वजनिक रस्त्यावरून खनिज वाहतूक करण्याचा प्रयत्न झाल्यास तो हाणून पाडण्यात येईल. असे शेतकरी आणि कामगारांनी स्पष्ट केले आहे. डिचोली-सारमानस रस्त्यावरुन शेकडो वाहने नियमित ये-जा करतात. या रस्त्यावरुन खनिज वाहतूक सुरु झाल्यास नियमित प्रवास करणाऱ्या प्रवाशांसह विद्यार्थीवर्गाचे हाल होणार आहेत. असा दावा आंदोलनकर्त्या शेतकरी आणि कामगारांनी केला आहे. खाण आणि भूगर्भ खात्याने सार्वजनिक रस्त्याने खनिज वाहतुकीसाठी परवानगी देवू नये. संभाव्य परिणाम लक्षात घेवून मुख्यमंत्री डॉ. प्रमोद सावंत यांनीही याप्रश्नी गंभीरतेने लक्ष घालावे, अशी मागणी शेतकरी आणि कामगारांनी केली आहे.

PROBLEMS OF MINING TRANSPORTATION INTENSIFIES...!

Farmers objects transportation on Piligao- Sarmanas road.

Bicholim, Dt. 6 (Representative):

The issue over transportation of iron ore in Bicholim Village has no signs of getting resolved as Vedanta's transportation of iron ore continued to be stopped. **The protesting farmers and workers will continue their protest unless and until their demands are fulfilled and they will not allow transportation of iron ore through any other road, said Sudhakar Vaigankar, Anil Salelkar and others today (Friday) in a press conference in Bicholim.**

The Farmers have blocked the trucks from transporting iron ore from Vedanta mine and objected to transportation of iron ore via alternate route also and therefore for the last 17 days, Vedanta's iron ore transportation is stopped. The Farmers and worker were upset, over an apprehension that the Vedanta has started movement to start the iron ore transportation via Bicholim- Sarmanas public road after all other efforts in vain.

OBJECTION TO PUBLIC ROAD

On account of mulishness of the farmers over their demand, the protest 'Rasta Band' is unable to get resolved. The farmers and workers said that they will foil any attempt made to transport iron ore via Bicholim- Sarmanas road. Everyday many vehicles ply via Bicholim- Sarmanas road and therefore transport iron ore will cause inconvenience to the regular vehicles plying via the said road, claims the agitating farmers and workers. Directorate of Mines and Geology should not give permission to iron ore vehicles to transport via public road. The farmers and workers also demanded to Chief Minister Pramod Sawant to take the issue seriously taking into account the overall result.

Sensitivity: Public (C4)

शेतकऱ्यांचा कायदेशीर लढ्याचा इशारा

पिळगावमधील शेतकऱ्यांचे डिचोली उपजिल्हाधिकाऱ्यांना निवेदन

डिचोली, ता. २० (प्रतिनिधी) : मागण्या पुढे करून रस्त्यावर उतरलेल्या पिळगावमधील शेतकऱ्यांचे आंदोलन अजूनही सुरूच आहे. येत्या सोमवारपर्यंत आमच्या मागण्या मान्य झाल्या नाहीत, तर कायदेशीर लढा देणार, असा इशारा आंदोलनकर्त्या शेतकऱ्यांनी दिला आहे. आज (शुक्रवारी) शेतकऱ्यांनी डिचोलीचे उपजिल्हाधिकारी रोहन कासकर यांना पुन्हा एकदा मागण्यांचे निवेदन दिले आहे.

दरम्यान, पिळगावमधील शेतकऱ्यांचे आंदोलन मिटण्याची चिन्हे दिसत असून, पुढील आठवड्यापर्यंत शेतकऱ्यांच्या मागण्यांवर सकारात्मक तोडगा निघण्याची शक्यता आहे. त्यादृष्टीने सरकार तसेच 'वेदान्ता'च्या व्यवस्थापनाकडून जोरदार प्रयत्न सुरू आहेत, अशी विश्वसनीय सूत्रांकडून माहिती मिळाली आहे. शेतीसंदर्भातची मागणी 'वेदान्ता' कंपनीकडून विचारात घेण्यात आली असून, केवळ 'रिट्रेंच' कामगारांसंबंधीच्या मागणीवर अद्याप अंतिम निर्णय झाला नसल्याची माहिती मिळाली आहे.

सुधाकर वायंगणकर आणि अनिल सालेलकर यांच्या नेतृत्वाखालील शेतकऱ्यांच्या एका गटाने आज सकाळी डिचोलीचे उपजिल्हाधिकारी कासकर यांची भेट घेतली. शेतकऱ्यांच्या या गटाने उपजिल्हाधिकाऱ्यांसमोर पुन्हा एकदा आपली कैफियत मांडून मागण्यासंदर्भात सकारात्मक तोडगा काढा, अशी विनंती केली. निवेदनाची एक प्रत शेतकऱ्यांनी आमदार प्रेमेंद्र शेट यांच्या कार्यालयात दिल्याची माहिती मिळाली आहे.

आंदोलन मिटण्याची शक्यता



डिचोली : उपजिल्हाधिकाऱ्यांना निवेदन दिल्यानंतर निर्णय जाहीर करताना शेतकरी. (तुकाराम सावंत)

- शेतकऱ्यांना नुकसान भरपाईच्या रूपाने शेतजमिनीच्या प्रतिचौरस मीटरमागे ५ हजार ४०० रुपये देऊन ही रक्कम पाच वर्षांत अदा करण्याचा प्रस्ताव विचाराधीन आहे. या प्रस्तावावर शिक्कामोर्तब होण्याचे बाकी असल्याचे समजते. दुसऱ्या बाजूने कपात केलेल्या कामगारांच्या मागणीवरही तोडगा काढण्यासाठी प्रयत्न सुरू आहेत. शेतकऱ्यांसह कामगारांच्या प्रस्तावाला सहमती दिली आणि तसा करार झाला, तर शेतकऱ्यांचे आंदोलन मिटण्याची शक्यता आहे.

FARMERS HINTS TO FIGHT LEGAL BATTLE.

Farmers of Piligao Village files Memorandum before Deputy Collector, Bicholim.

Bicholim, Dt. 20 (Representative):

The Pilgao Farmers continued their protest on road on account of non-fulfilment of their demands. The agitated farmers threatened that in case their demands are not fulfilled by Monday then, they will fight a legal battle. Today (Friday), the farmers once again filed a Memorandum of their demands before Deputy Collector, Bicholim Rohan Kaskar.

Meanwhile, there are signs that the protest of the Pilgao farmers getting resolved, as there are efforts amde to get a positive solution towards the demands of the farmers by next week. In this context, there is strong effort being made by the Government as well as Management of Vedanta, as per the information received from a reliable source. As per information, the demands of farmers are under consideration. However, there is no final decision yet on the demands made by the retrenched workers.

Under the leadership of Sudhakar Vaigankar and Anil Salelkar, a group of farmers met Deputy Collector Karkar today morning. The group of farmers once again presented their demands before the Deputy Collector and requested to positively find a solution. As per information received one copy of the Memorandum of demand of farmers has been given in the office of MLA Premendra Shet.

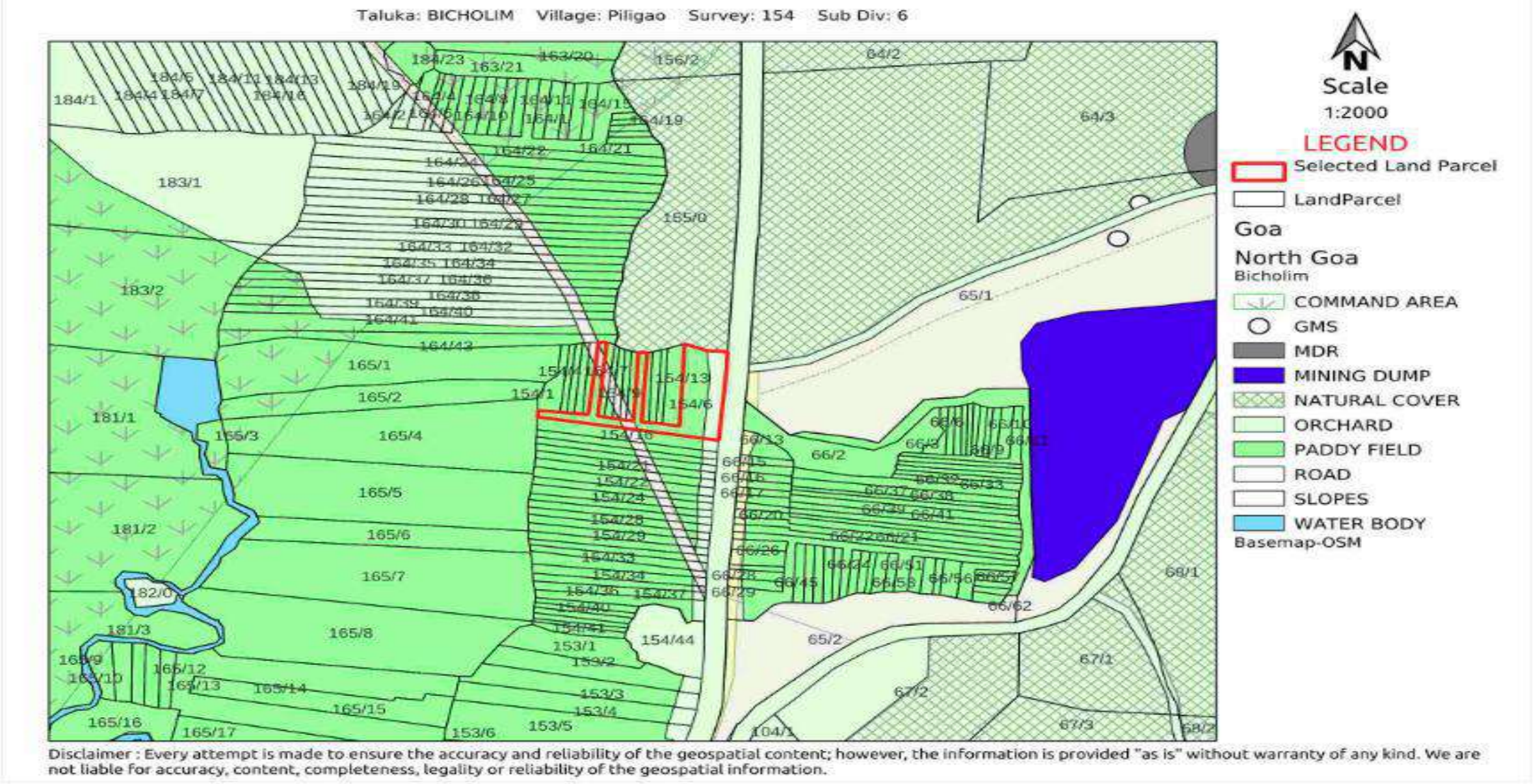
- As per information, a proposal is under consideration to give the farmers Rs. 5400/- per sq.mts as compensation towards the loss of land and the said amount would be paid in 5 years. The final decision on this proposal is yet to be taken. **On the other side, there is also an effort made to resolve the demands of the retrench workers. If the proposal given by the farmers and retrench workers are finally decided and arrived into an agreement, then there are chances that the agitation may be called off.**

Sensitivity: Public (C4)

Compilation of Survey Nos. in Civil Suit 42/ 2024

#	Name of Tenant	Associated with Plaintiff in Civil Suit 42/ 2024	Survey No.	Sub Division	Area
1	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	154	6	8.5
2	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	154	8	1
3	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	154	9	1
4	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	154	10	1
5	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	154	17	2.5
6	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	154	18	2.5
7	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	154	19	2
8	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	154	20	2.25
9	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	154	22	3
10	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	154	23	2.5
11	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	154	24	2.5
12	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	154	25	2
13	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	154	26	3
14	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	154	28	2.5
15	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	154	29	2.5
16	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	154	30	2.25
17	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	154	31	2.25
18	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	154	32	2.5
19	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	154	34	3

.Sensitivity: Public (C4)



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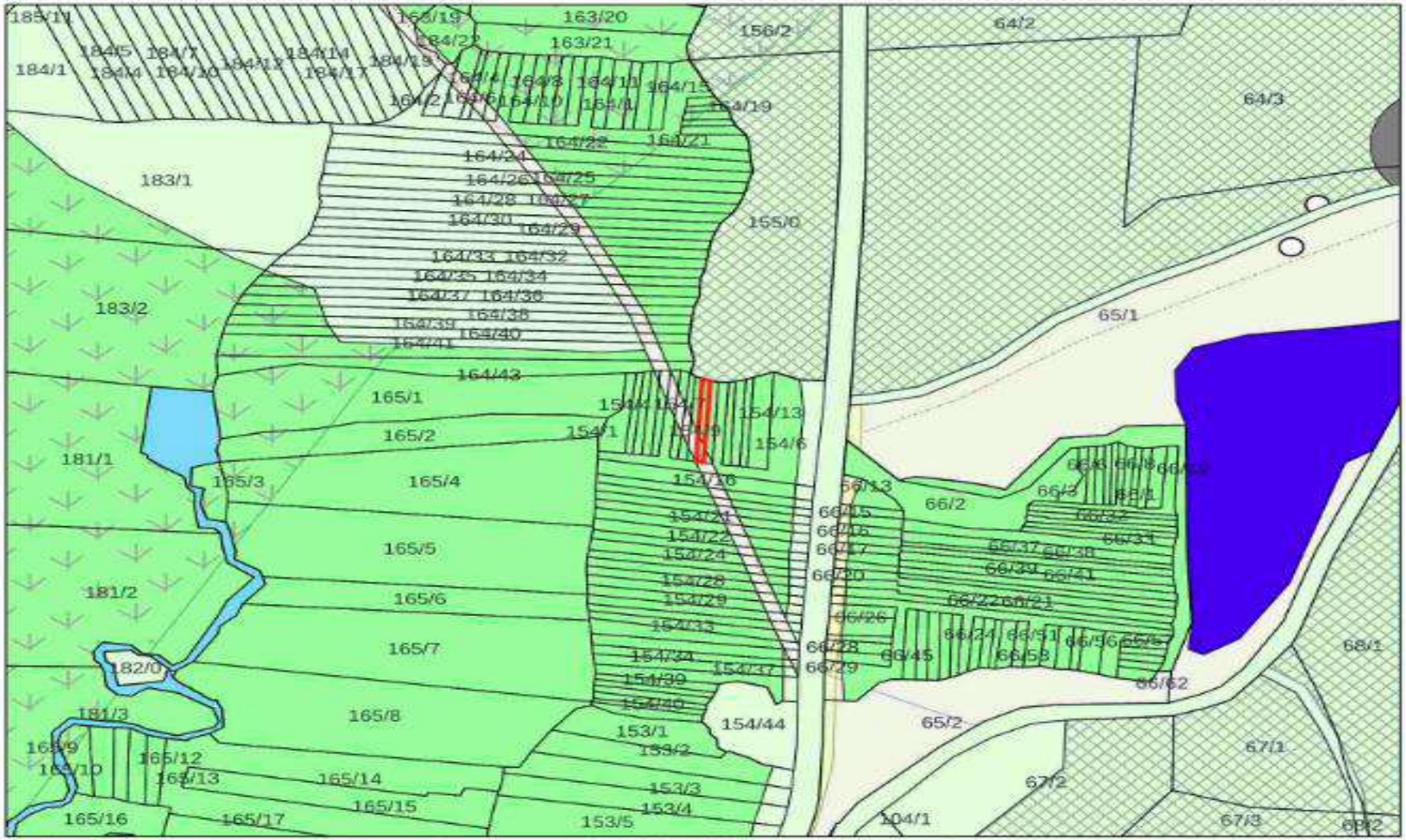
Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 9



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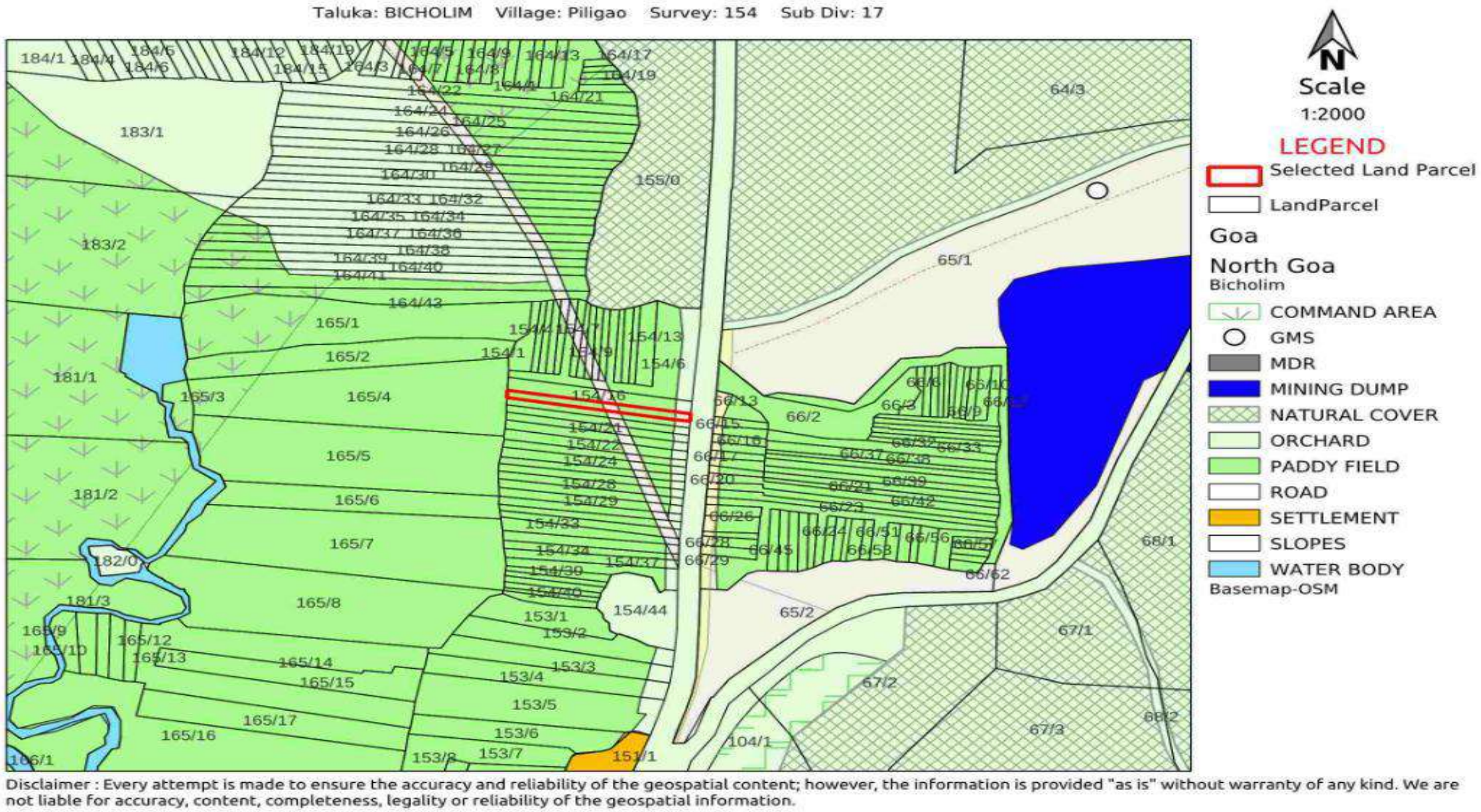
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Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 10



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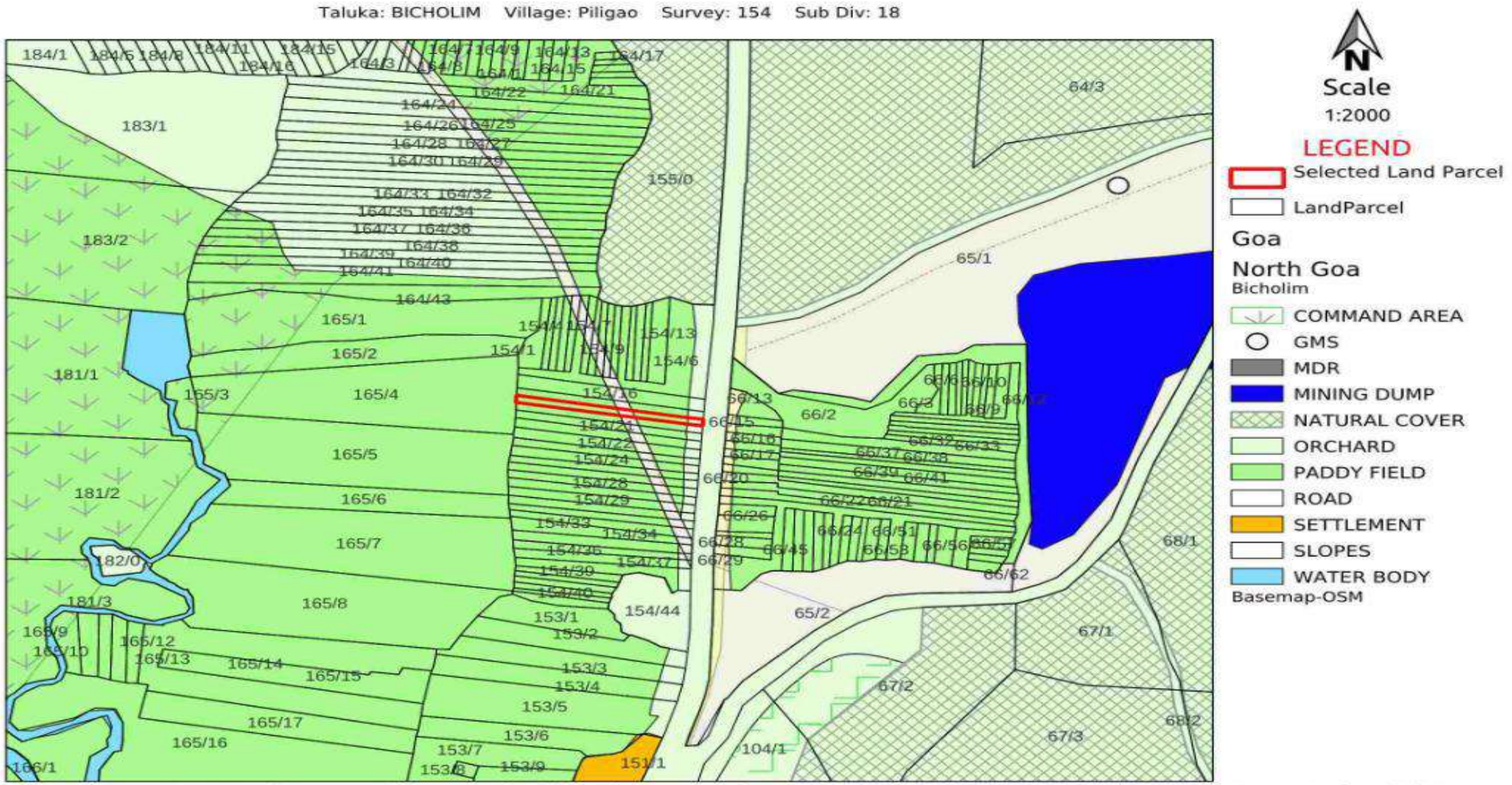
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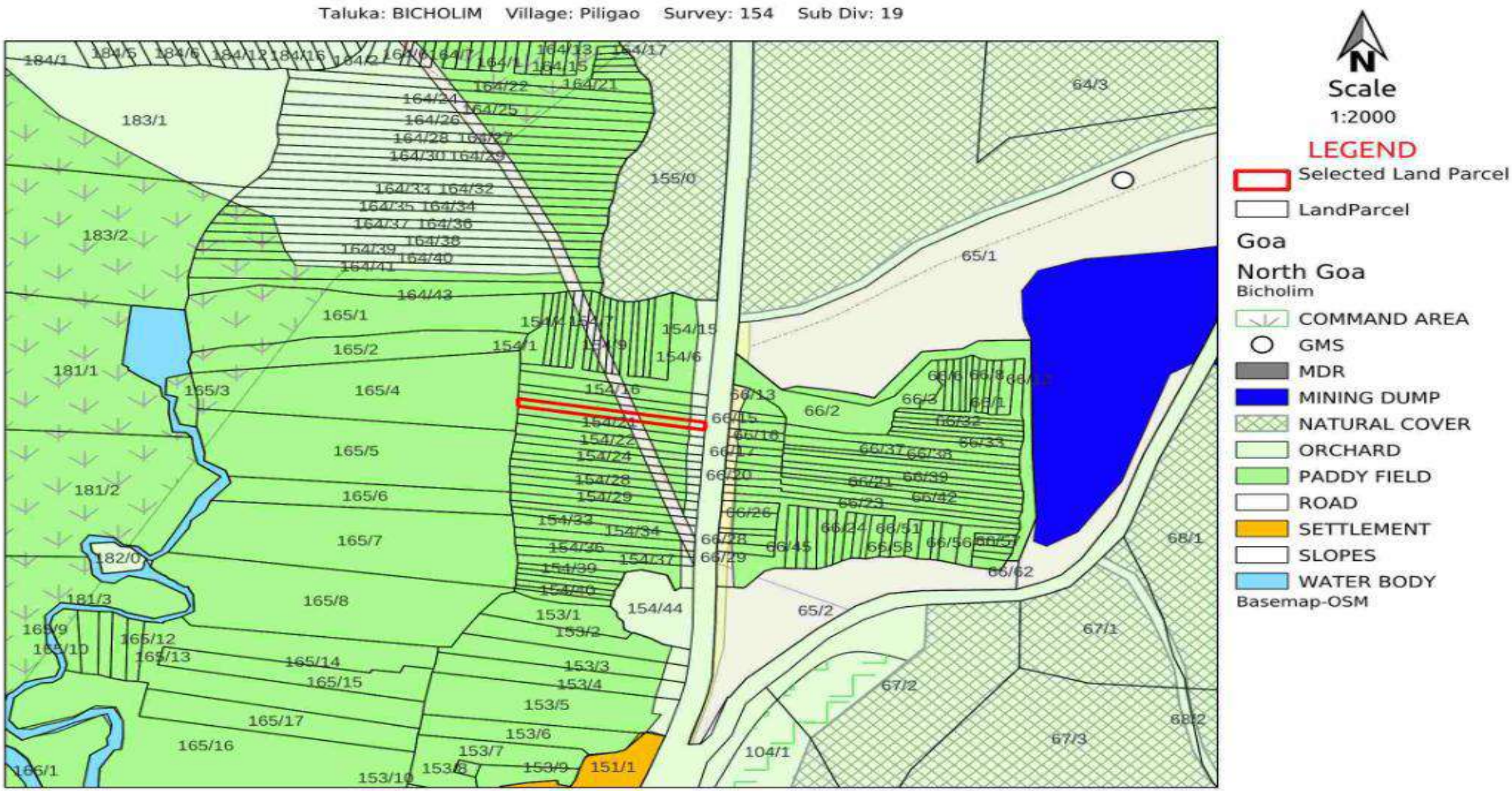
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4.Town and Country Planning Department



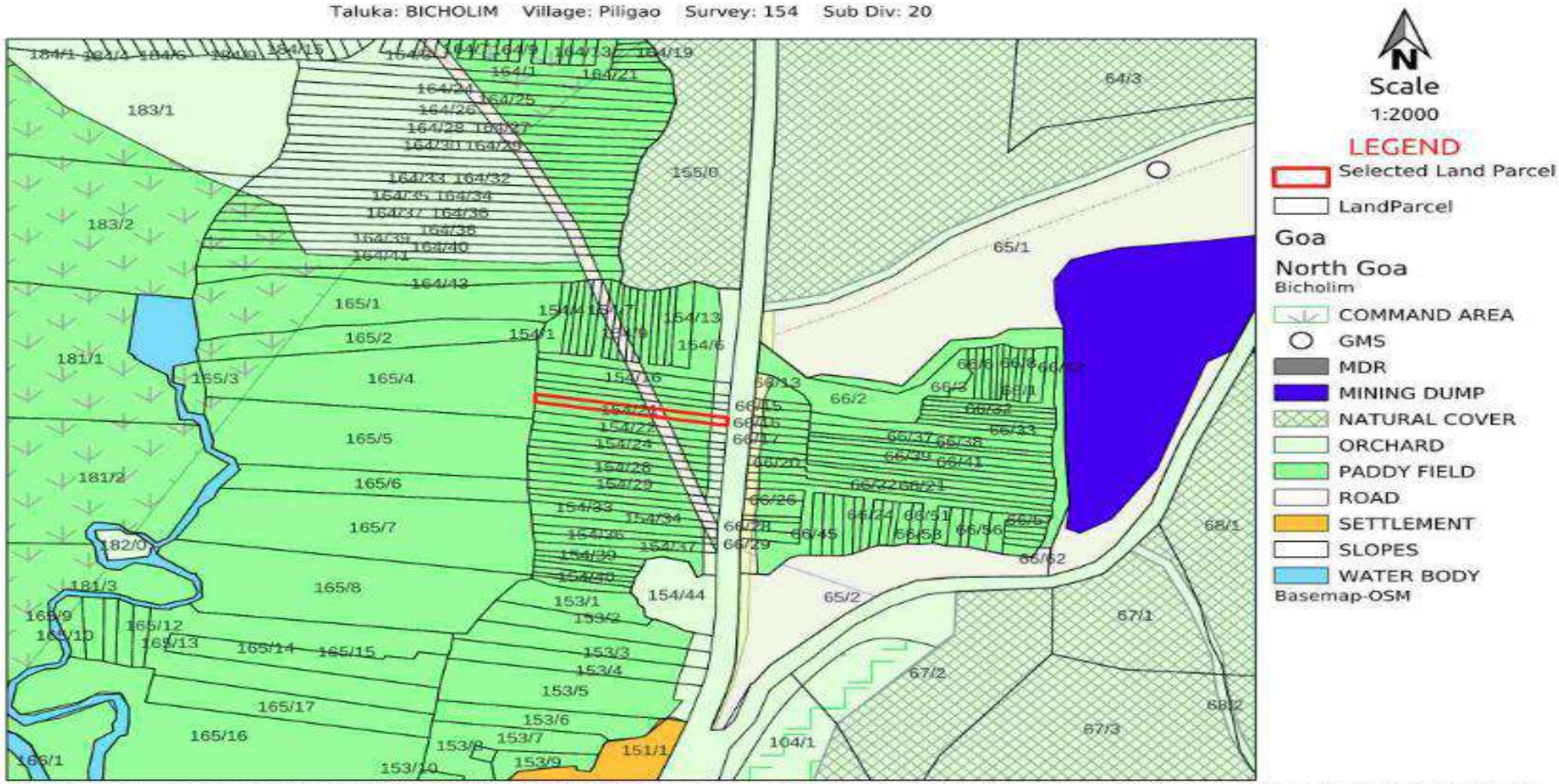
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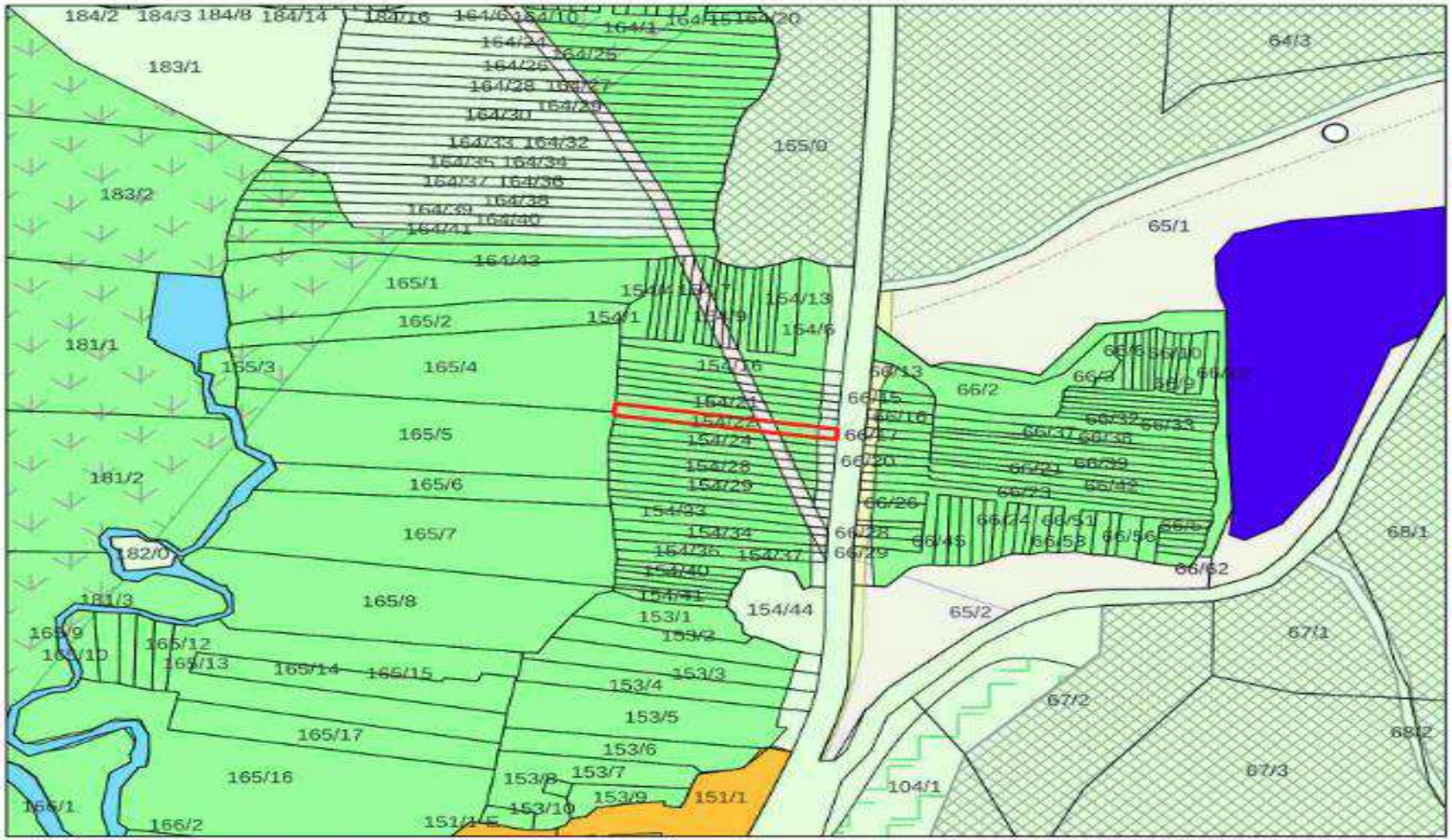
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Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 22



Scale
1:2000

LEGEND

- Selected Land Parcel
- LandParcel

Goa

North Goa

Bicholim

- COMMAND AREA
- GMS
- MDR
- MINING DUMP
- NATURAL COVER
- ORCHARD
- PADDY FIELD
- ROAD
- SETTLEMENT
- SLOPES
- WATER BODY

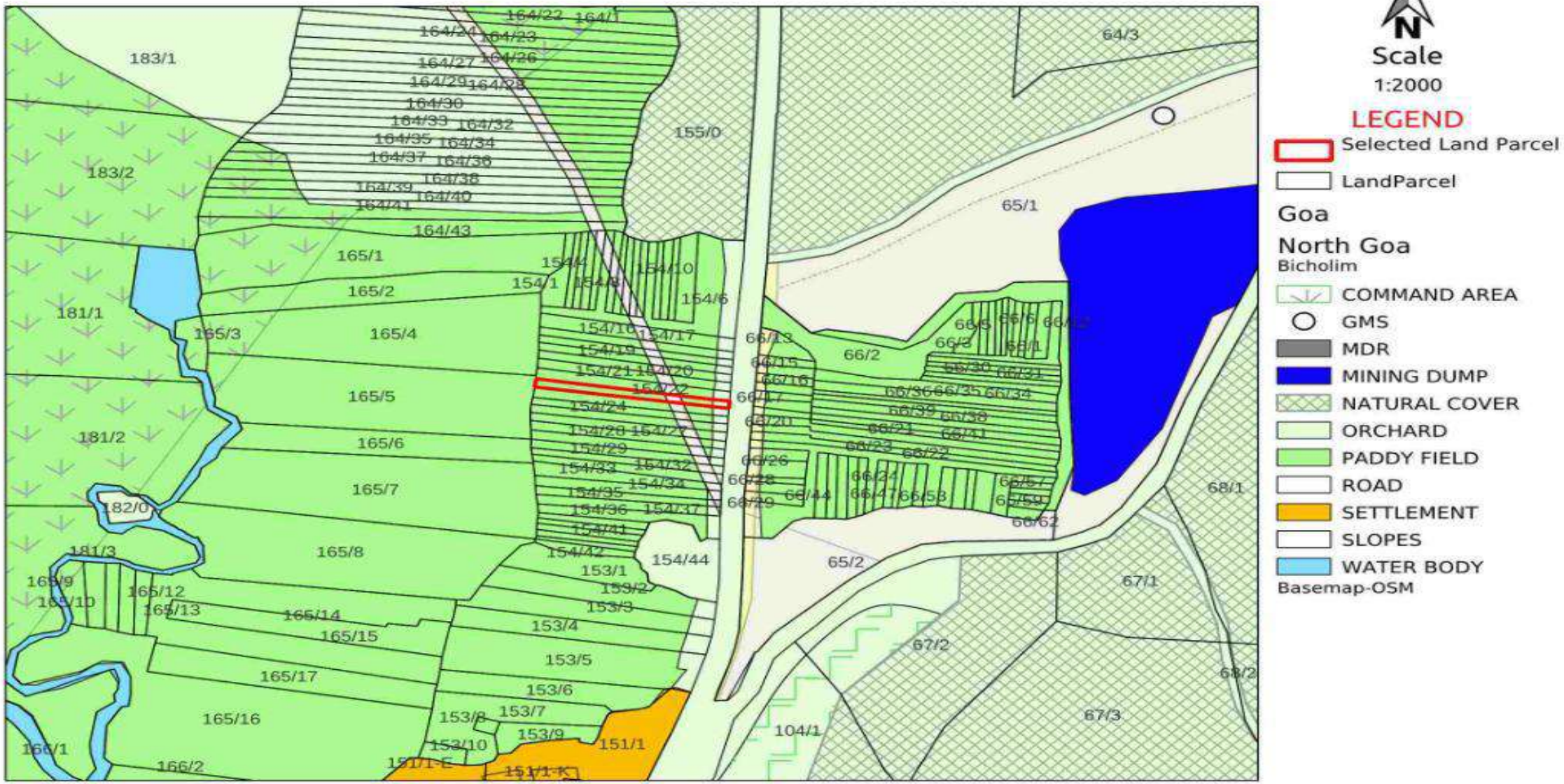
Basemap-OSM

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4.Town and Country Planning Department

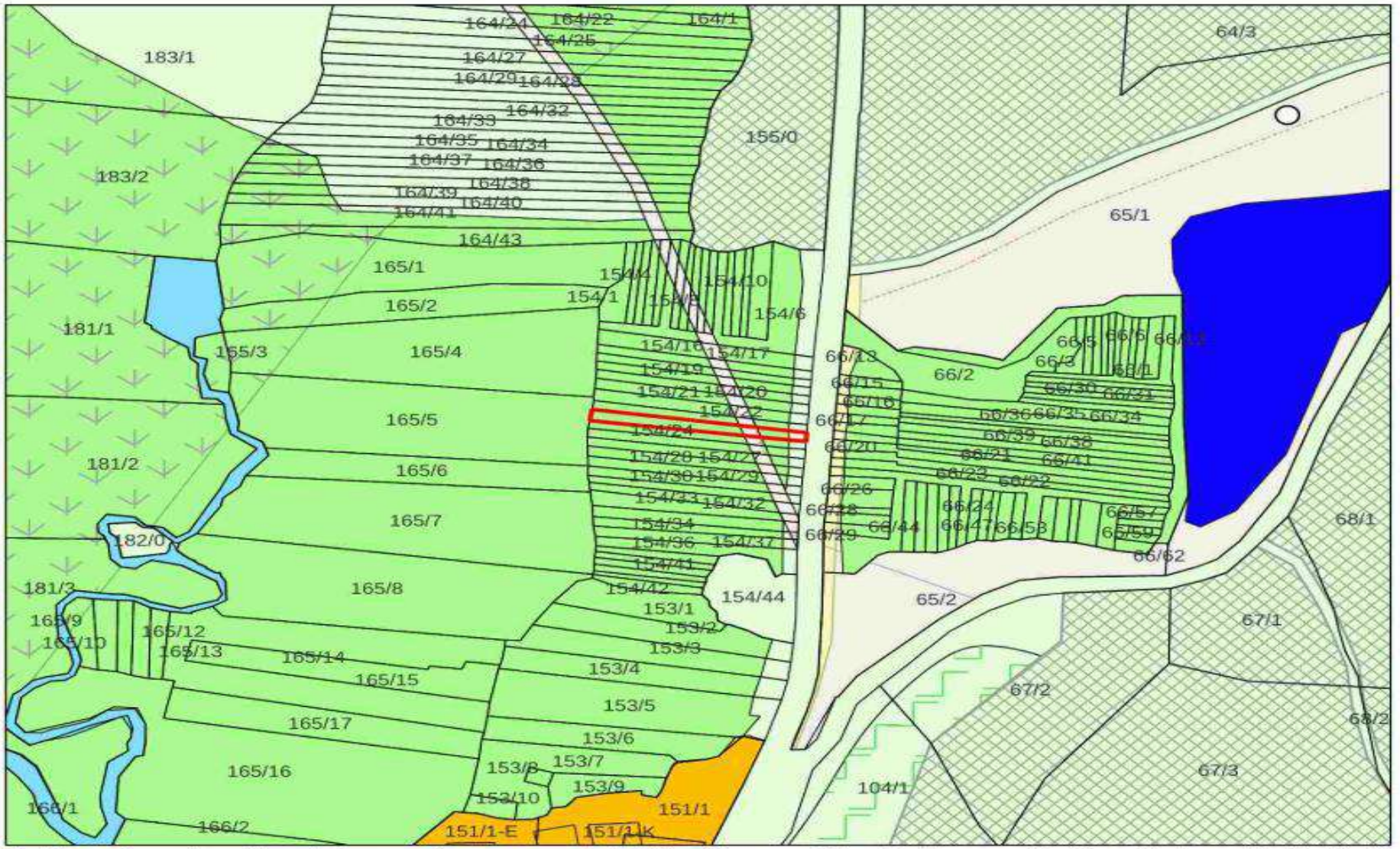
Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 23



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Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 24

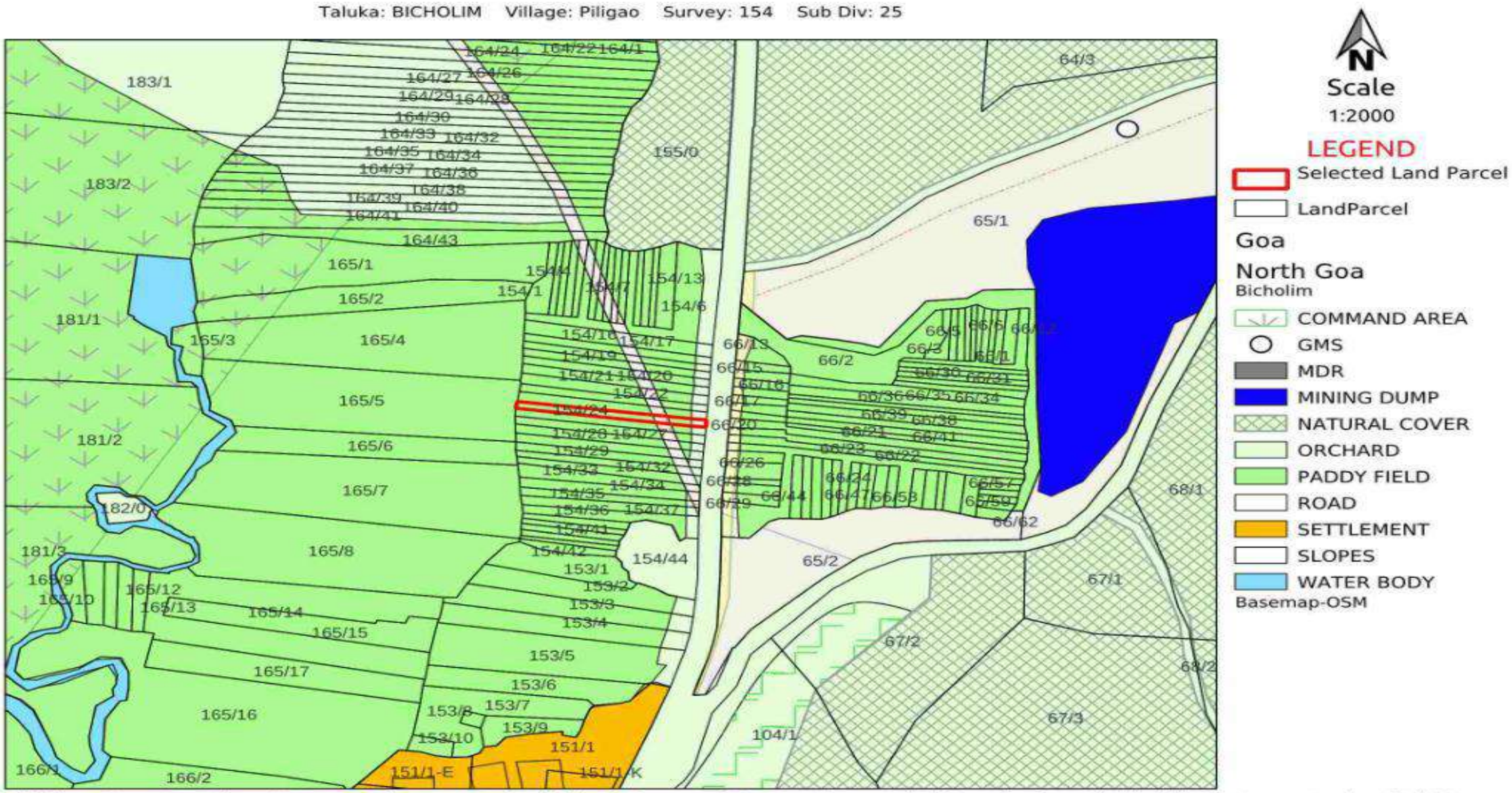


Scale
1:2000

LEGEND
Selected Land Parcel
LandParcel
Goa
North Goa
Bicholim
COMMAND AREA
GMS
MDR
MINING DUMP
NATURAL COVER
ORCHARD
PADDY FIELD
ROAD
SETTLEMENT
SLOPES
WATER BODY
Basemap-OSM

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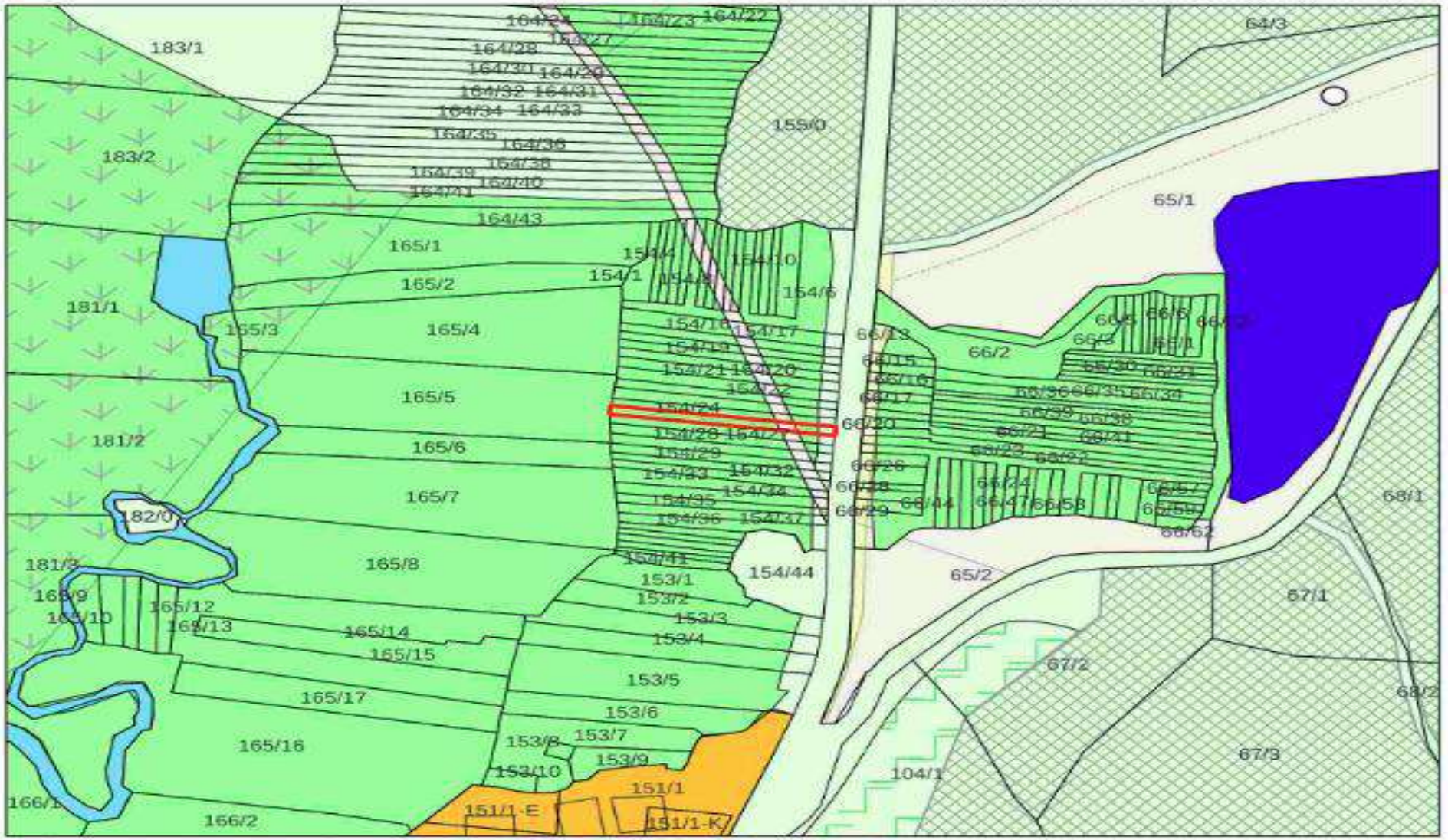
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Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 26



Scale
1:2000

LEGEND
- Selected Land Parcel
- LandParcel

Goa
North Goa
Bicholim
- COMMAND AREA
- GMS
- MDR
- MINING DUMP
- NATURAL COVER
- ORCHARD
- PADDY FIELD
- ROAD
- SETTLEMENT
- SLOPES
- WATER BODY

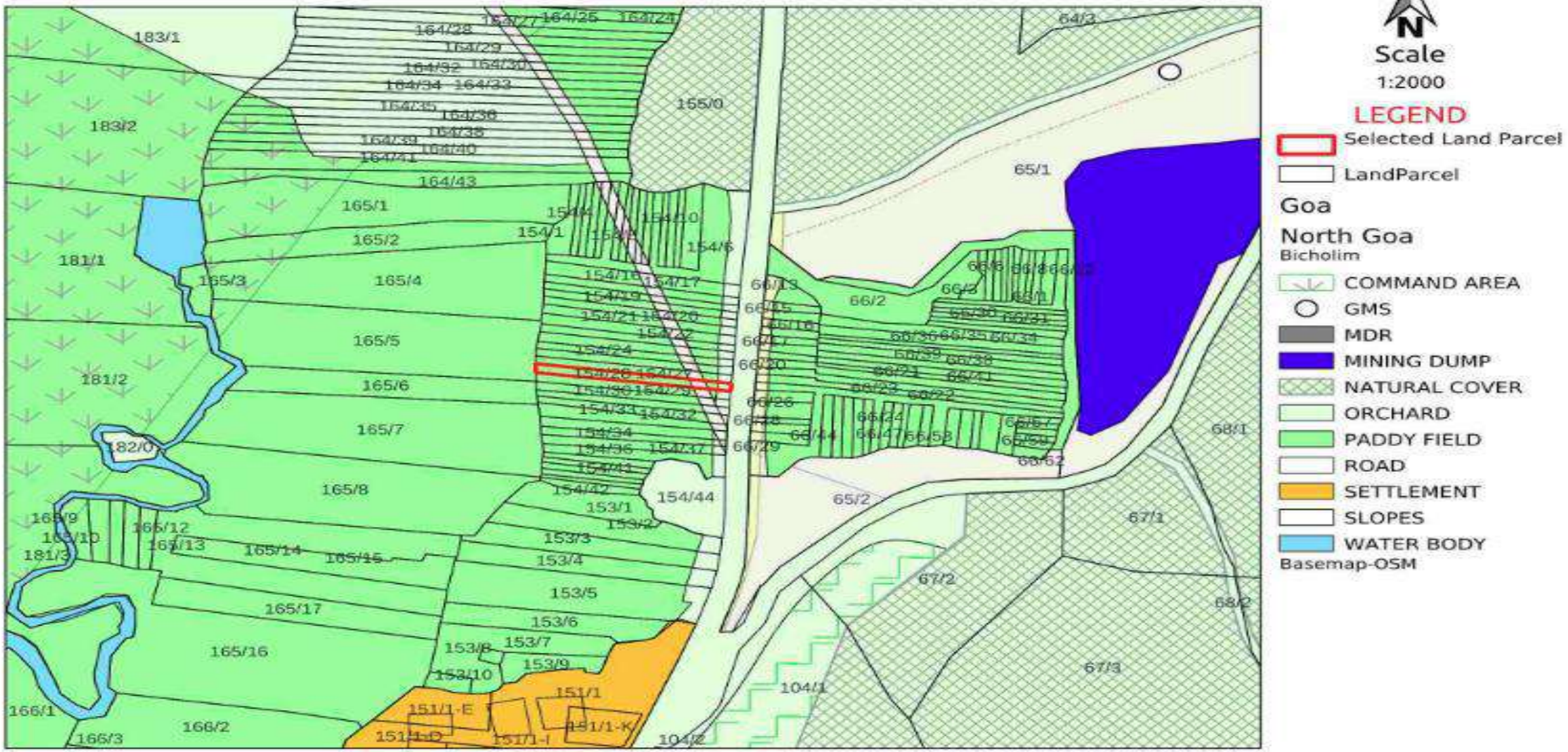
Basemap-OSM

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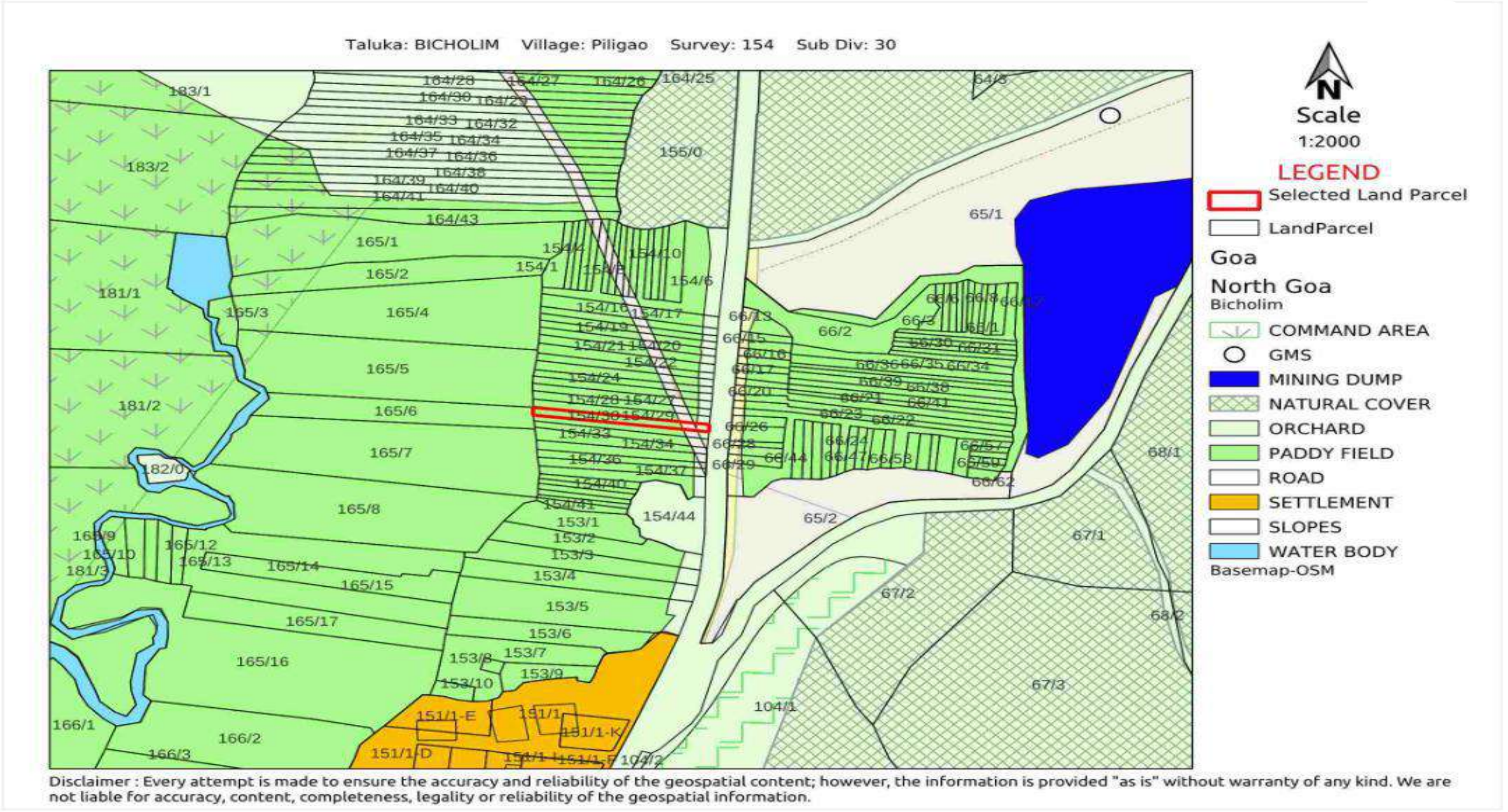
Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 28



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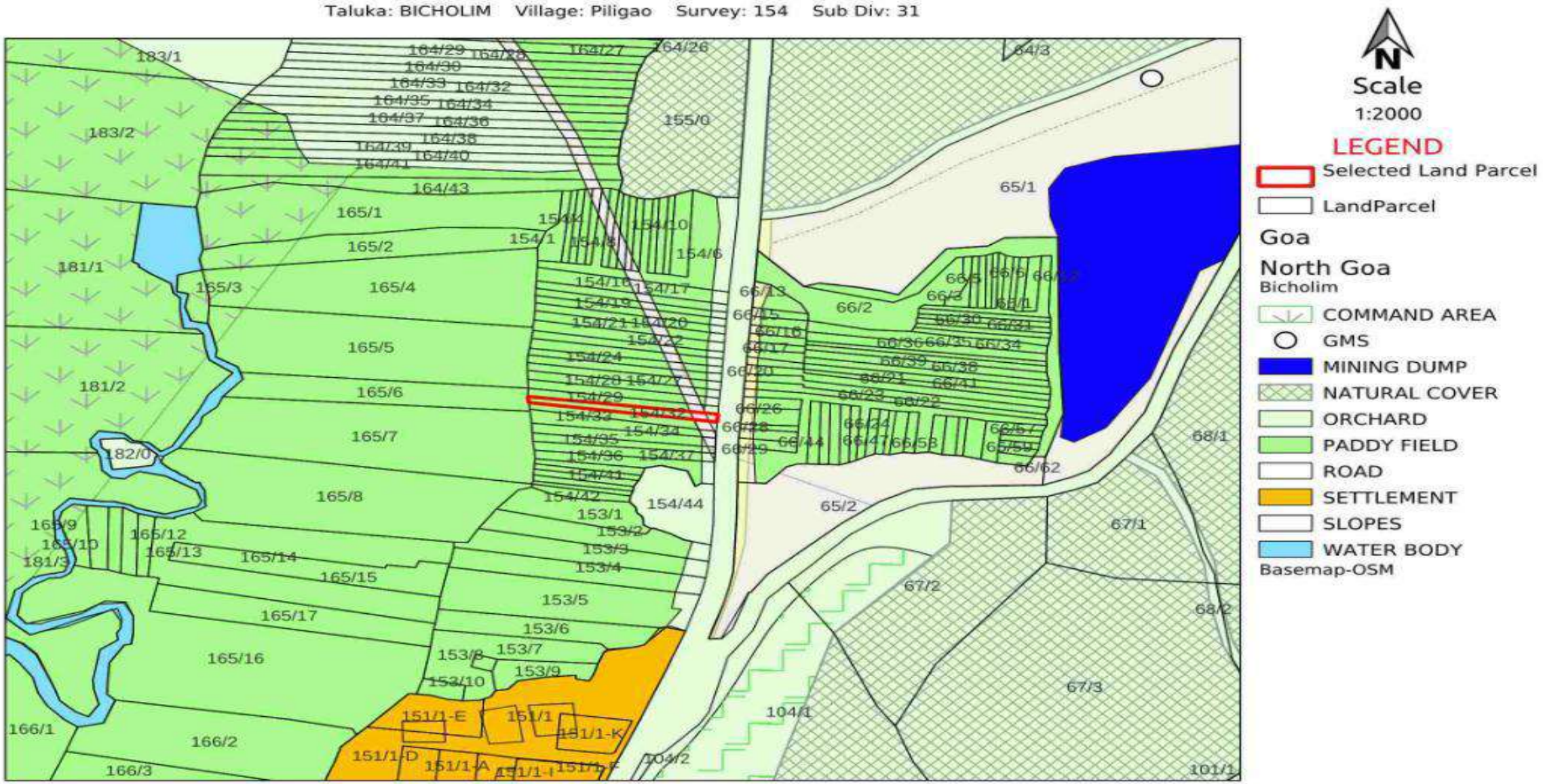
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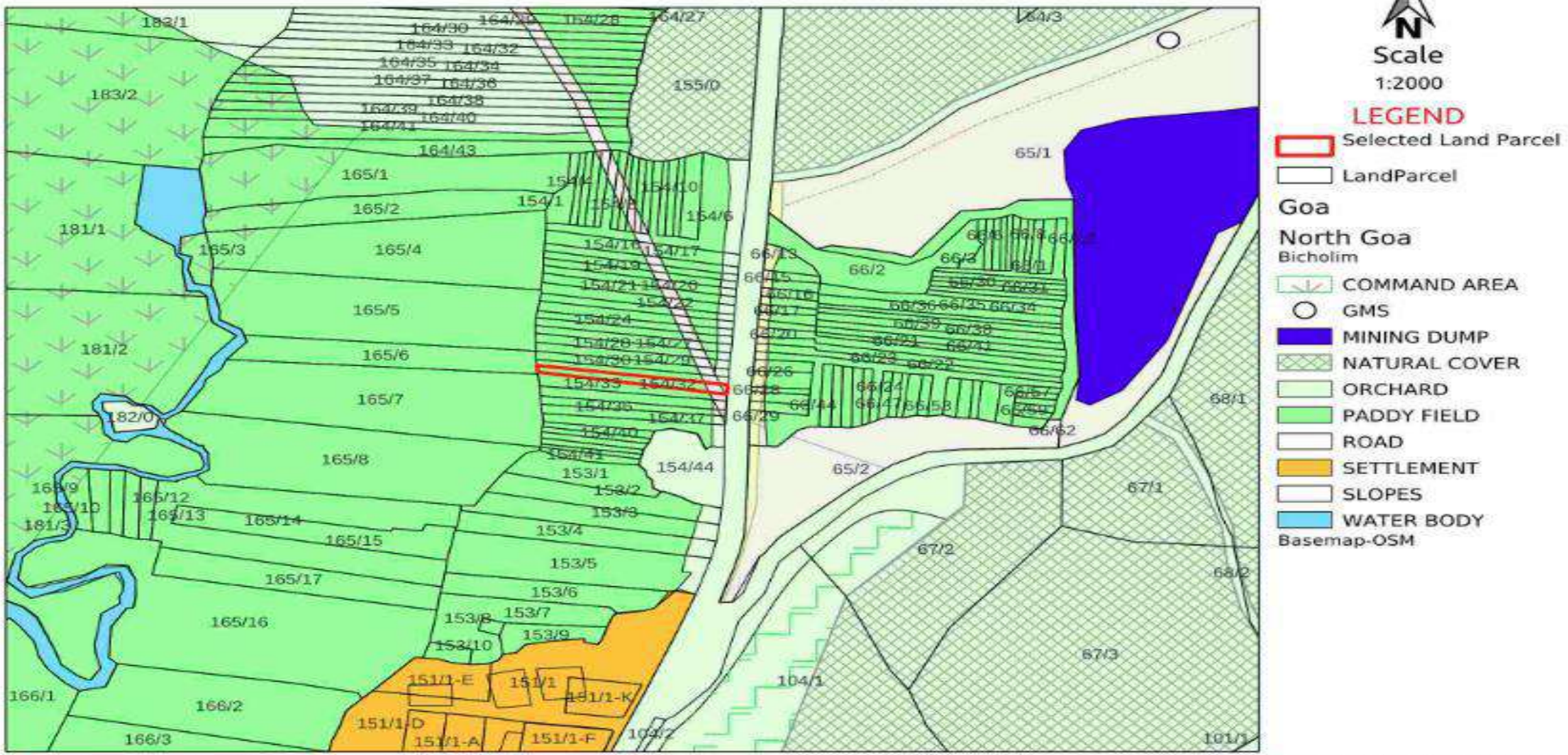


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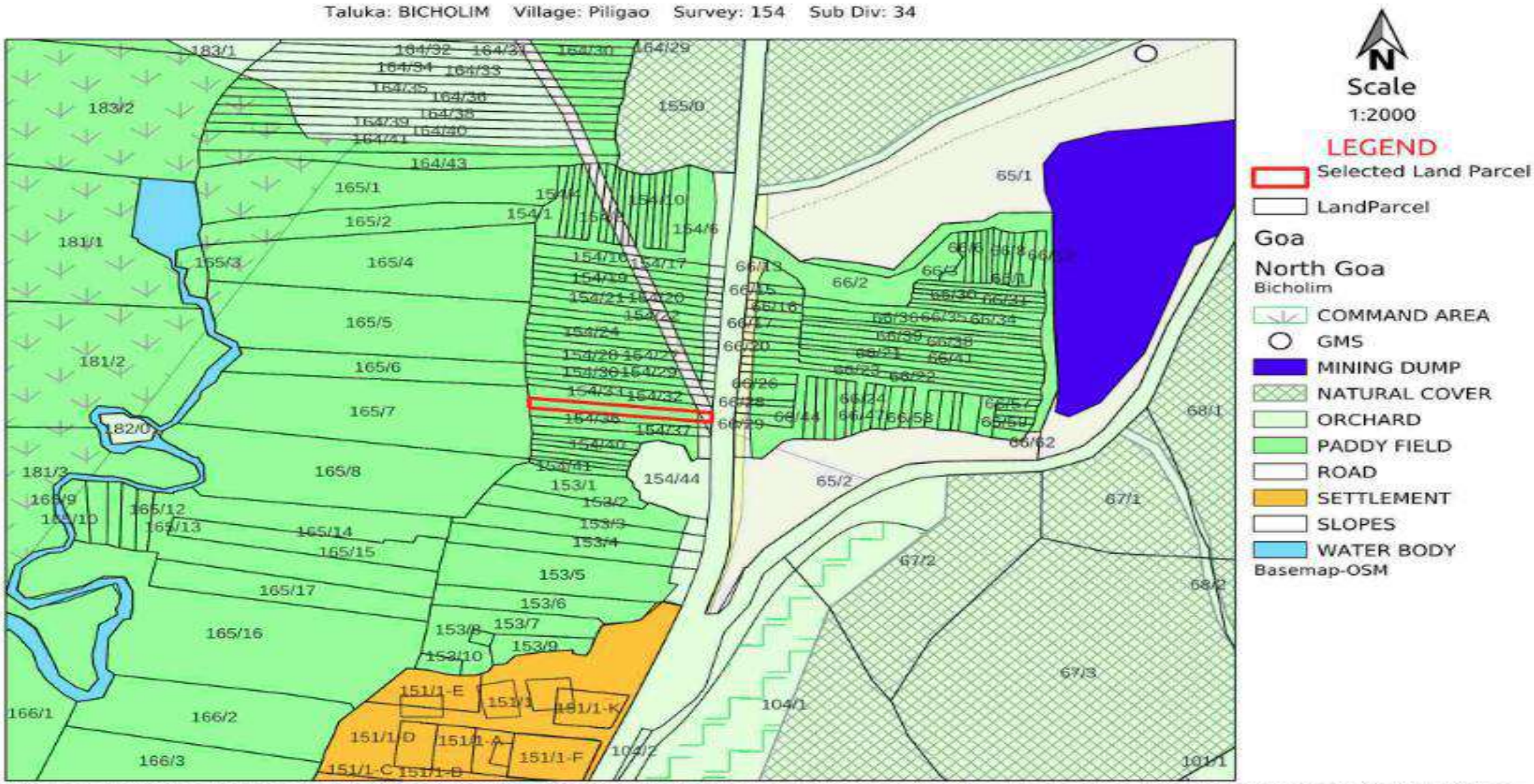
Taluka: BICHOLIM Village: Piligao Survey: 154 Sub Div: 32



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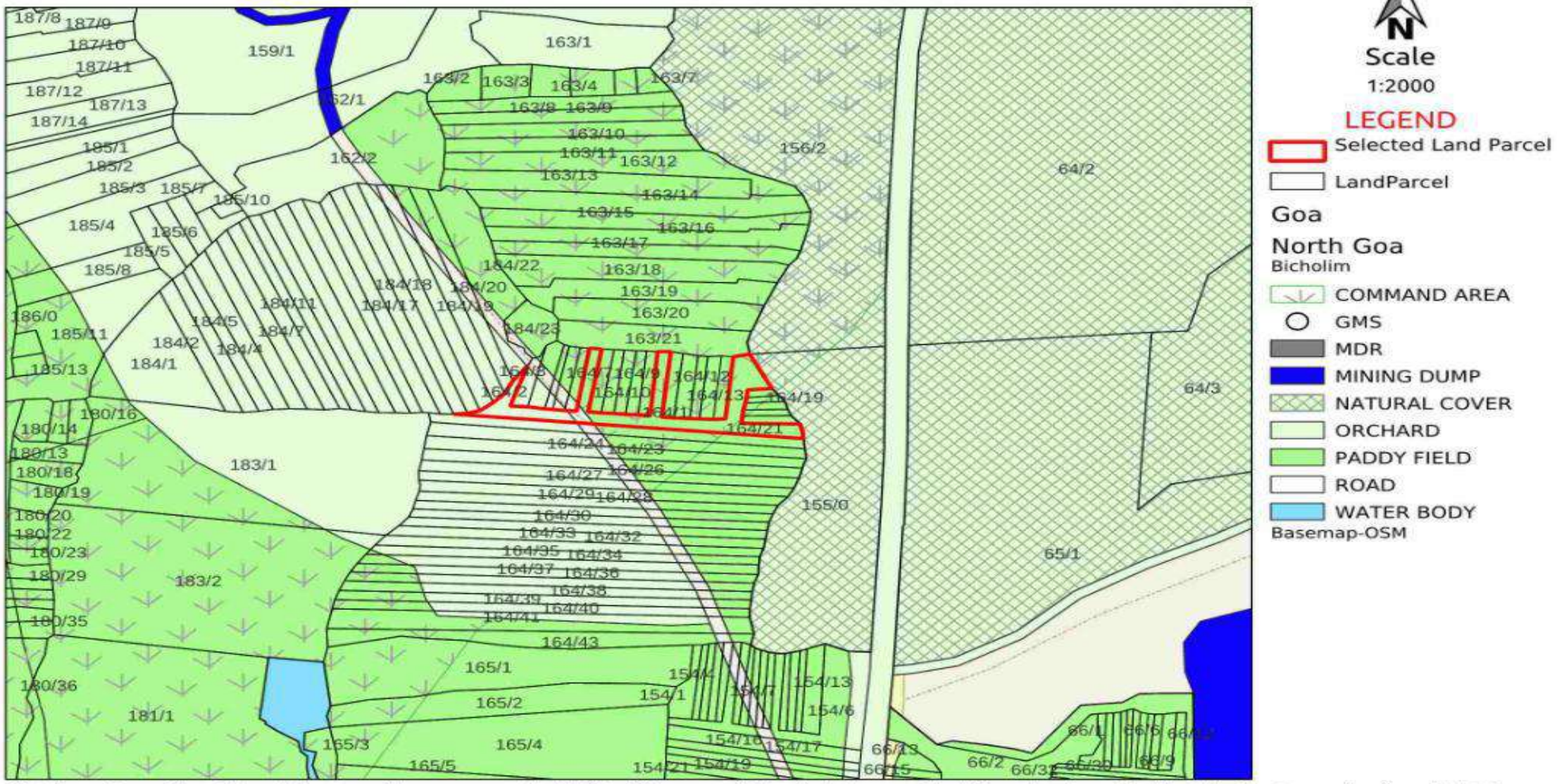
Compilation of Survey Nos. in Civil Suit 42/ 2024

#	Name of Tenant	Associated with Plaintiff in Civil Suit 42/ 2024	Survey No.	Sub Division	Area
1	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	164	1	11.5
2	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	164	2	1.25
3	Sukdo Masno Kaulekar	Babuso Sukdo Kawlekar (Plaintiff No. 6)	164	3	1.75
4	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	164	4	0.75
5	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	164	5	1.25
6	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	164	6	1.25
7	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	164	22	5.25
8	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	164	23	7
9	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	164	24	6.25
10	Sukdo Masno Kaulekar	Babuso Sukdo Kawlekar (Plaintiff No. 6)	164	25	6.75
11	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	164	26	6.75
12	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	164	27	5.5
13	Shablo Pundalik Kauleker	Ramesh Shablo Kawlekar (Plaintiff No. 7)	164	30	5
14	Sukdo Masno Kaulekar	Babuso Sukdo Kawlekar (Plaintiff No. 6)	164	31	5
15	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	164	32	5.25
16	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	164	33	5.75
17	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	164	34	5.75
18	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	164	35	5.5
19	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	164	36	5.75
20	Sukdo Masno Kaulekar	Babuso Sukdo Kawlekar (Plaintiff No. 6)	164	37	5.75
21	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	164	38	5.75
22	Ganesh Ramgo Jalmi	Chandrakant Ganesh Jalmi (Plaintiff No. 5)	164	39	5.5
23	Raghu Guno Kaulekar/ Raghu Ganesh Kavlekar	Savlo Raghu Kawlekar (Plaintiff No. 9)	164	40	5.5
24	Sankar Govind Jalmi	Shankar Chandrakant Jalmi (Plaintiff No. 3)	164	41	5.25
25	Sukdo Masno Kaulekar	Babuso Sukdo Kawlekar (Plaintiff No. 6)	164	42	12.5
26	Vishnu Pundalik Kaulekar	Vishnu Padurang Kavlekar (Plaintiff No. 8)	164	45	9

.Sensitivity: Public (C4)

4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 1

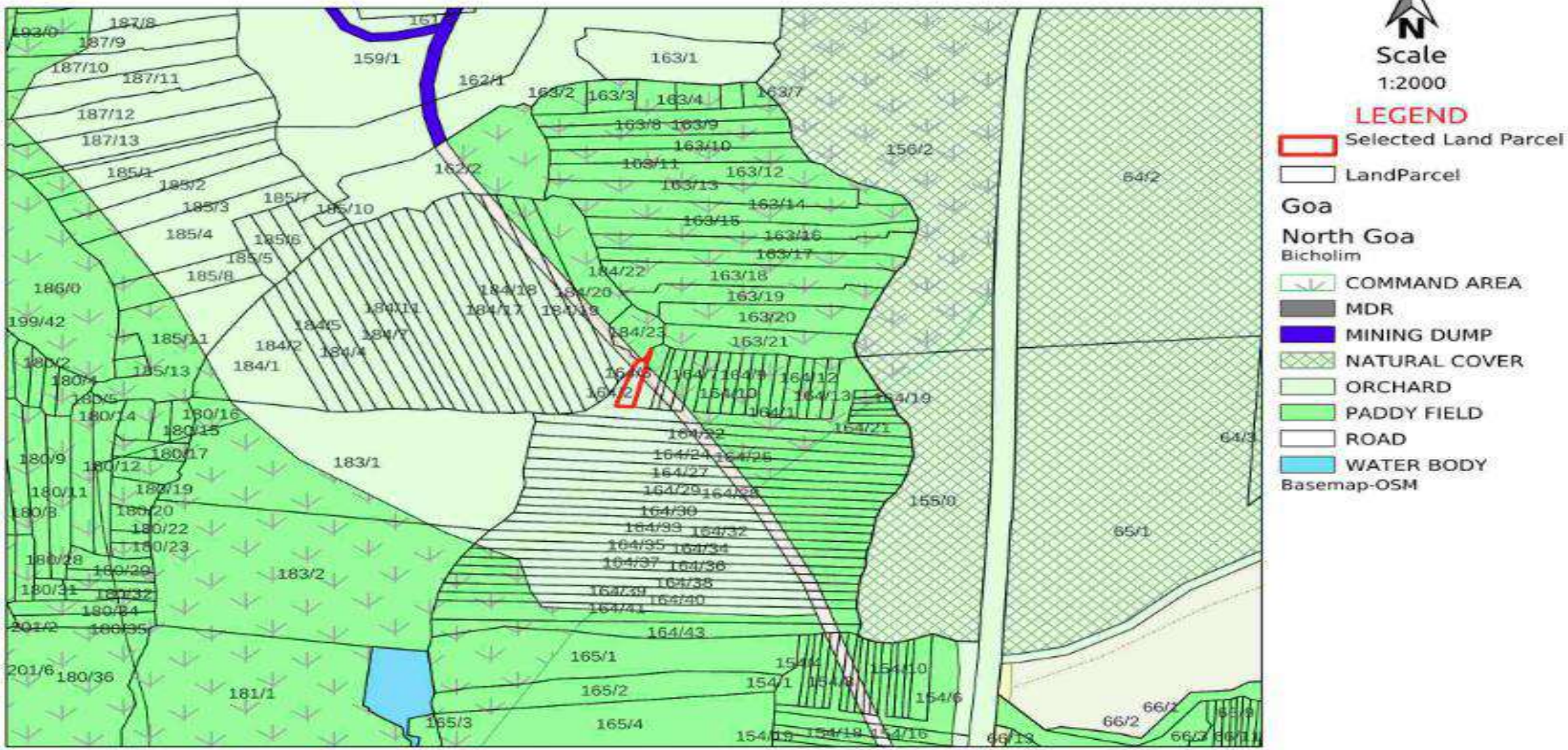


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Disclaimer: The Zoning information is based on RP/ODP and any provisional updation done under 16B is not shown.

4.Town and Country Planning Department

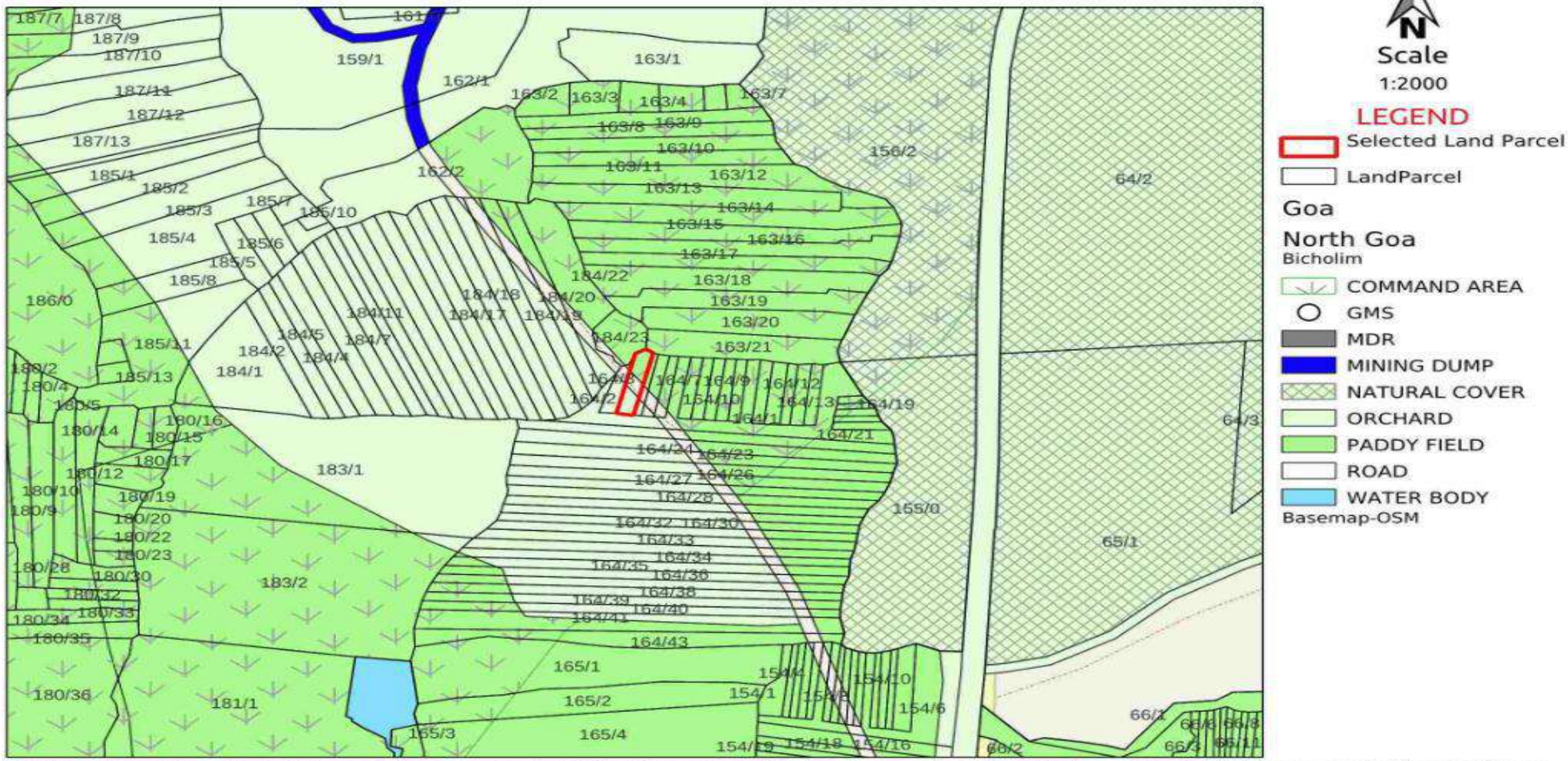
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 2



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4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 3



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4.Town and Country Planning Department

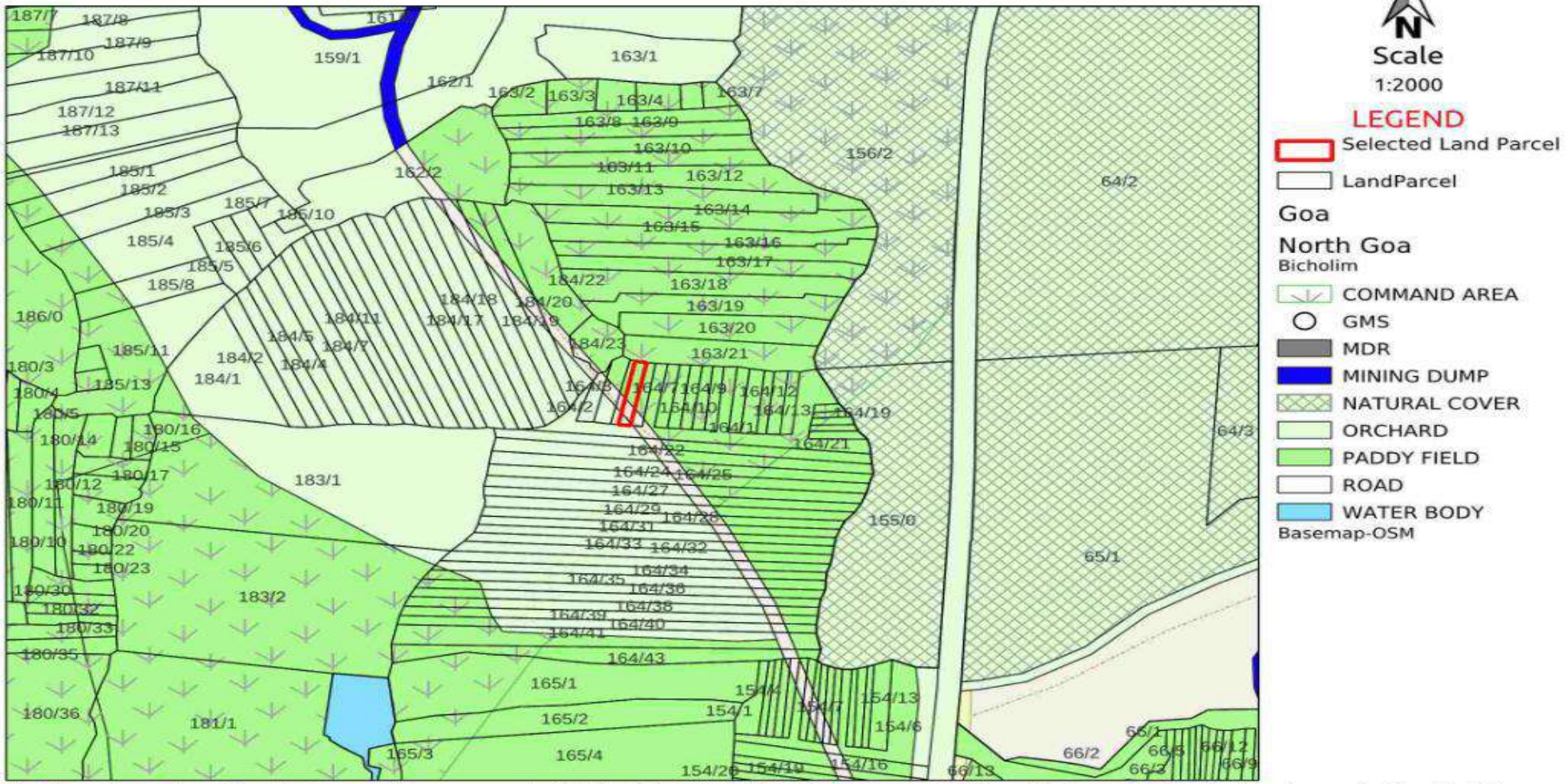
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 4



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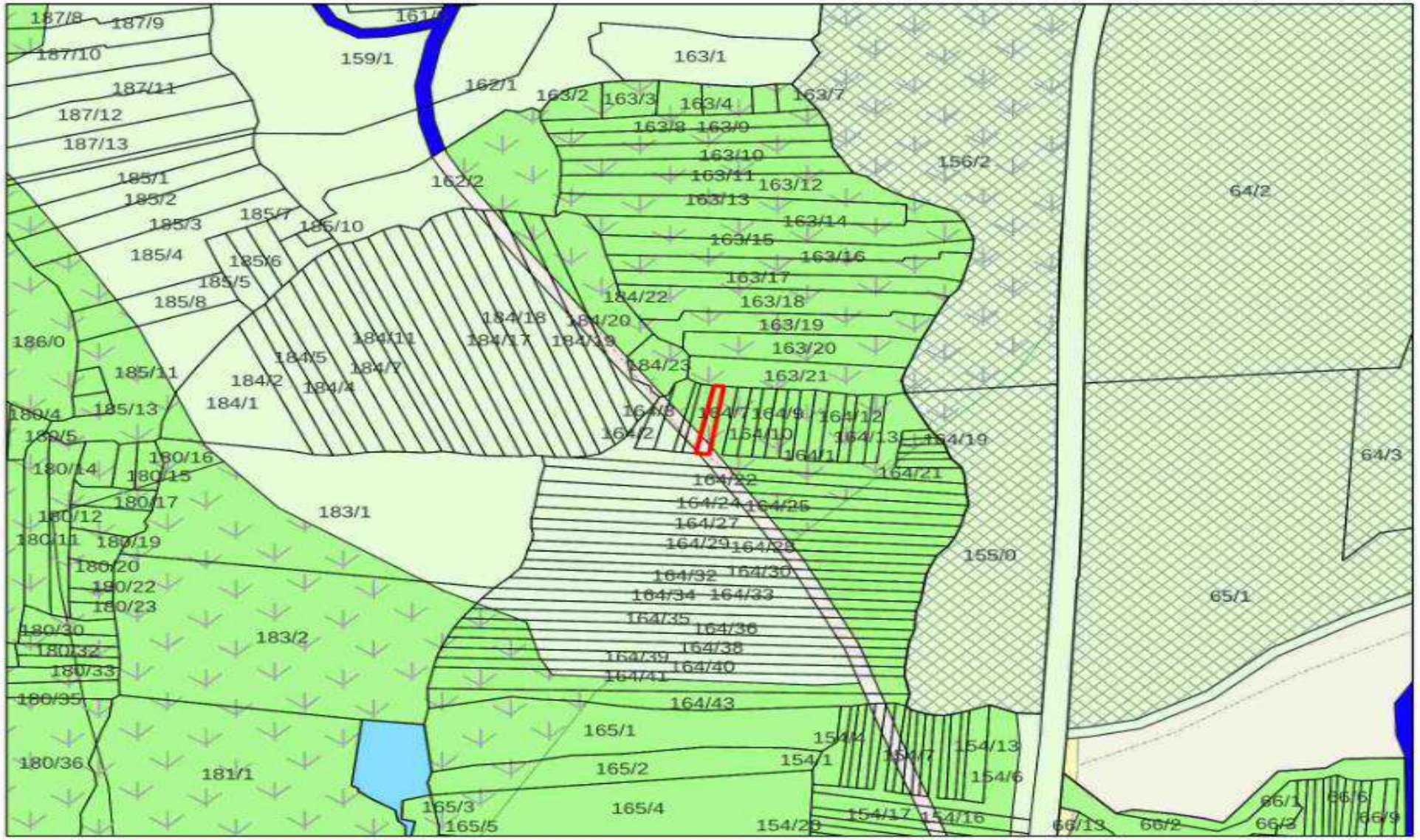
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 5



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Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 6

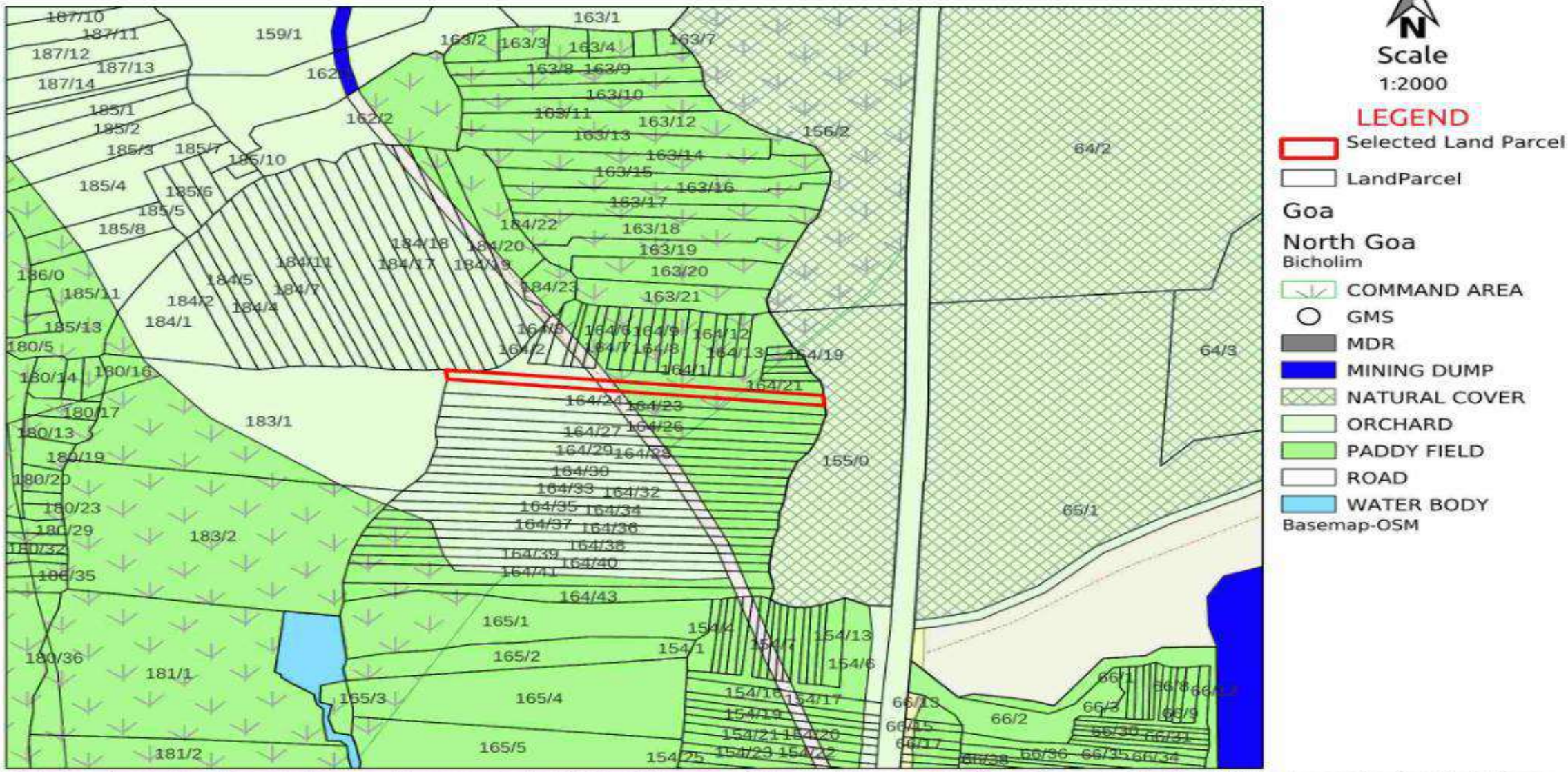


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Disclaimer: The Zoning information is based on RP/ODP and any provisional updation done under 16B is not shown

4.Town and Country Planning Department

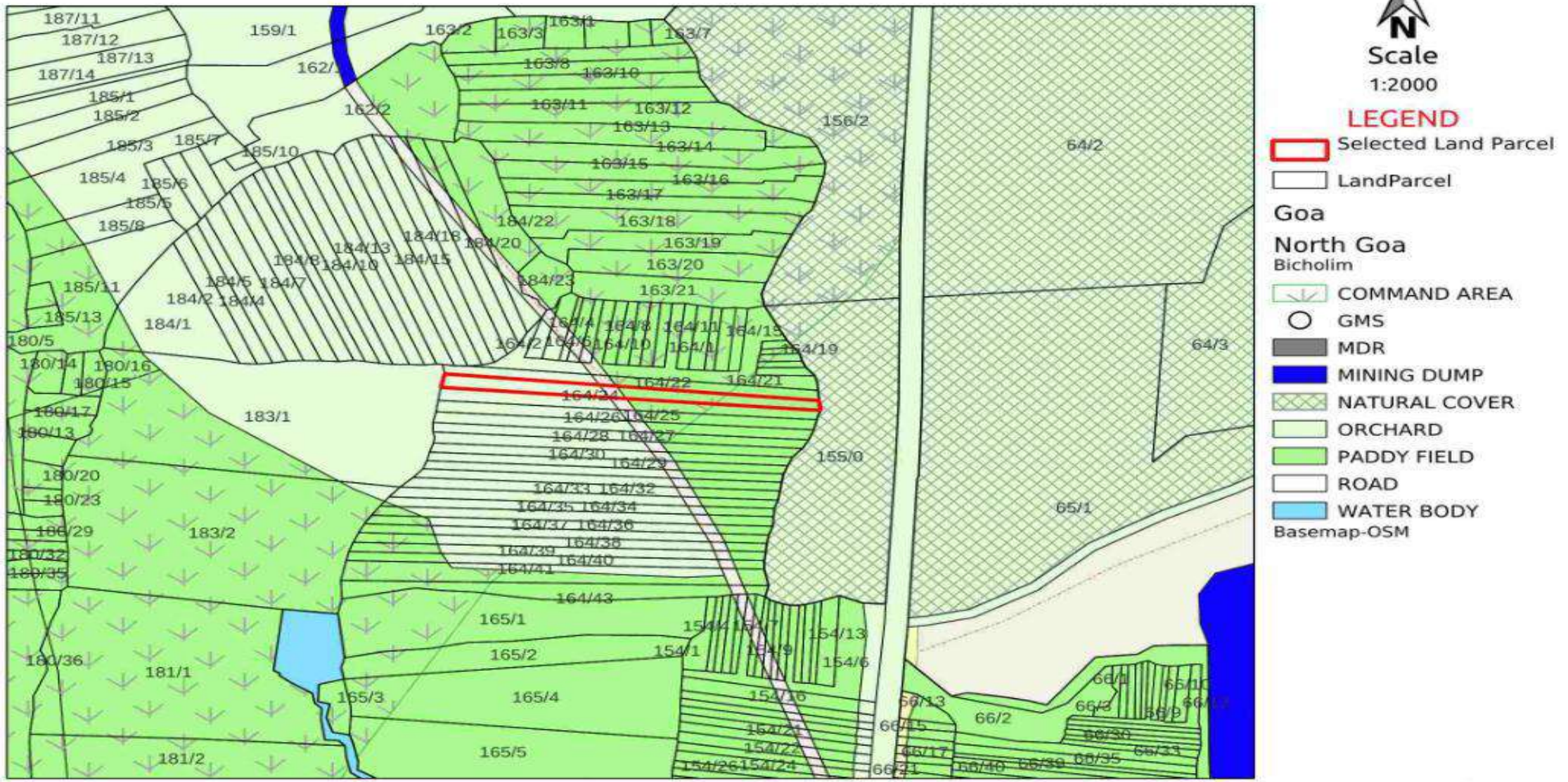
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 22



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Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 23

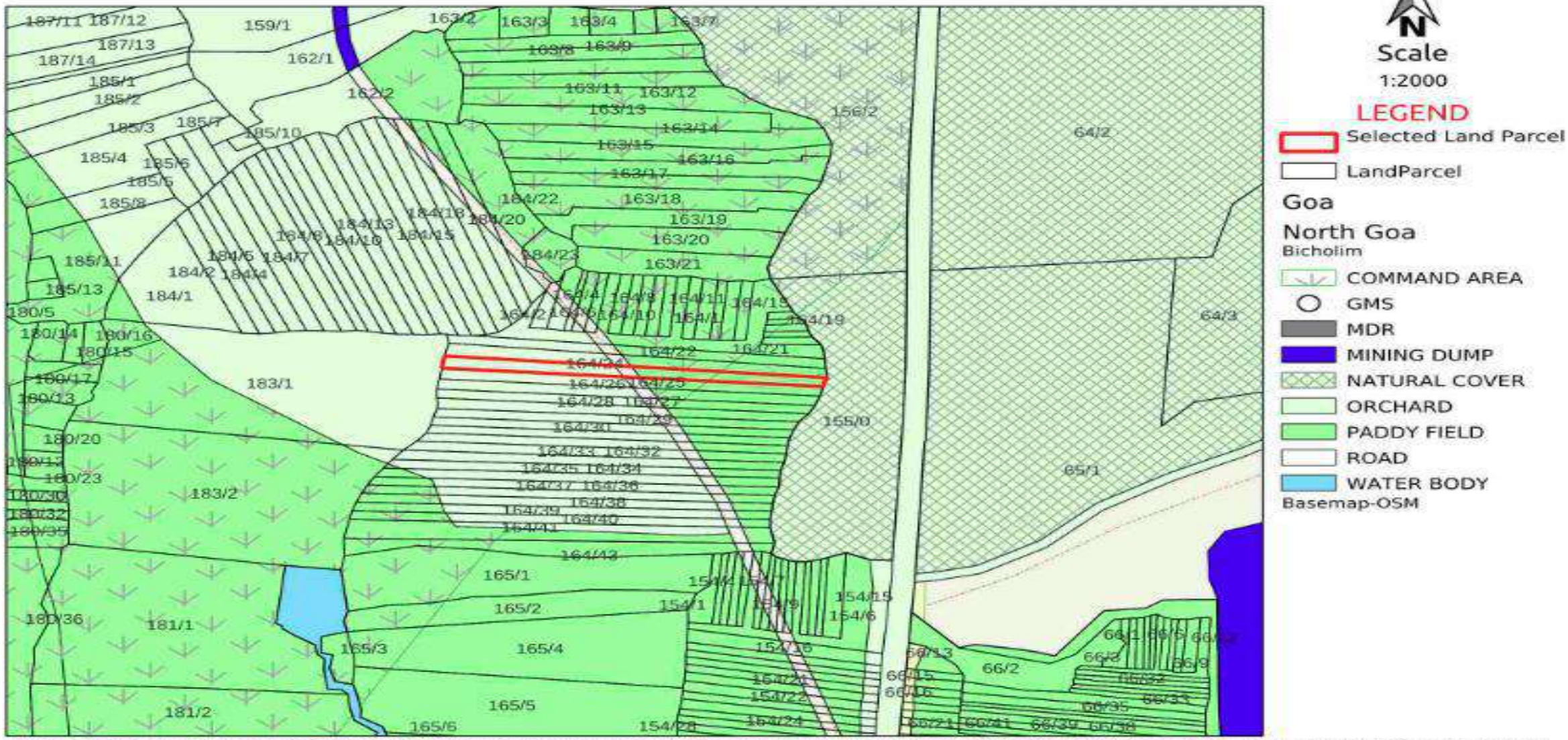


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Disclaimer: The Zoning information is based on RP/ODP and any provisional updation done under 16B is not shown.

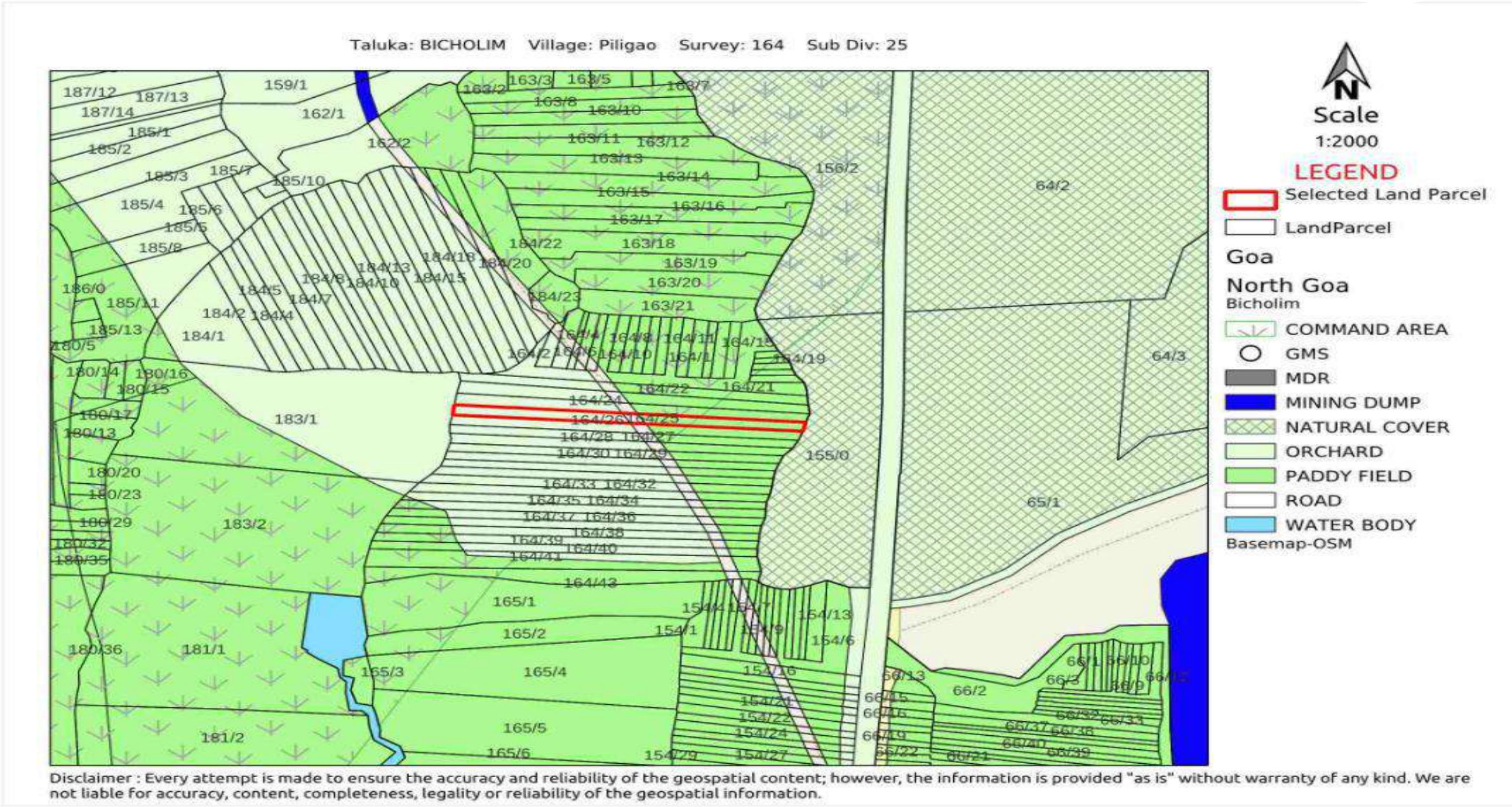
4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 24



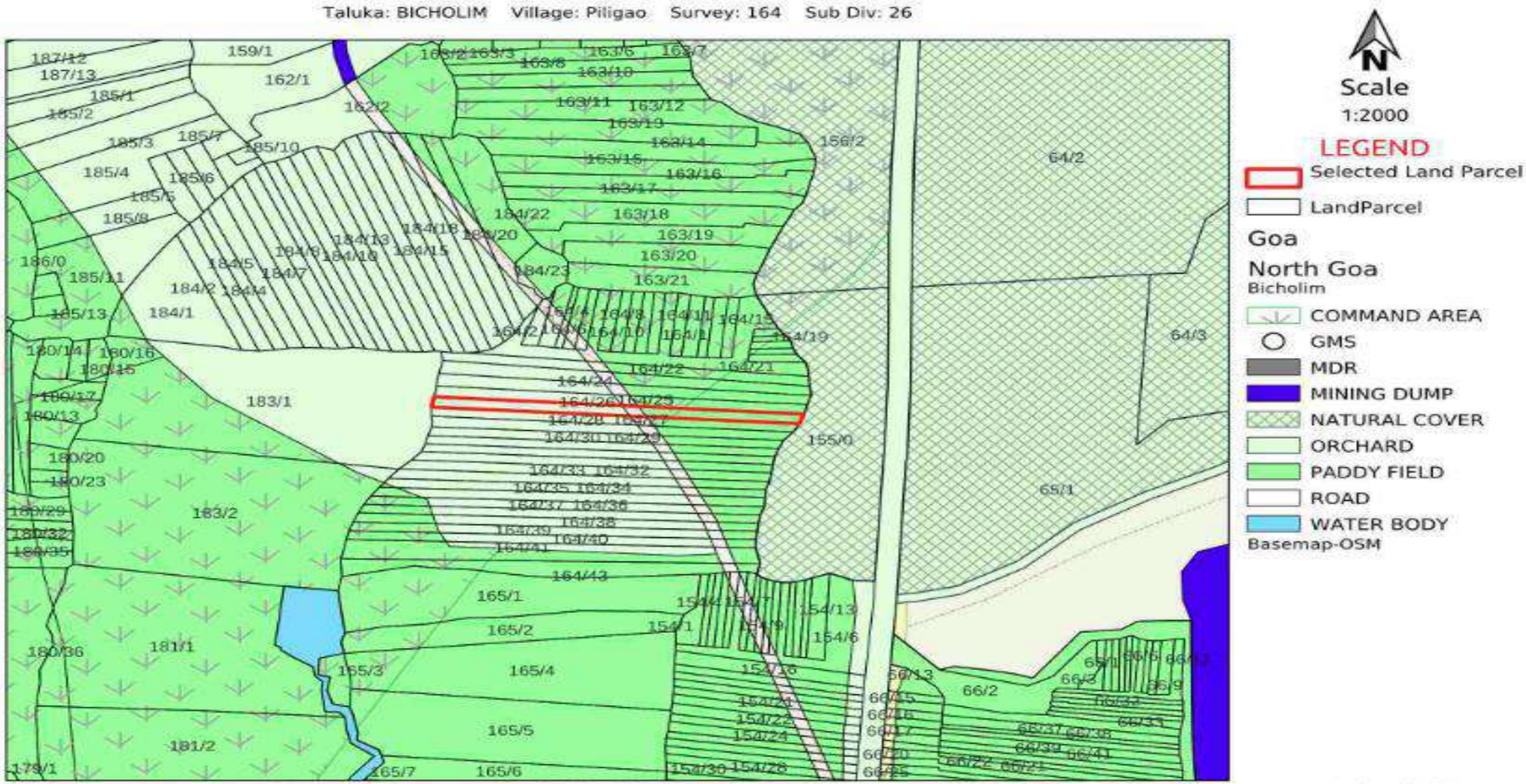
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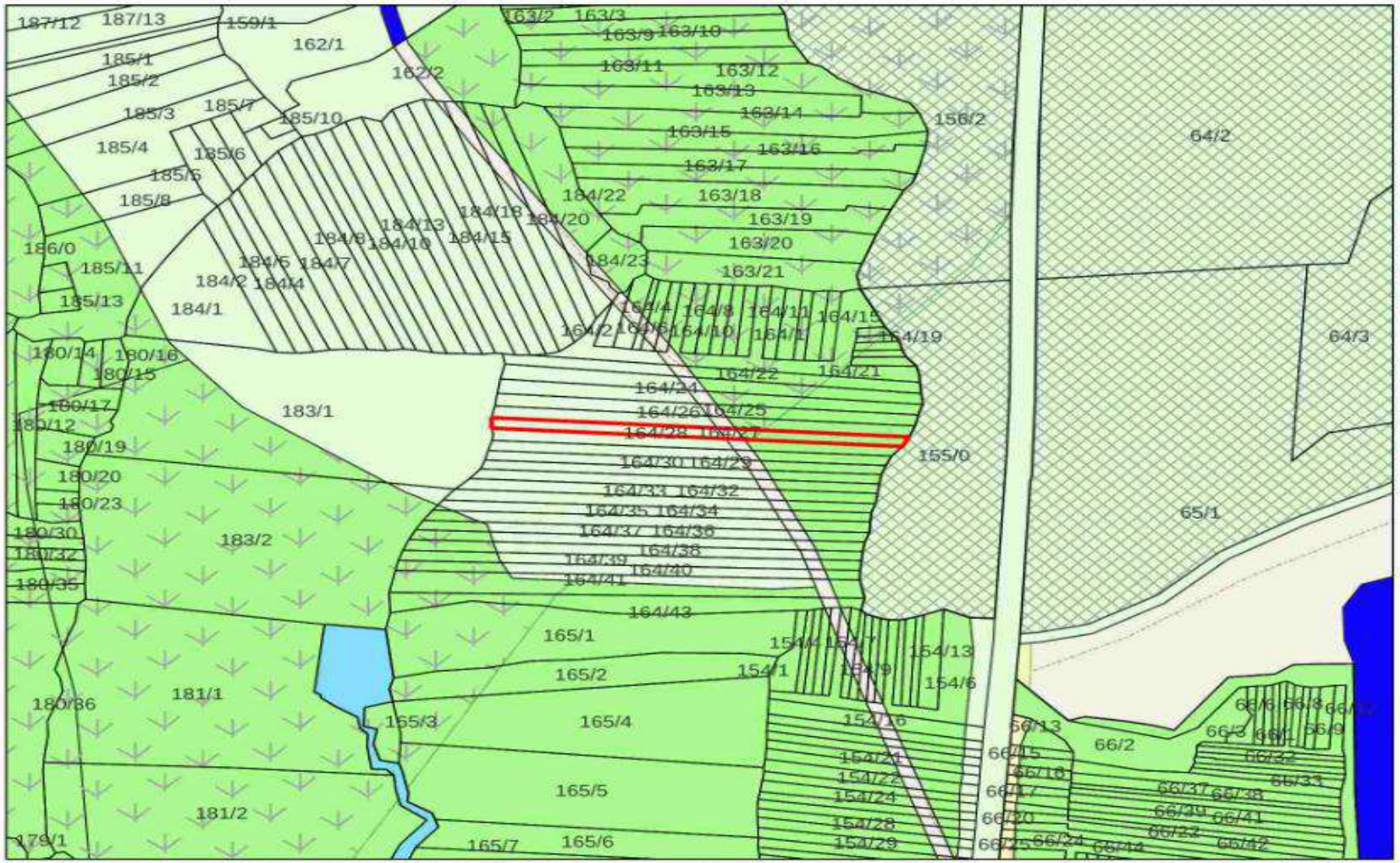


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4.Town and Country Planning Department

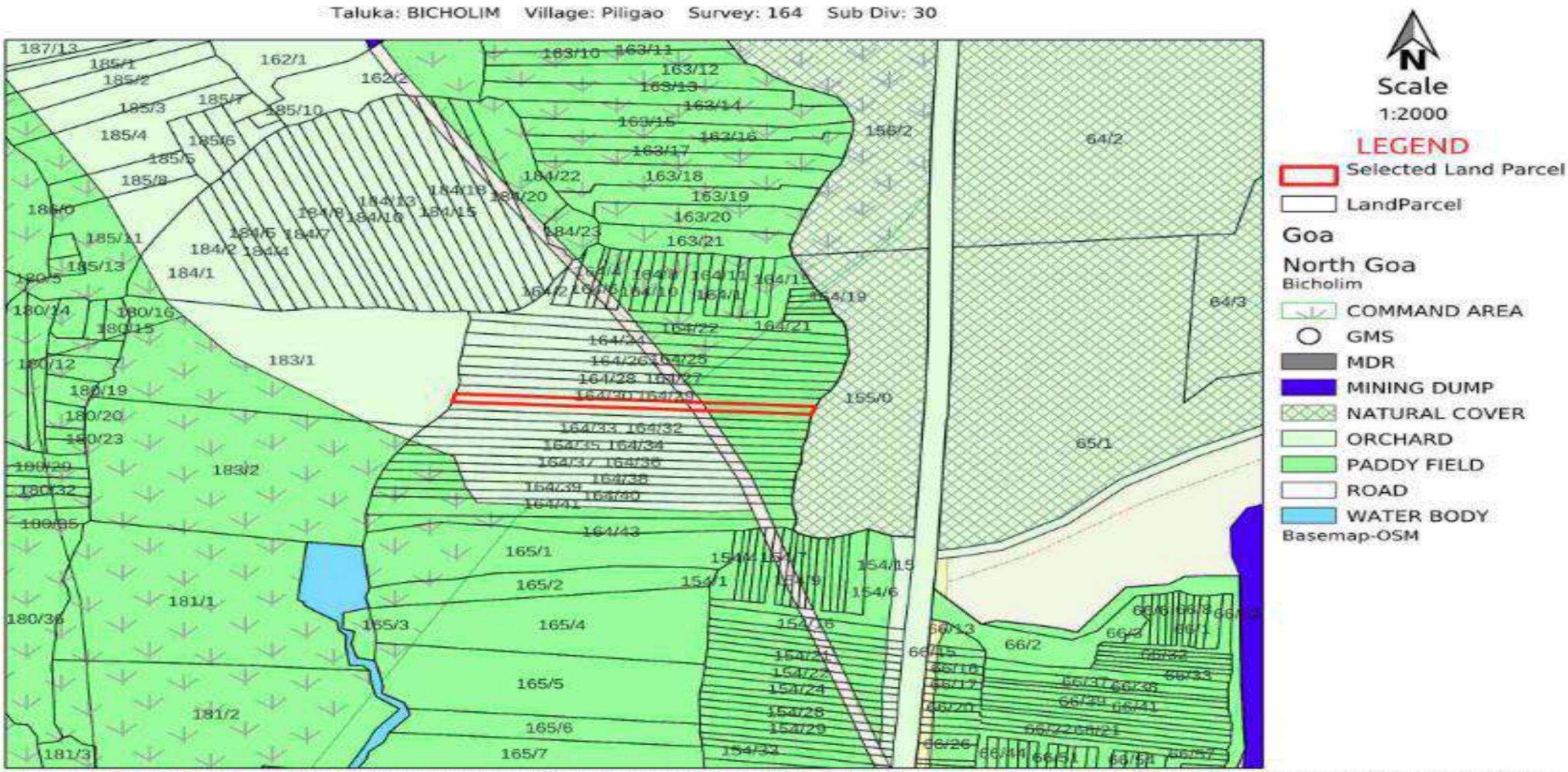
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 27



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4.Town and Country Planning Department

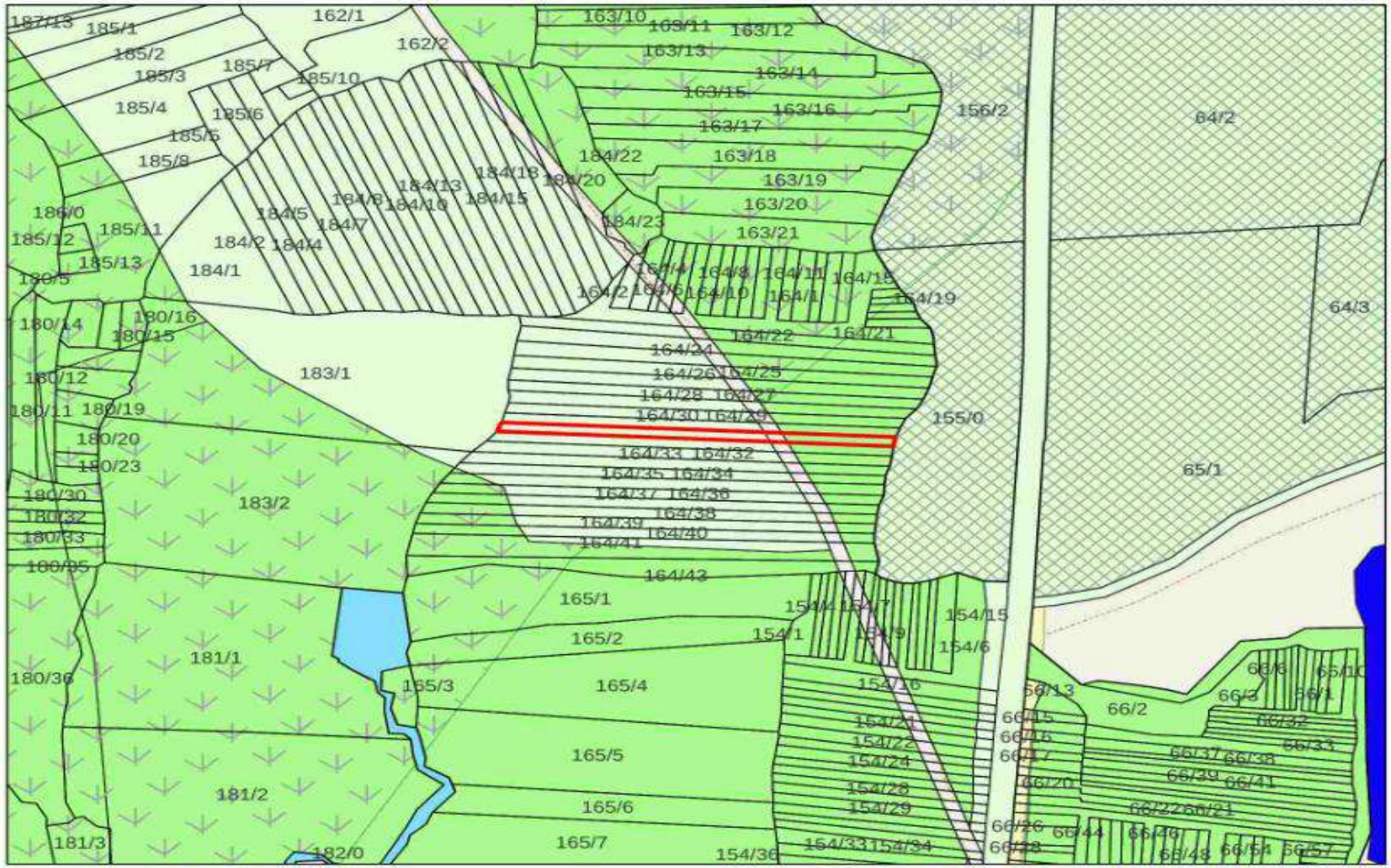


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4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 31

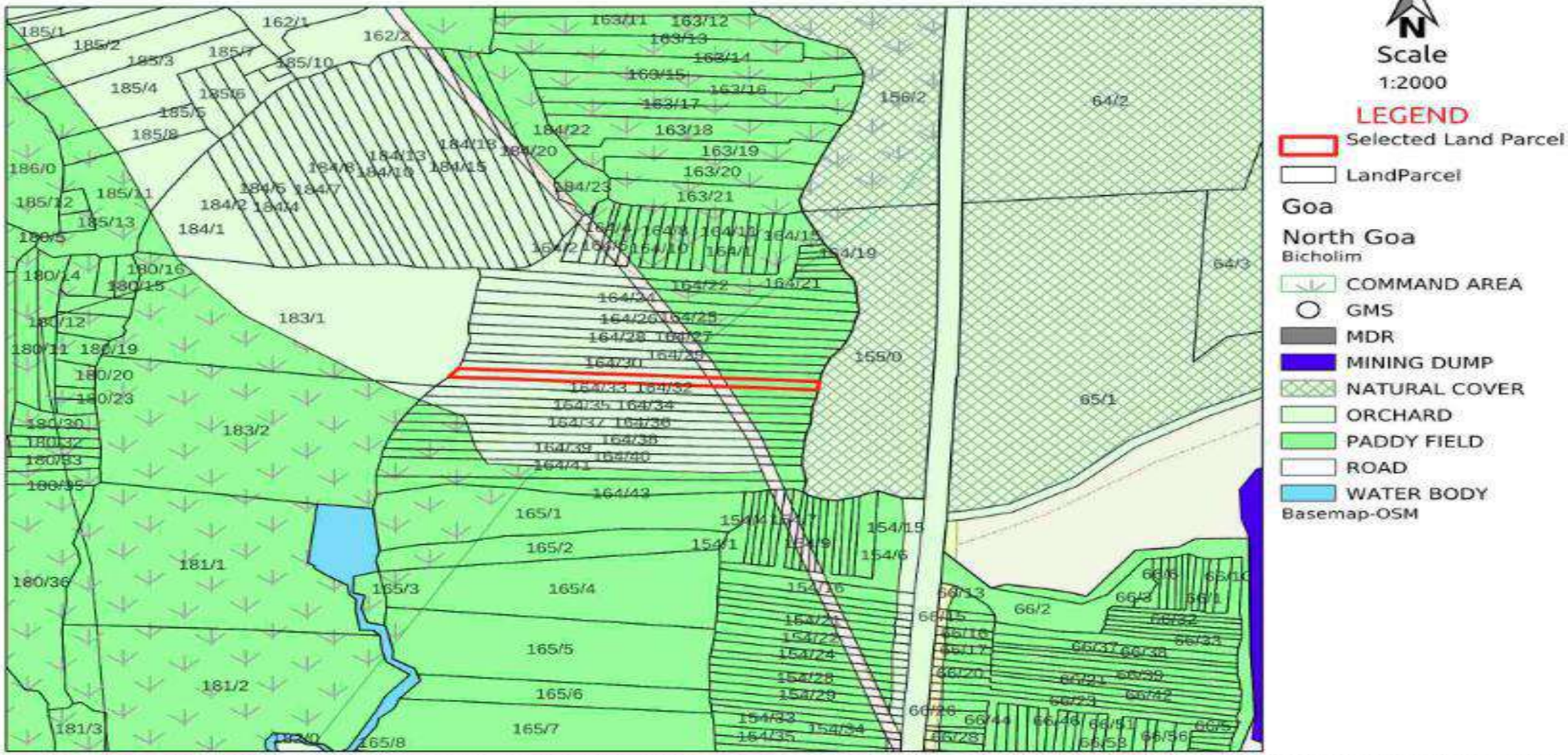


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4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 32

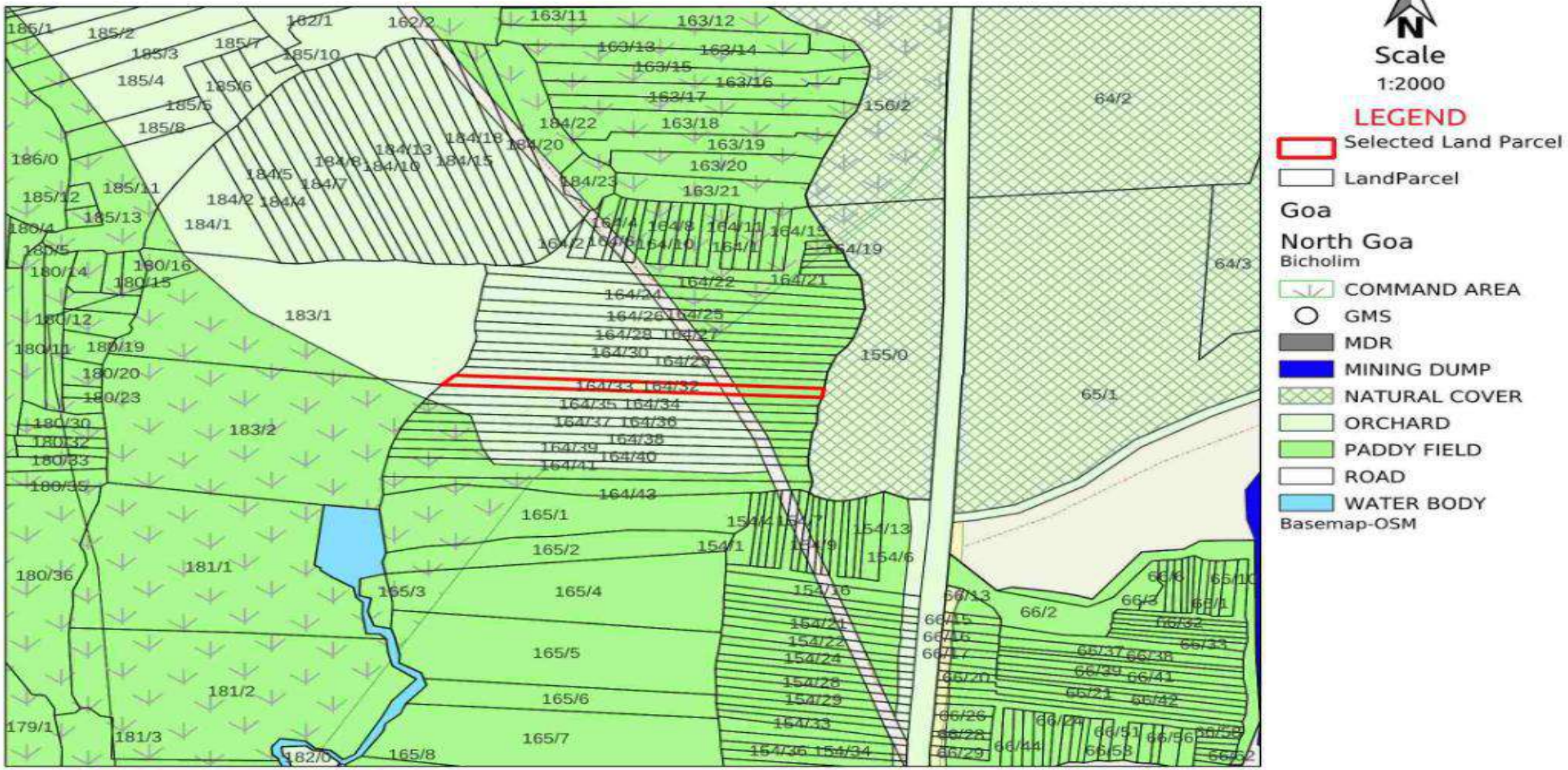


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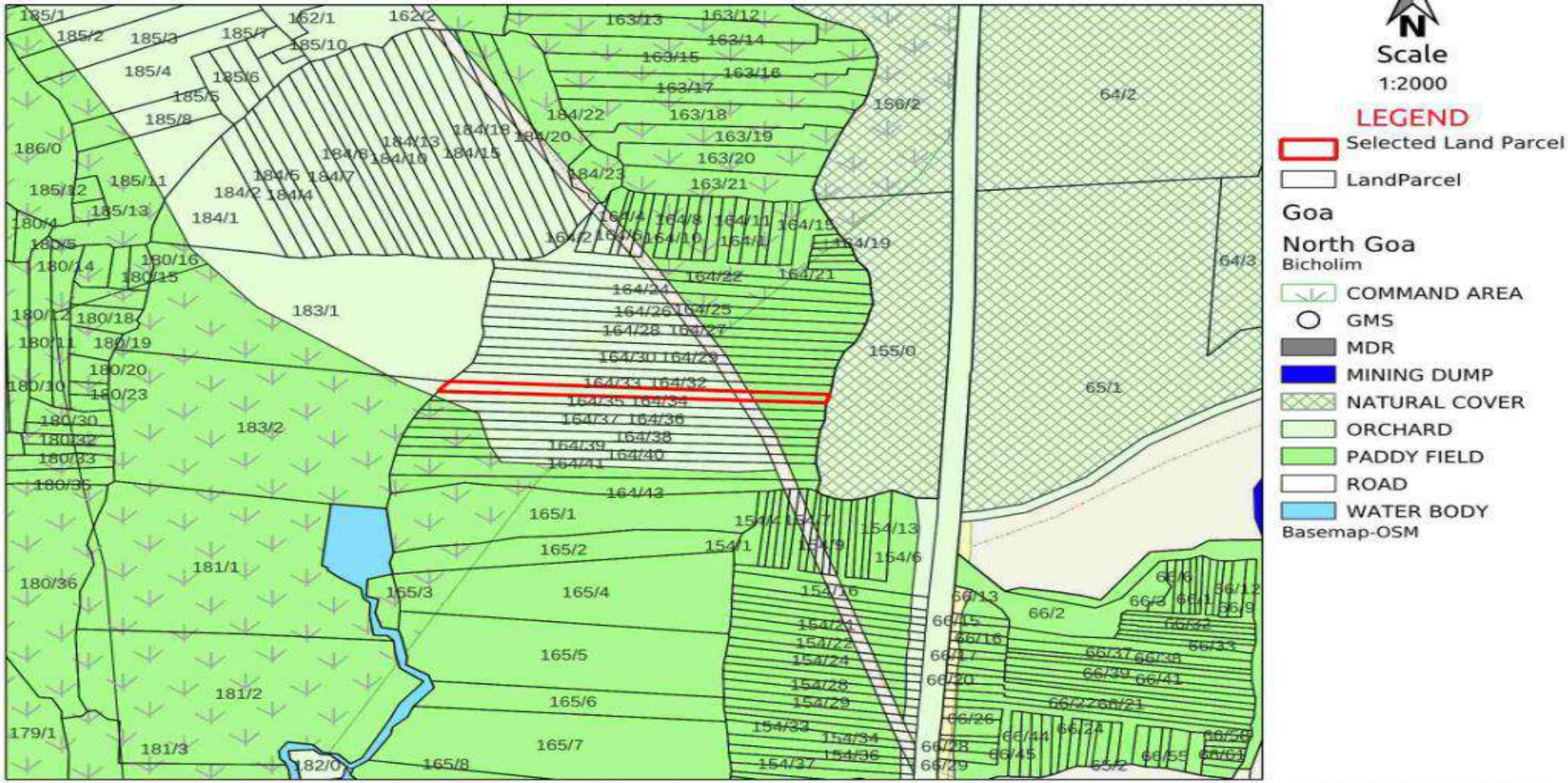
4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 33



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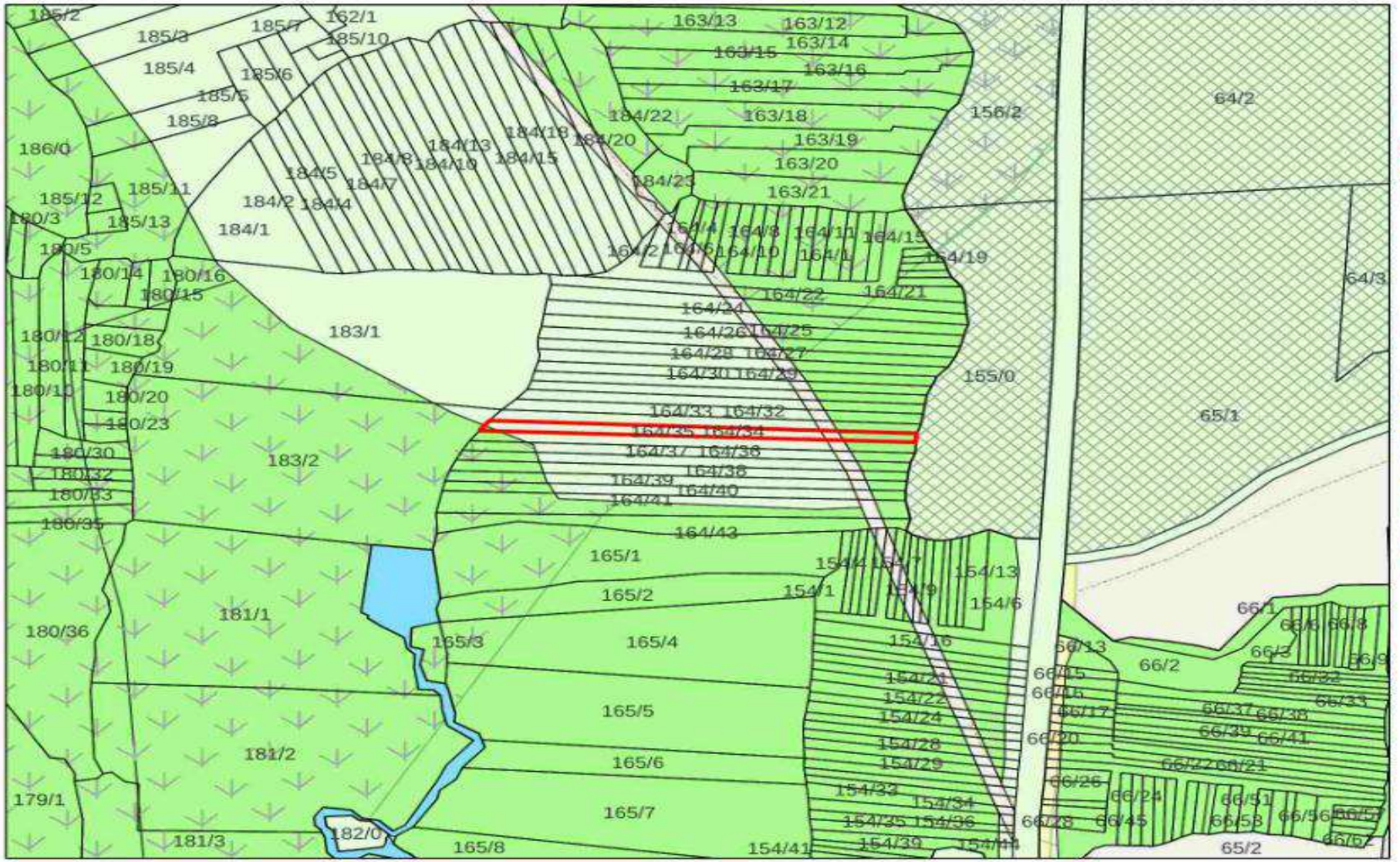
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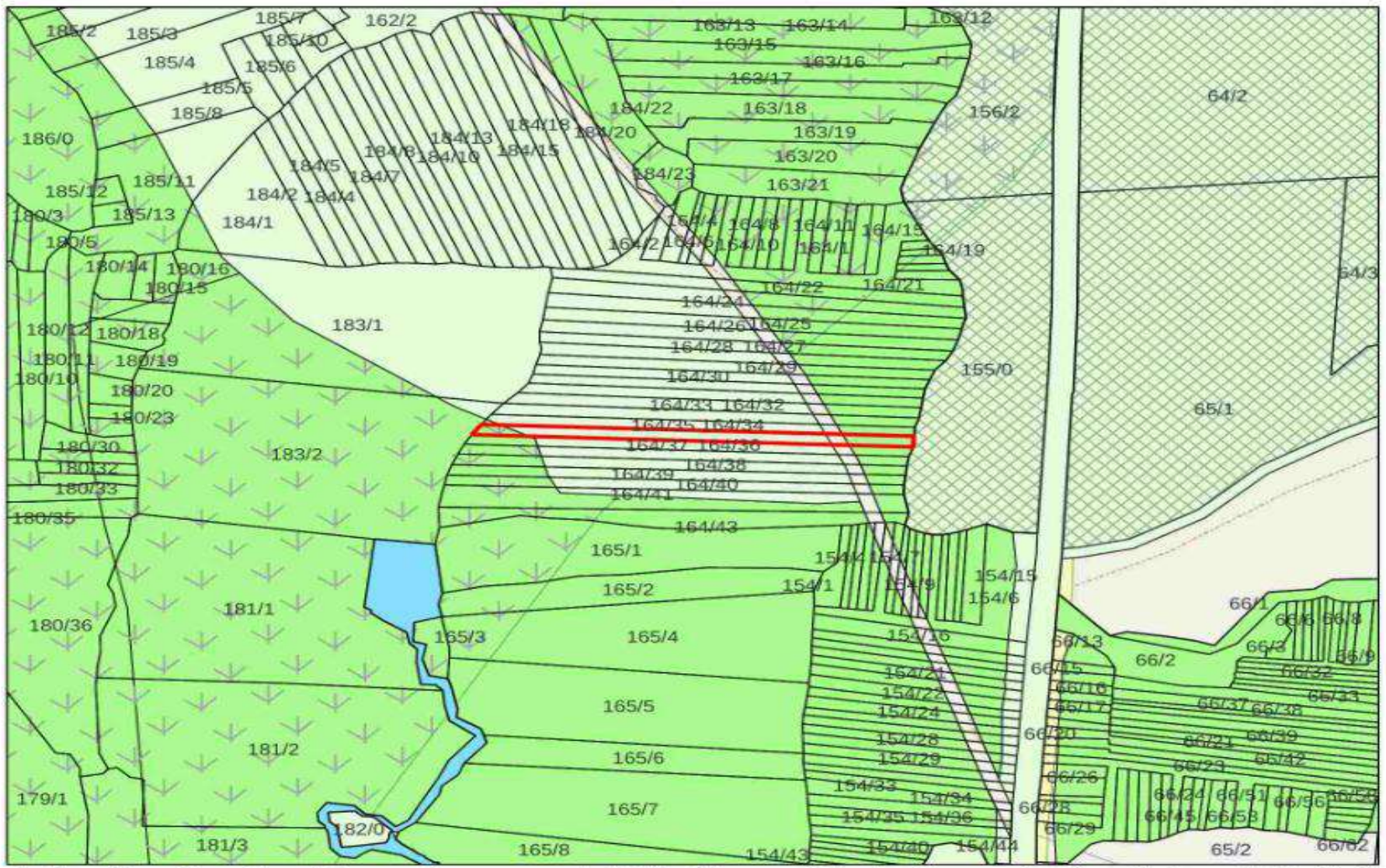
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 35



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Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 36

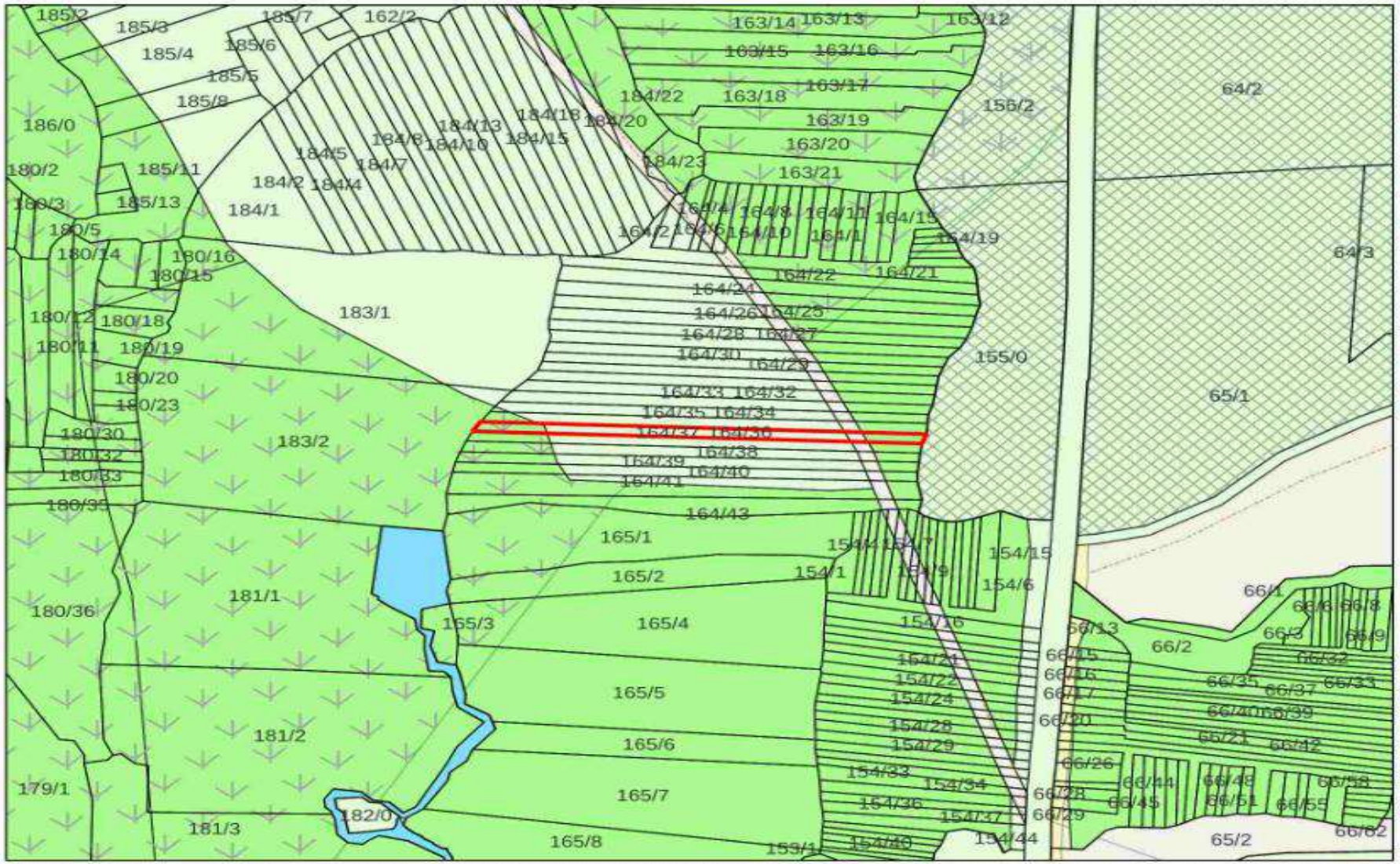


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4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 37



Scale
1:2000

LEGEND
- Selected Land Parcel
- LandParcel

Goa
North Goa
Bicholim

- COMMAND AREA
- GMS
- MDR
- MINING DUMP
- NATURAL COVER
- ORCHARD
- PADDY FIELD
- ROAD
- WATER BODY

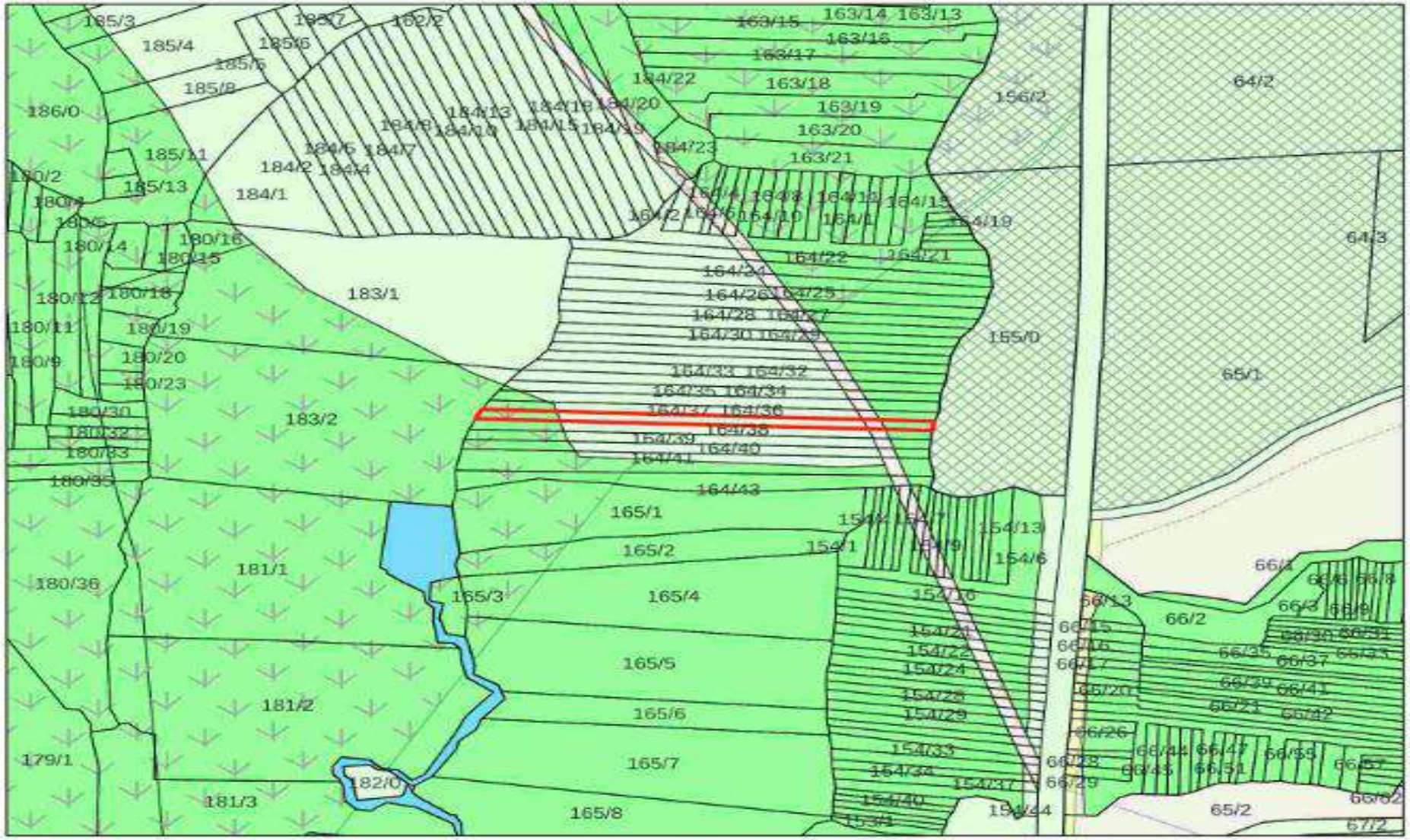
Basemap-OSM

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4.Town and Country Planning Department

Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 38



N

Scale
1:2000

LEGEND

- Selected Land Parcel
- LandParcel

Goa

North Goa

Bicholim

- COMMAND AREA
- GMS
- MDR
- MINING DUMP
- NATURAL COVER
- ORCHARD
- PADDY FIELD
- ROAD
- WATER BODY

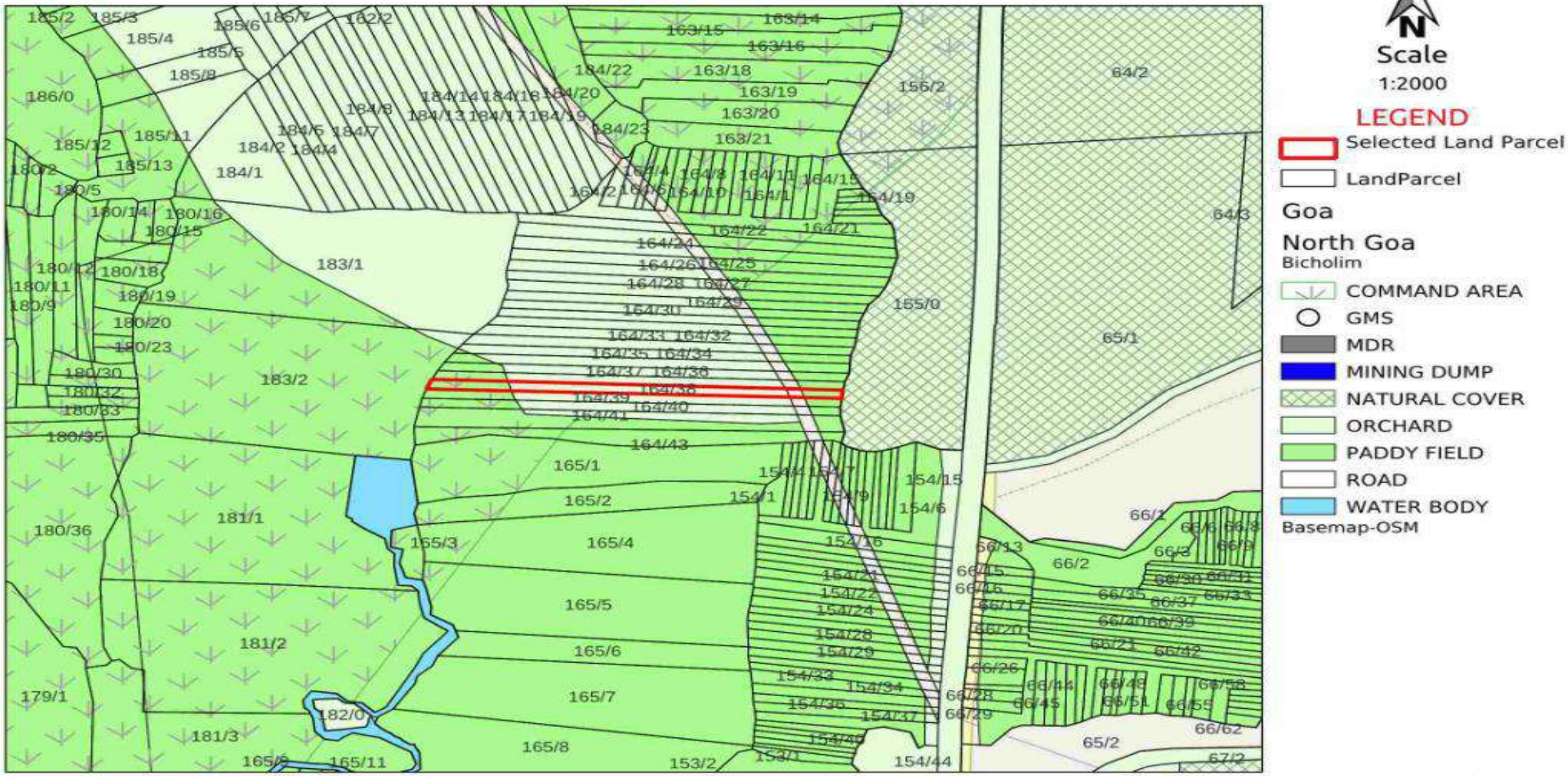
Basemap-OSM

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4.Town and Country Planning Department

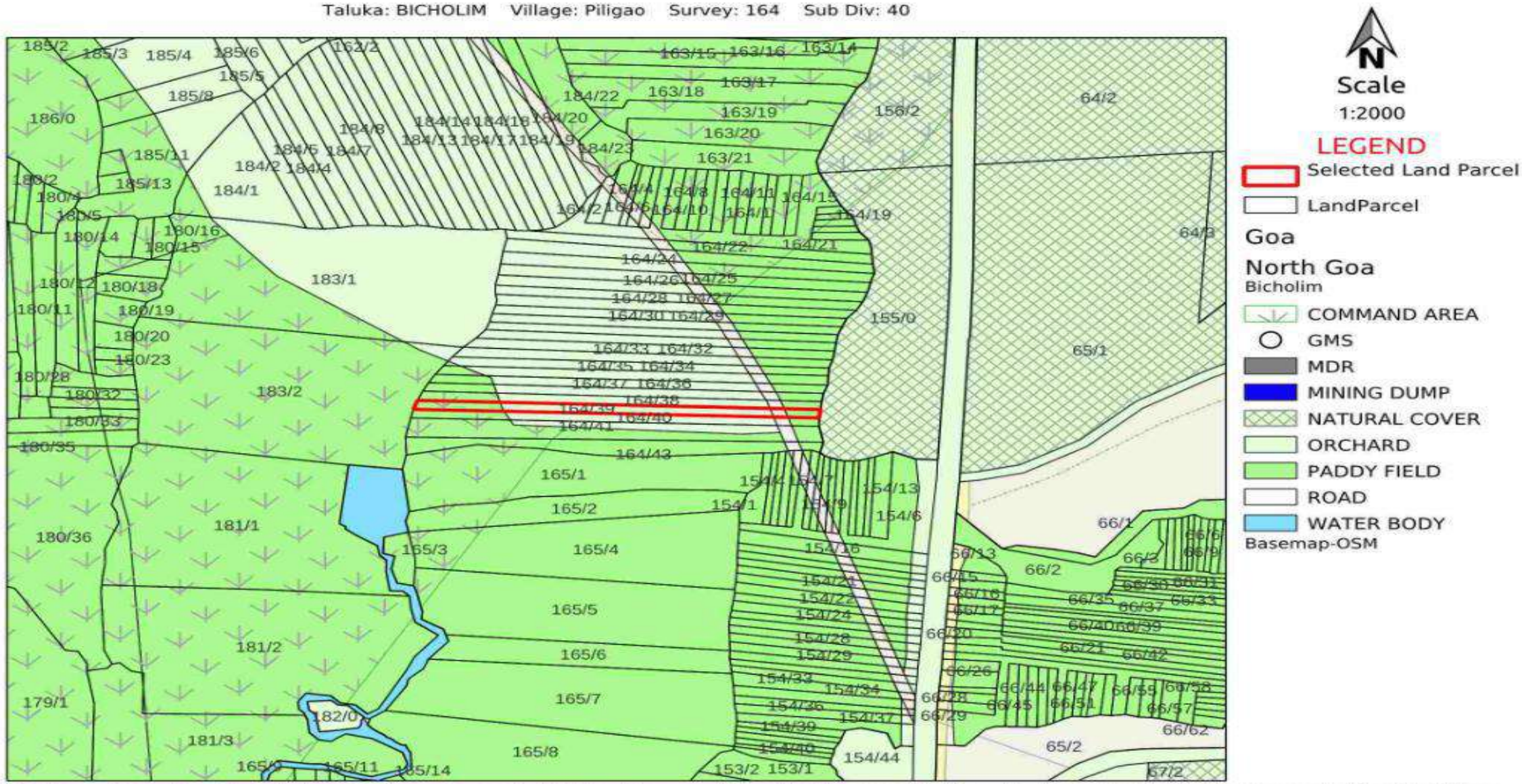
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 39



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4.Town and Country Planning Department

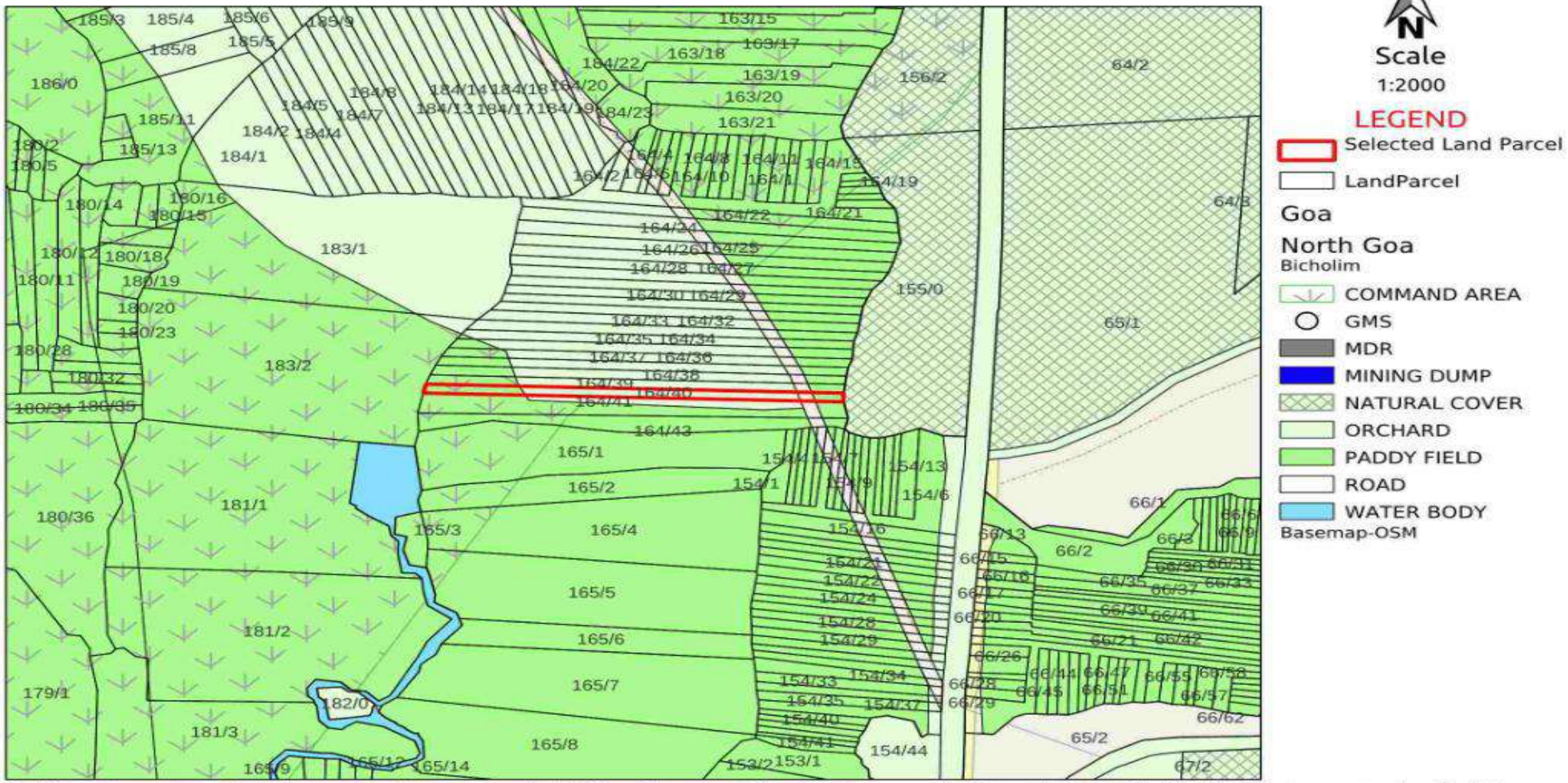


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4.Town and Country Planning Department

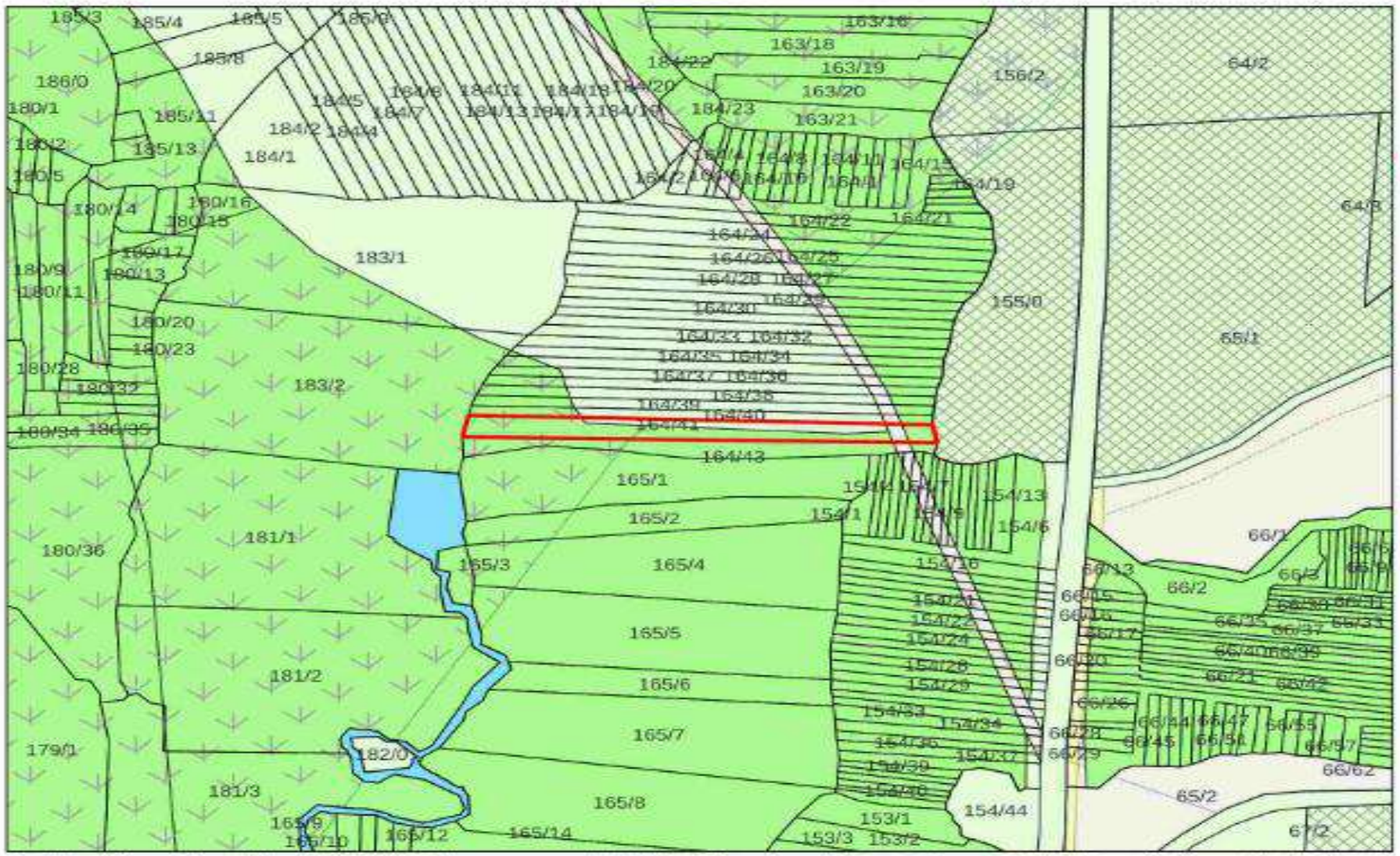
Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 41



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Taluka: BICHOLIM Village: Piligao Survey: 164 Sub Div: 42



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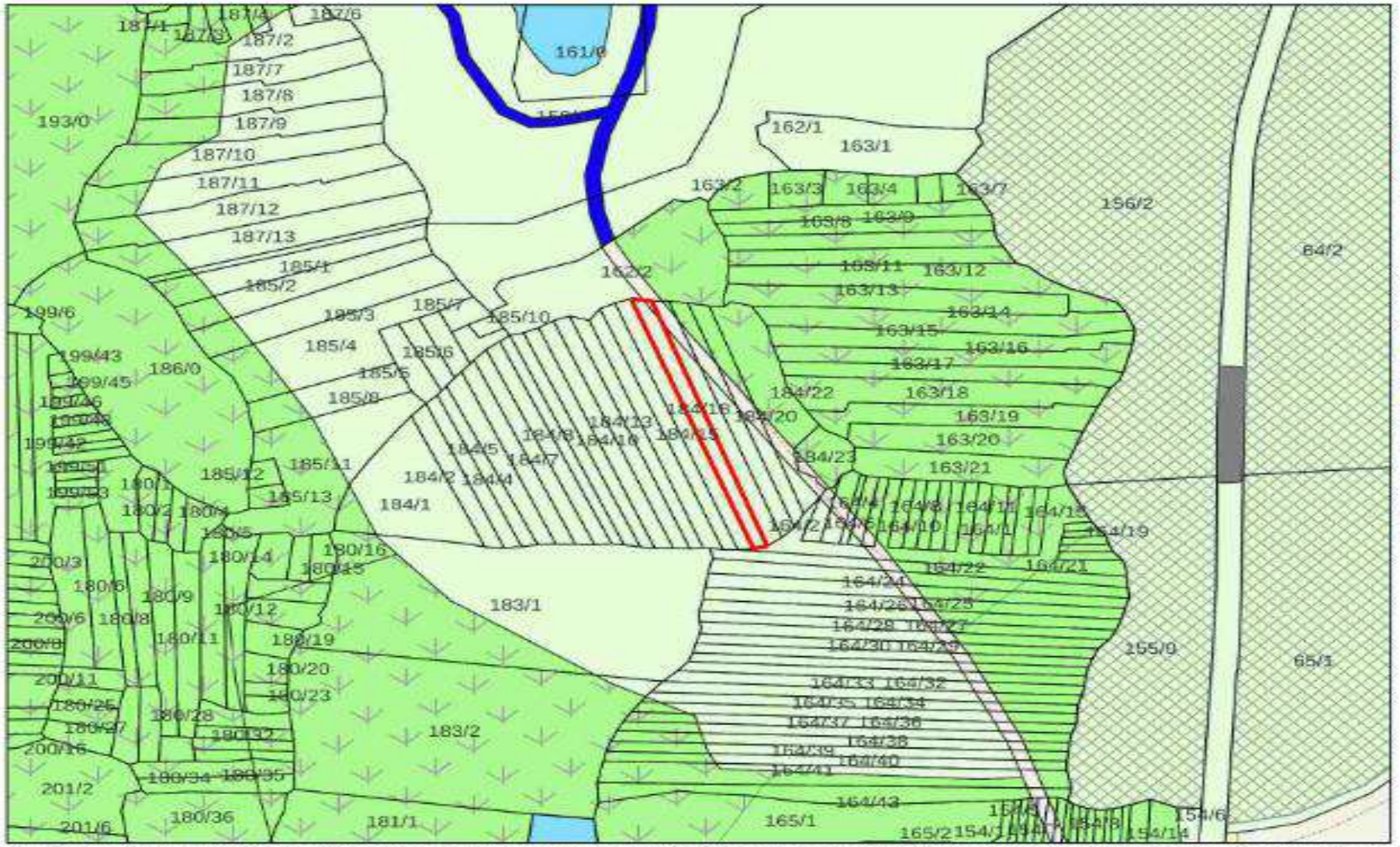
Disclaimer: The Zoning information is based on RP/ODP and any provisional updation done under 16B is not shown.

Compilation of Survey Nos. in Civil Suit 42/ 2024

#	Name of Tenant	Associated with Plaintiff in Civil Suit 42/ 2024	Survey No.	Sub Division	Area
1	Datta Mahadeo Kaulekar	Dayanand Datta Kawlekar (Plaintiff No. 1)	184	18	6
2	Shankar Raghoba Kawlekar	Govind Shankar Kawlekar (Plaintiff No. 2)	184	19	5.5
3	Vishnu Sako Jalmi	Manohar Ramchandra Jalmi (Plaintiff No. 4)	184	21	5.25

.Sensitivity: Public (C4)

Taluka: BICHOLIM Village: Piligao Survey: 184 Sub Div: 18



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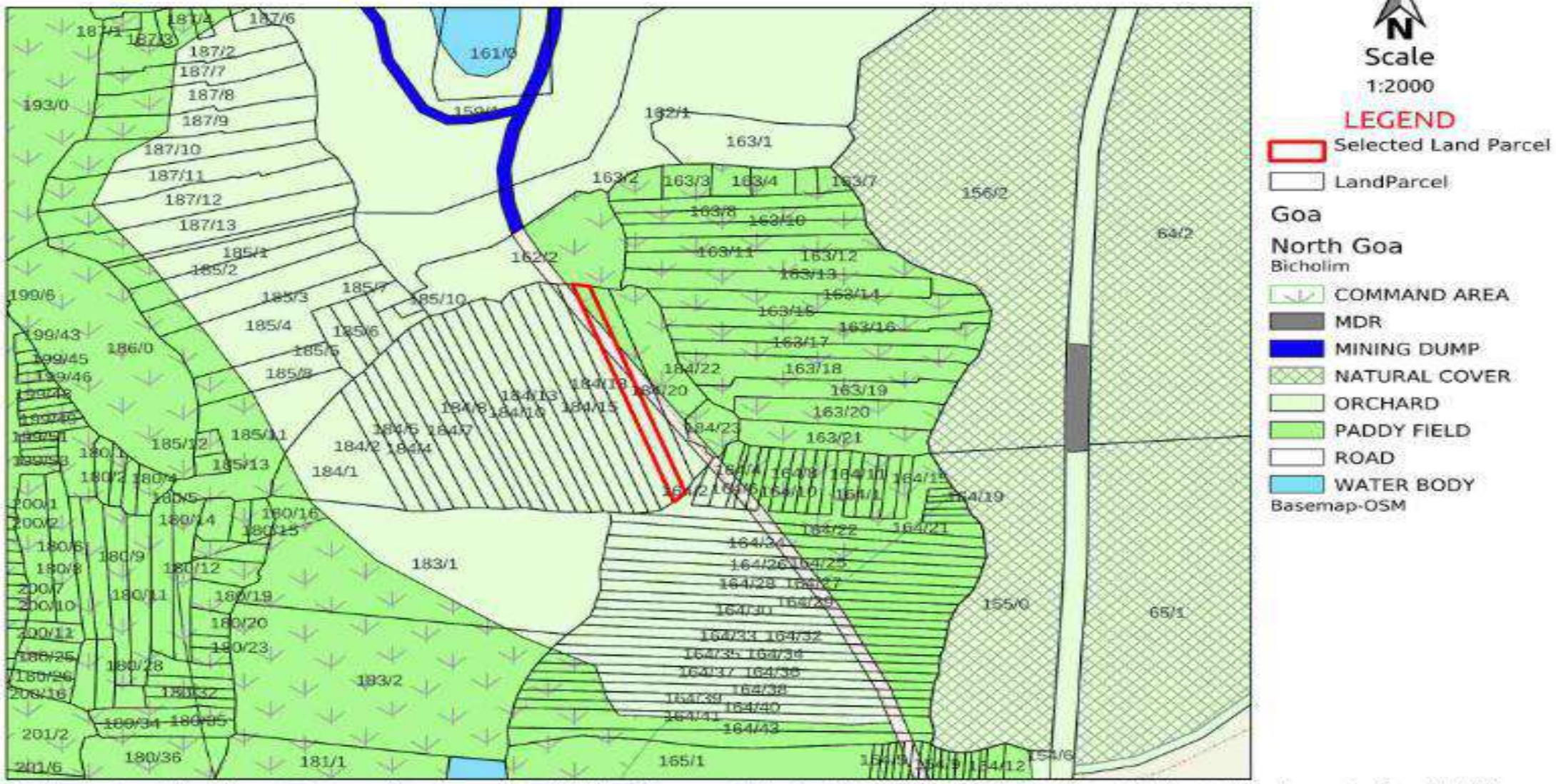
4.Town and Country Planning Department



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Taluka: BICHOLIM Village: Piligao Survey: 184 Sub Div: 20



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Taluka: BICHOLIM Village: Piligao Survey: 184 Sub Div: 21



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Government of Goa
Goa College of Engineering,
Farmagudi - Goa
गोवा अभियांत्रिकी महाविद्यालय,
फार्मागुडी – गोवा

Phone – Office: 0832-2336302/303 Principal: 0832-2336301, Department: 0832-2336311
Fax: 0832-2335021,2336401Website: www.gec.ac.inemail: ppl@gec.ac.in
BHAUSAHEB BANDODKAR TECHNICAL EDUCATION COMPLEX

Name and Address of the Party:Dy Chief Executive Officer- Iron Ore Goa- Vedanta Limited- Sesa Ghor, 20 EDC Complex, Patto, Panjim Goa- 403001
Reference Letter :--NIL -- Date: 17/05/2024
Name of Work : Preparation of Report for existence of road from the year 1989 onwards from Bicholim Mines to Sarmanas Jetty using google earth and old satellite imaginaries.
Details of payment : Amount: 9,44,000 /-RTGS Dr-SBIN0000557-PRINCIPAL GOA COLLEGE OF ENGINEERIN-CBX Internet-HDFCR52025012784564428-C67328270125171809 Date:27/01/2025 @ 17:38:02
Date of Work Completion : 31/01/2025

Reference No. GEC/CIVIL/Vedanta Mines/25-26/ **Date: 31/01/2025**

Report on
Geospatial Verification of Road from Bicholim Mine to Sarmanas Jetty
DGPS Survey and Historical Satellite Imagery Analysis

I. GENERAL INFORMATION OF THE BUILDING

Name and address of the Property	:	Mining area - Road connecting Bicholim Mine to Sarmanas Jetty passing through survey nos. 27, 158, 157, 159, 160, 161, 163, 164, 184, 154, 153, 152, 151, 106, 150 141 & 140 of Piligao Village, Bicholim Taluka, Goa. Used for Mining Activity
Description of the property	:	MUD road of total about 5.5 km including bitumen road for about 0.9 km
Description of main usage of the building	:	Dedicated transportation route adopted by mining companies from last forty years as submitted by Vedanta Limited.
Maintenance history of the property	:	Maintenance history not available. The MUD Road is existing is usable condition

II. REPORT OF THE NSPECTIONAND SURVEY

Dates of inspection	:	The site visit and inspection DGPS survey by Dr. Ganesh Hegde and Prof.Madhuraj Naik on 28/05/2024 at 10.AM onwards

III This report presents a comprehensive geospatial analysis, utilizing the Differential Global Positioning System (DGPS) survey data and historical satellite imagery, to verify the existence and continuity of the road from Bicholim Mine to Sarmanas Jetty. The DGPS survey was conducted to collect the accurate coordinates along the route of the dedicated mine road as shown in Figure 1. Sample pictures of DGPS survey conducted on 28/05.2024 is provided below for reference.




(a)





(b)





DGPS survey was conducted to collect the accurate coordinates along the route of the dedicated mine road

1. Introduction

The connectivity between Bicholim Mine and Sarmanas Jetty in Goa is of significant importance for the transportation of mined materials. Ensuring the existence and condition of this road is crucial for logistical planning and operational efficiency.

This report presents a comprehensive geospatial analysis, utilizing the Differential Global Positioning System (DGPS) survey data and historical satellite imagery, to verify the existence and continuity of the road from Bicholim Mine to Sarmanas Jetty, as shown in Figure 1. The coordinates of the Bicholim Mine to Sarmanas Jetty road, highlighted as 'static point' in Figure.1, are provided in Annexure 1 of this report. The analysis integrates DGPS survey data with historical satellite images to provide a clear and accurate representation of the road's existence over time. The services of Expert Faculty having expertise in analysis of satellite imaginary from Sardar Patel College of Engineering,Andheri, Mumbai (Government aided College) were employed. The Faculty, also a spatial expert, is the Coordinator of IIRS-ISRO Outreach Network Center and Resource Person, National Geospatial Program (NRDMS), Department of Science and Technology (DST), Government of India and has vast experience in analyzing satellite imageries.

Based on the input from the specialist analysis following details are provided.



Fig.1 Map showing the Bicholim Mine to Sarmanas Jetty Road (highlighted as white points)on Google Earth imagery of 2023

To identify and map the original road alignments, the historical satellite imagery for the year 1984 and 1989 and 1995 was processed using advanced image classification techniques. The DGPS survey provided high-precision coordinates to validate the classification results.

2. Methodology

The methodology proposed for the geospatial analysis for verifying the existence and continuity of the *dedicated transport road*, from Bicholim Mine to Sarmanas Jetty, is shown in Fig.2 and explained in the following sub-sections in detail.

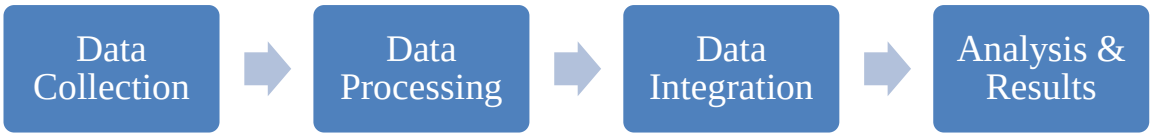


Fig. 2 Methodology for the Geospatial Analysis

2.1. Data Collection

Data collection for verifying the existence and continuity of the road from Bicholim Mine to Sarmanas Jetty consists of collection of the historical satellite imagery data and DGPS survey data, the details of which are given here.

2.1.1. Satellite Imagery

For the preliminary analysis, the satellite data was sourced from a **Landsat 4 image dated 12/02/1984** to extract road and non-road features. However, now this data is outdated and unavailable for public download, **Landsat 5 data from 1989 and 1995 is used for improved classification**.

Landsat 5 Thematic Mapper (TM) imagery from Google Earth Engine (GEE), specifically the dataset ***"LANDSAT/LT05/C02/T1,"*** covering the region of interest (ROI) was utilized. Landsat 5 TM scene has an instantaneous field of view (IFOV) of 30 meters by 30 meters (900 square meters) in bands 1 through 5 and band 7, and an IFOV of 120 meters by 120 meters (14,400 square meters) on the ground in band 6. All TM bands are quantized as 8 bit data. **The specific satellite images used for the analysis was captured *on December 5, 1989 and January 4, 1995***. Images obtained had clear visibility and minimal cloud cover to ensure accurate feature extraction. Image classification techniques are used on this imagery to identify and extract road features from historical satellite imagery. The specific satellite images used for the analysis are presented in Table 1.

Table 1. Satellite data used for the analysis and Comparison

Satellite& its Characteristics	Date of Imagery	Bands
LANDSAT 5 TM (Used for Analysis) Sensor type: opto-mechanical Spatial Resolution: 30 m (120 m – thermal) Spectral Range: 0.45 – 12.5 µm Number of Bands: 7 Temporal Resolution: 16 days Image Size: 185 km X 172 km Swath: 185 km Programmable: yes	1. December 5, 1989 2. January 4, 1995	1, 2, 3, 4, 5, 6, 7

Google Earth (used for Comparision) Imagery from Landsat 7, DEM from SRTM Spatial resolution: resolution ranges from 15 meters of resolution to 15 centimeters	April 27, 2023	

2.1.2. DGPS Survey

High-precision DGPS equipment was used to survey the road segments of the *dedicated transport road*. The instruments and their serial numbers are listed in Table 2 below:

Table 2 Details of DGPS Instrument used for the spatial survey of the ROI

Instrument	Serial Number
Titan TR7	14666923
Titan TR7	14666832
Unistrong G970II PRO	G97A23A2221074
Unistrong G970II PRO	G97A23A2221119

The DGPS survey data was later processed using the AUSPOS Online GPS Processing Service, version 2.4. The report provides precise coordinates based on the International Terrestrial Reference Frame (ITRF2014).

2.2. Data Processing

2.2.1 DGPS Survey data processing

The collected DGPS survey data is processed to correct the positional errors to ensure the highest accuracy of the coordinates. The AUSPOS Online GPS Processing Service uses International GNSS Service (IGS) products (final, rapid, ultra-rapid depending on availability) to compute precise coordinates in International Terrestrial Reference Frame (ITRF) anywhere on Earth and Geocentric Datum of Australia (GDA) within Australia. The Service is designed to process only dual frequency GPS phase data. The summary of the AUSPOS GPS Processing is given here:

- Processing System: AUSPOS 2.4
- User: surveyor.sagar@gmail.com
- Job Number: #3490
- Stations Used: VEDA, CHUM, IISC, KIT3, KITG, NTUS, POL2, SEYG, TASH, URUM
- Orbit Type: IGS ultra-rapid

All the computed coordinates as shown in Table 3 are based on the IGS realization of the ITRF2014 reference frame and refer to a mean epoch of the site observation data. All coordinates refer to the Ground Mark. The GPS processing was done in Bernese software version 5.2. Finally, these computed coordinates are mapped on google earth (GE), as shown in Fig.3, creating a detailed representation of the current road alignment.

Table 3: Computed Coordinates from AUSPOS Online GPS Processing

Computed Coordinates (ITRF2014):
VEDA: X = 1699399.854 m, Y = 5905724.304 m, Z = 1701514.710 m
IISC: X = 1337935.610 m, Y = 6070317.127 m, Z = 1427877.448 m
KITG: X = 1944879.511 m, Y = 4556783.814 m, Z = 4004205.957 m
POL2: X = 1239970.835 m, Y = 4530790.176 m, Z = 4302578.884 m
TASH: X = 1695944.690 m, Y = 4487138.700 m, Z = 4190140.768 m

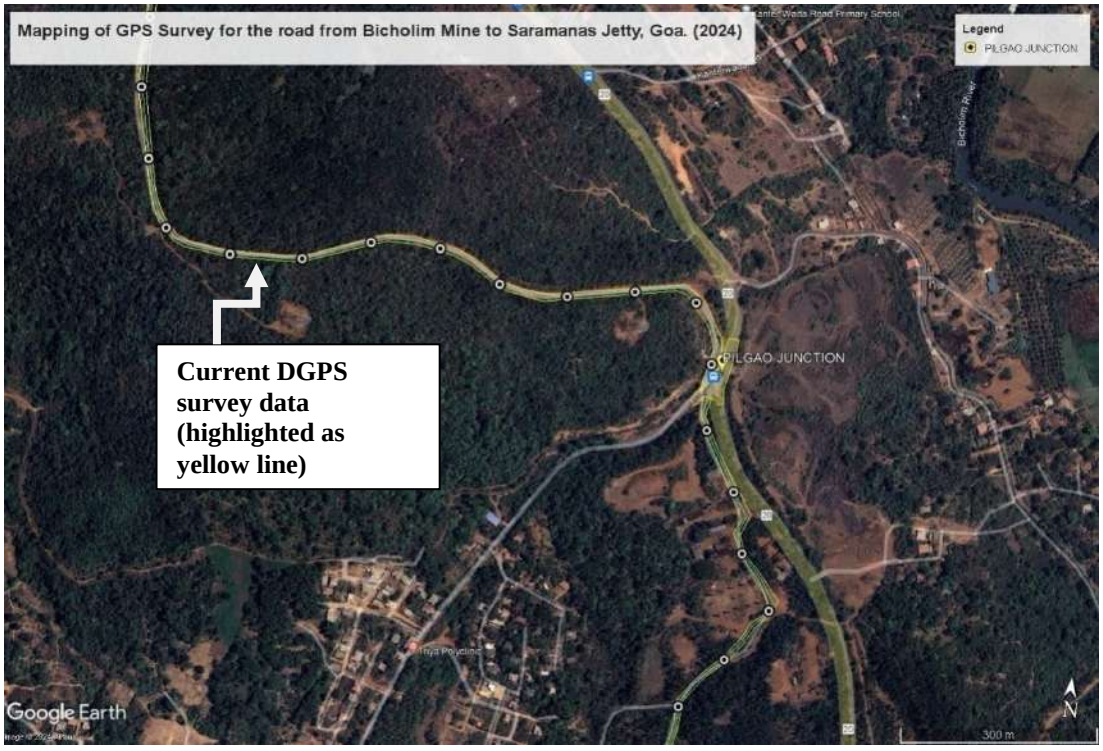


Fig. 3 Map showing the current DGPS survey data (highlighted as yellow line) aligned along the *dedicated transport road,* Bicholim Mine to Sarmanas Jetty Road, Goa on Google Earth imagery of 2023.

2.2.2 Image Processing and Classification

Historical satellite images of the year 1989 and 1995 are analyzed using GEE to extract the road features verifying the existence and continuity of the ***dedicated transport road*** from Bicholim Mine to Sarmanas Jetty. Techniques such as image classification, edge detection, and change detection were employed to identify the road over time. The imagery was geo-referenced to align with the DGPS data for precise comparison.

Training Data

Training samples were collected for various Land Use Land Cover (LULC) classes, including roads, forests, and settlements. These samples were merged and used to train the classifier by using the commands / scripts

in GEE.

Image Classification

Following GEE Workflow was followed for the LULC classification of the historical satellite imagery of 1989 and 1995:

(i) Data filtering to enhance the quality of the input satellite data.
(ii) Training the classifier with a subset of the reference data, ensuring a balanced representation of all LULC classes.
(iii) Finally, applying supervised classification techniques for classifying the image and exploring the classification.

The commands / scripts used in GEE for the processes are given here.

Data Filtering*:*

```
var l5 = ee.ImageCollection("LANDSAT/LT05/C01/T1_TOA")
                .filterBounds(ROI)
                .filterDate('1985-01-01', '1989-12-31');
   var L5 = l5.first();
```

Training the Classifier*:*

```
var samples = road_features.merge(Forest).merge(settlement);
var training = L5.sampleRegions(samples, ['class'], 30);
var bands = ['B1', 'B2', 'B3', 'B4', 'B5', 'B6', 'B7'];
varclassification = ee.Classifier.smileRandomForest(10).train(training, 'class',
bands);
```

Classifying the Image*:*

```
var image = L5.classify(classification);
Map.addLayer(image, {min: 0, max: 2, palette: ['000000', 'edd895', '2211d6']},
'classification');
```

Exporting the Classification*:*

```
Export.image.toDrive({
image: image,
description: "lulc1989",
folder: "GEE data",
fileNamePrefix: "lulc1989",
region: ROI,
scale: 30,
maxPixels: 1000000000,
shardSize: 100,
fileDimensions: 5000,
});
```

2.3 Data Integration

The processed DGPS survey data and extracted road features from the satellite imagery were integrated into GEE. This integration allowed for a comprehensive comparison and verification of the Bicholim Mine to Sarmanas Jetty *dedicated transport* road's existence over time.

3 Results and Assessment

A precise map of the current alignment of the *dedicated transport road*, from Bicholim Mine to Sarmanas Jetty, is generated using the DGPS survey data, confirming the road's continuity from Bicholim Mine to Sarmanas Jetty. To establish the long-term existence and usage of the *dedicated transport road*, from Bicholim Mine to Sarmanas Jetty, ***its consistent visibility in satellite imagery from 1989 and 1995 was analyzed. The historical presence of the road was further corroborated by validating DGPS survey data against the road features extracted from the historical satellite images***.

3.1 Accuracy Assessment

Accuracy assessment is a crucial step in the image classification process, ensuring that the classified images correctly represent the real-world features they depict. To assess the accuracy of the image classification carried out for the historical satellite imagery of ***Landsat 1989 [image id: LANDSAT/LT05/C02/T1/LT05_146049_19891205] captured on 05th December 1989 and Landsat 1995 [image id: LANDSAT/LT05/C02/T1/LT05_146049_19950104] captured on 04th January 1995***, accuracy metrics such as overall accuracy, producer's accuracy, user's accuracy, and Kappa coefficient were evaluated. These matrices are explained here, in short.

Overall Accuracy: Calculate the ratio of correctly classified pixels to the total number of pixels. This metric provides a general measure of the classifier's performance.

Producer's Accuracy: Calculate the ratio of correctly classified pixels for a particular class to the total pixels of that class in the reference data. This metric indicates how well real-world features of a class are represented in the classification.

User's Accuracy: Calculate the ratio of correctly classified pixels for a particular class to the total pixels classified as that class. This metric indicates the reliability of the classification from the user's perspective.

Kappa Coefficient: Calculate the Kappa statistic to measure the agreement between the classified image and the reference data, considering the possibility of agreement occurring by chance.

The commands / script for determination of the a**ccuracy metrics in GEE is given here,**

```
vartrain_accuracy = classification.confusionMatrix();
print("Accuracy of classification: ", train_accuracy.accuracy().getInfo());
print("Kappa Coefficient: ", train_accuracy.kappa().getInfo());
print("Producers Accuracy: ", train_accuracy.producersAccuracy().getInfo());
```

The image classification techniques applied in the GEE for the historical satellite imagery data of 1989 resulted in the following accuracy metrics presented in Table 4(a) and shown in Fig.4(a).It is observed that the high overall accuracy (93.33%) and Kappa coefficient (0.8983) indicate that the classification is reliable. The road class has a high producer's accuracy (93.52%), demonstrating effective identification of the extracted features of the *dedicated transport road.*

Similarly, it is observed that for the year 1995, the high overall accuracy (92.62%) and Kappa coefficient (0.87) indicate that the classification is reliable. The road class has a high producer's accuracy (97.24%), demonstrating effective identification of the road features.

Table 4 (a): Accuracy assessment of the Classified Image 1989

Accuracy Metric	% Accuracy
Overall Accuracy	93.93%
Kappa Coefficient	0.8983
Producers Accuracy	
a. **Class 0 (Roads):**	93.52%
1. Class 1 (Forest):	94.37%
2. Class 2 (Settlement)	92.95%
3. Class 3 (Water Bodies)	100%

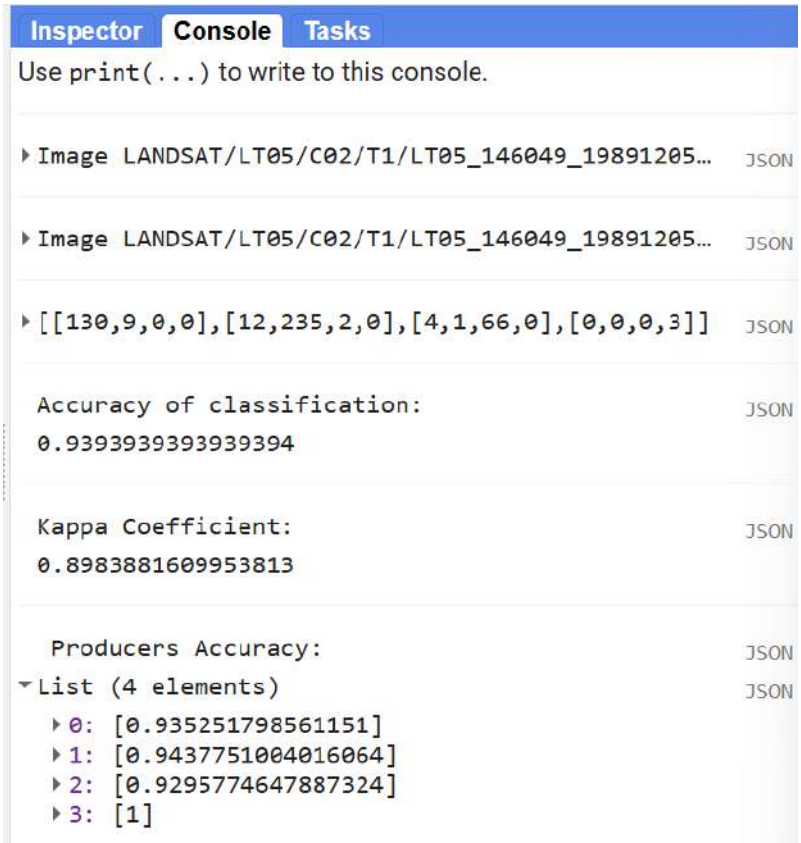


Fig. 4 (a) Accuracy assessment of the classified image 1989 in GEE

Similarly, the image classification techniques applied in the GEE for the historical satellite imagery data of 1995 resulted in the following accuracy metrics presented in Table 4(b) and shown in Fig.4(b). It is observed that the high overall accuracy (93.73%) and Kappa coefficient (0.9007) indicate that the classification is reliable. The road class has a high producer's accuracy (94.96%), demonstrating effective identification of the extracted features of the *dedicated transport road*.

Table 4 (b): Accuracy assessment of the Classified Image 1995

Accuracy Metric	% Accuracy
Overall Accuracy	93.73%
Kappa Coefficient	0.9007
Producers Accuracy	
0. Class 0 (Roads):	94.96%
4. Class 1 (Forest):	91.93%
5. Class 2 (Settlement)	95.77%
6. Class 3 (Water Bodies)	100%



Fig. 4(b) Accuracy assessment of the classified image 1995 in GEE

3.2 Earmarking the survey blocks: CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 on the plot of extracted road features of the dedicated transport road, Bicholim mine to Sarmanas jetty, along with the DGPS data

The transportation route from Bicholim mine to Sarmanas jetty (designated as '*dedicated transport road*') is critical for the logistics of mined materials. Earmarking specific land parcels, such as Survey No. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 in Village Piligao, will ensure the legal and geographical location of the '*dedicated transport road*'. Thus, it is necessary to designate these parcels on the plot of DGPS (Differential Global Positioning System) survey coordinates and historical satellite imageries from 1989 and 1995.

After cross-checking the currently obtained DGPS coordinates with the historical imagery of 1989 and 1995, it is confirmed that the spatial location of the *dedicated transport road*, from Bicholim Mine to Sarmanas Jetty, have remained consistent. A comprehensive map, as shown in Fig. 5(a) & (b), illustrating the presence of the *dedicated transport road*, integrating DGPS data with historical satellite imagery of the year 1989 and 1995, is plotted by using Geographic Information Systems (GIS) tools.

From the map, it can be observed that the DGPS survey data aligned well with the extracted road features of the *dedicated transport road*, from Bicholim Mine to Sarmanas Jetty, depicted in historical satellite image of 1989 and 1995, indicating a high level of accuracy in road mapping. The extracted road features depicted in the imagery closely matched the surveyed path, indicating robust geospatial data quality. Thus, the 1989 and 1995 historical imagery verifies the continuity and legitimacy of the *dedicated transport road*.

Thus, the data integration of the present DGPS survey data and the classified image of 1989 and 1995 satellite data, clearly indicates that integrity of the *dedicated transport road*, from Bicholim Mine to SarmanasJetty, is maintained over time.

The *dedicated transport road* is critical for the logistics of mined materials. Earmarking the given land parcels / survey blocks: **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27** in Village Piligao,will ensure the inclusion or exclusion of the *dedicated transport road* in those survey blocks. Thus, it is necessary to designate these parcels / survey blocks on the plot of DGPS survey coordinates and supervised classification images, shown in Fig. 5(a) and Fig. 5(b), of the historical satellite imagery from 1989 and 1995, respectively.

For this purpose, the spatial data [kml files] of the parcel boundaries /survey blocks: **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27** obtained by the client, based on the land scheduling done from the data, cadastral maps and details like plot numbers, area, landowner details, village name, etc., obtained from the government land records portal i.e,https://bhunaksha.goa.gov.in/bhunaksha/ and https://dslr.goa.gov.in/f114new.aspx, for the required area are imported on the DGPS Survey data and classified images of 1989 and 1995, and mapped using the GIS tools. Thus, the map clearly shows that the parcel boundaries /survey blocks: **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27** are designated part of the *dedicated transport road*.

The map, shown in Fig.6 visually represents the dedicated road identified through the DGPS survey, showing its alignment as it passes through the survey blocks: **CTS No.140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27**. The road network is highlighted in black, while the survey blocks are outlined with pink color. The legend helps differentiate between the road network and survey block boundaries.

Table 5, presented below, provides a quantitative analysis of the length of the *dedicated transport road* passing through each survey block. Table 5 and the maps shown in Fig. 5(a), Fig. 5(b) and Fig. 6, together, offers a clear understanding of how the *dedicated transport road* is distributed across different land parcels / survey blocks: **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27.**

However, despite overall accuracy in the classification of the historical satellite imagery of 1989 and 1995, some discrepancies can be noted, particularly in land cover classifications where open mud areas (other than the road alignment), highlighted as 'extracted road features' in Fig. 5(a) & Fig. 5(b), may be erroneously labelled as roads. These discrepancies underscore the need for ground verification and quality control measures.

Table 5 Road Length Distribution across given Survey Blocks

S.No	Survey Block Number	Road Length (m) measured from the prepared maps
1	140	63.018
2	141	170.33
3	142	143.014
4	106	109.208
5	154	124.514
6	164	153.64
7	184	89.812
8	160	382.875
9	161	57.003
10	157	227.561
11	158	145.288
12	27	102.090

4 Limitations

In the present work, extracting the road features was a challenge, as the dedicated transport road, Bicholim mine to Sarmanas jetty road, is a mud road and in the classification of the satellite imagery, other open mud areas may be mistakenly labelled as roads. This can significantly impact the accuracy of assessments and analyses and hence ground verification of such data may be crucial for the assessment. The ground verification conducted during DGPS survey confirms mud areas along road alignment.

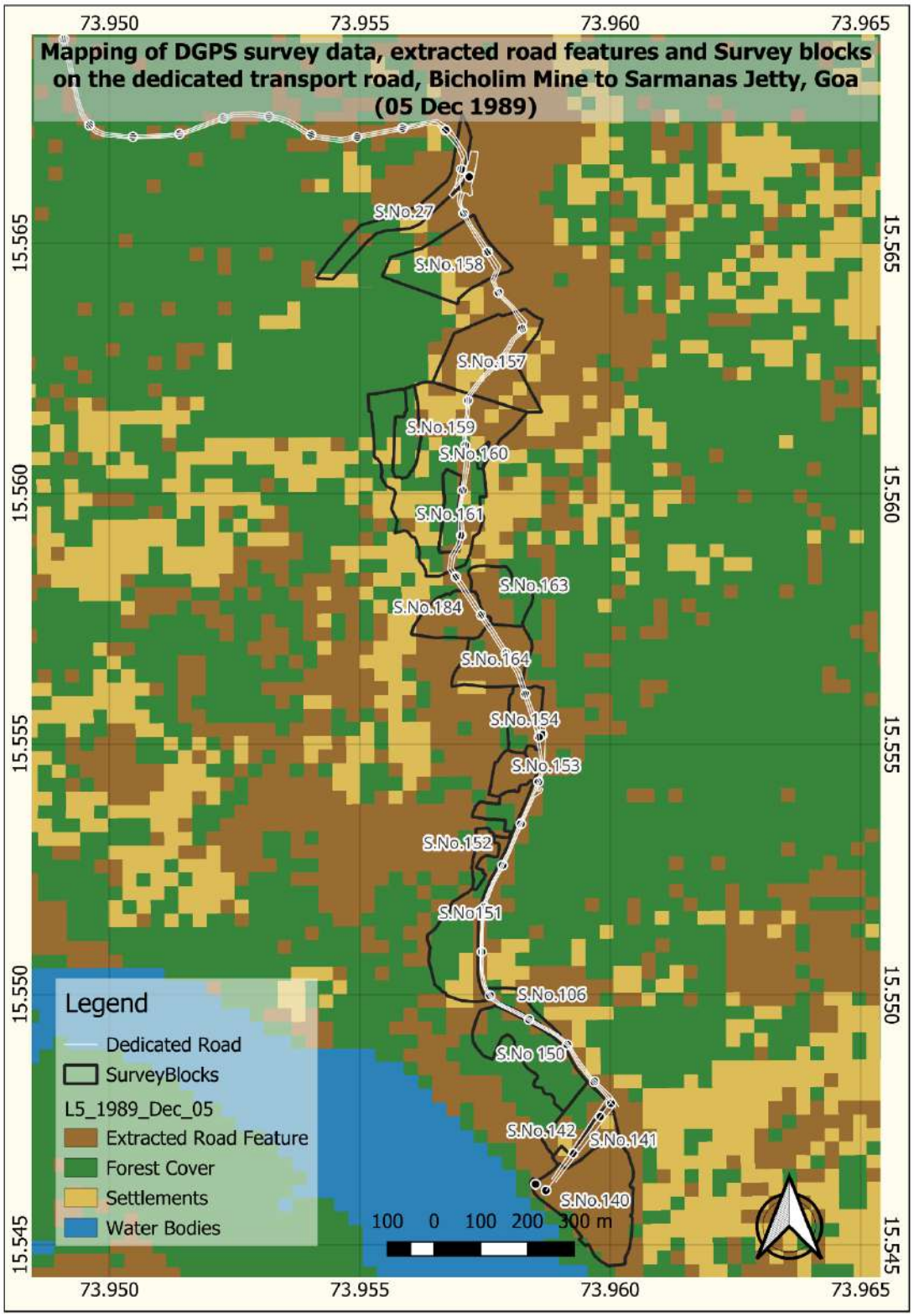


Fig 5(a)) Map showing the extracted road features (highlighted in Dark Bronze) for the *dedicated transport road* (Bicholim mine to Sarmanas jetty), classified from the satellite imagery of 1989 along with the current alignment (DGPS survey) of the road and the survey blocks CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 present on the *dedicated transport road*.

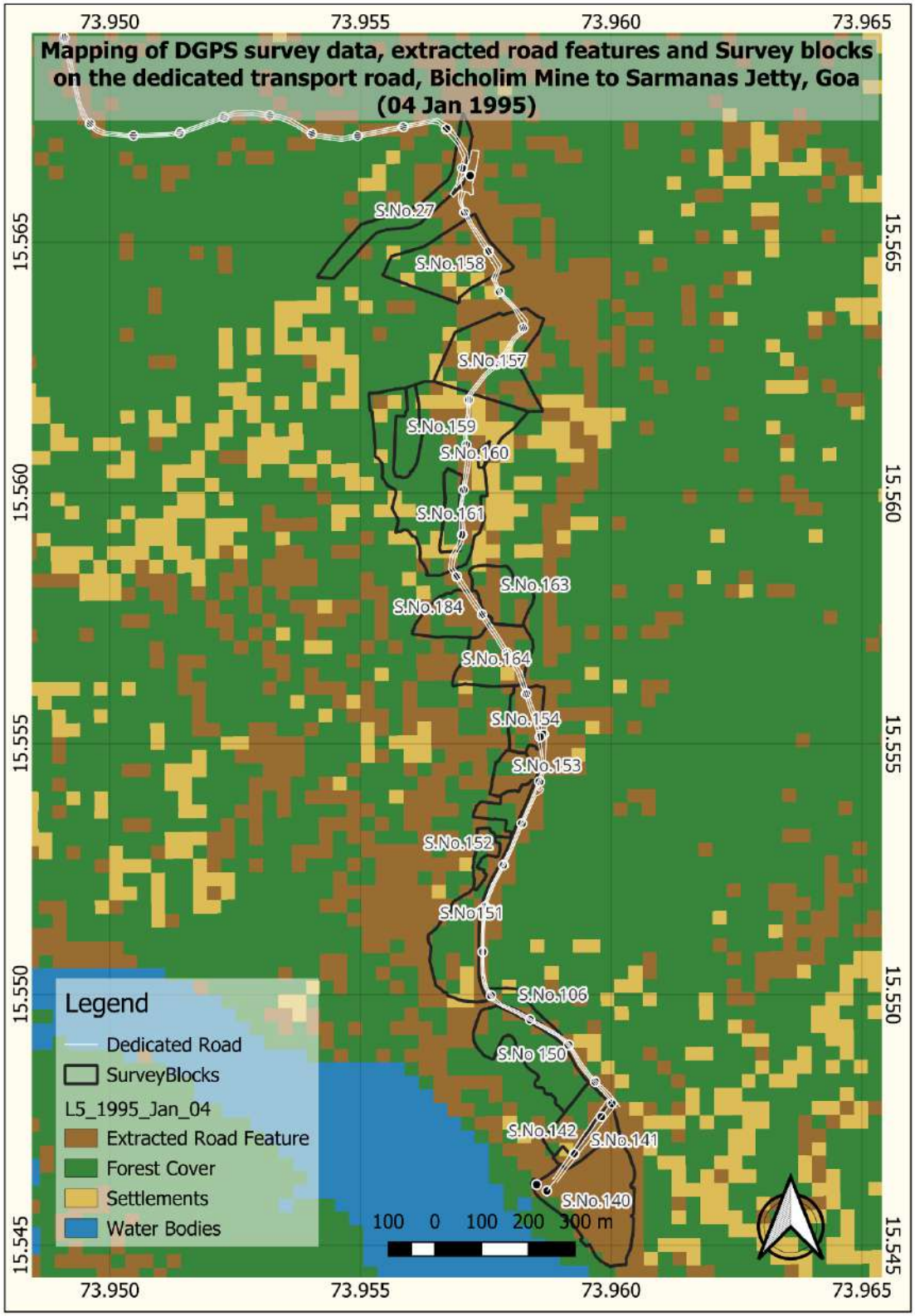


Fig. 5(b) Map showing the extracted road features (highlighted in Dark Bronze) for the *dedicated transport road* (Bicholim mine to Sarmanas jetty), classified from the satellite imagery of 1995 along with the current alignment (DGPS survey) of the road and the survey blocks CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 present on the *dedicated transport road*.

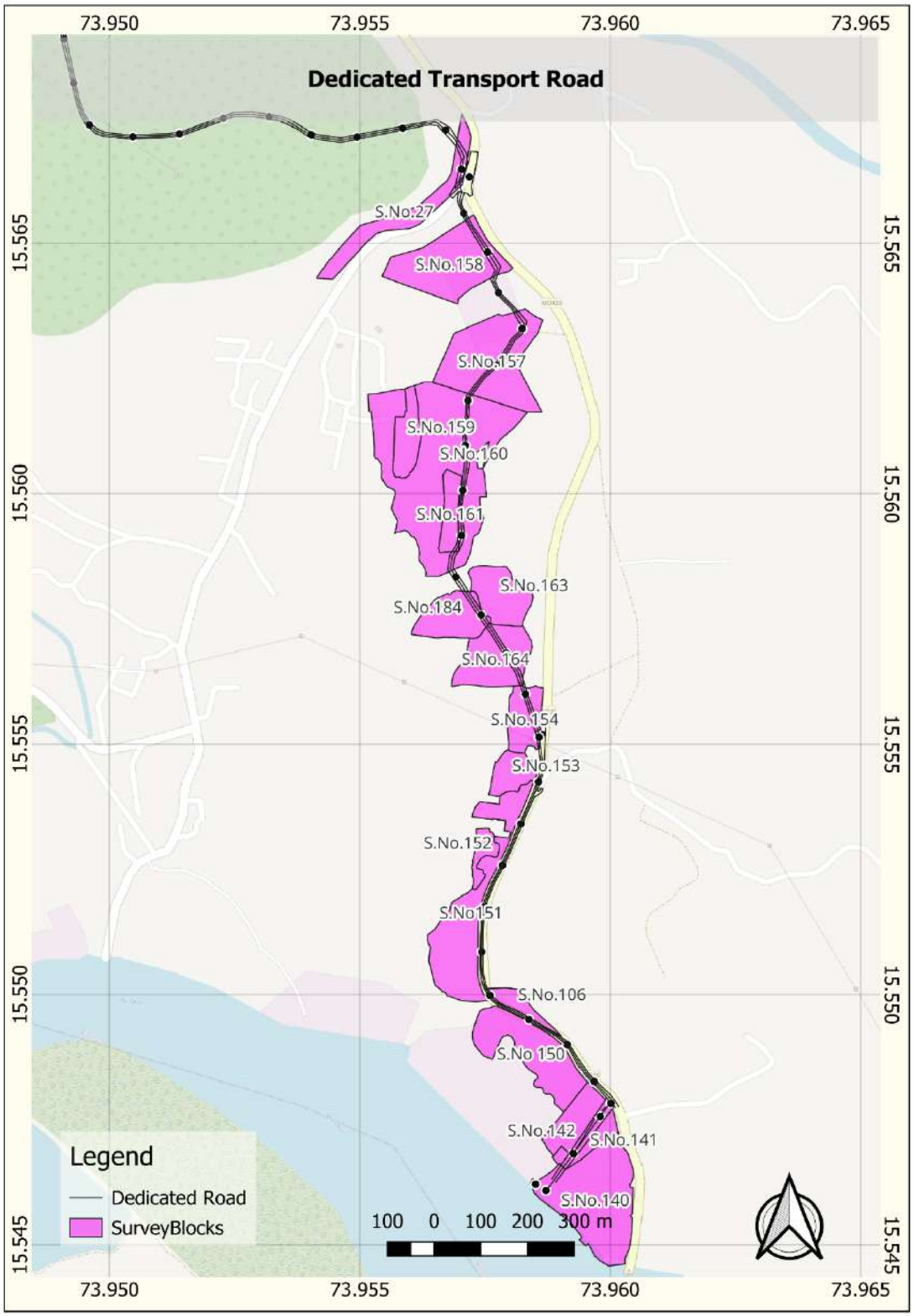


Fig. 6. Map showing the *dedicated transport road* (Road coordinates - GPS survey line & GPS survey) from DGPS survey and the survey blocks: CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 present on the *dedicated transport road*.

5. Conclusions

The road extraction process successfully utilized DGPS and LULC classification to extract historical road features of the Bicholim mine to Sarmanas jetty road with high precision. The use of Landsat 5 imagery of 1989 and 1995, Google earth imagery of 2023, DGPS data, and GEE provided robust results, with a high overall accuracy and Kappa coefficient.

The analysis of the integrated DGPS data with the historical satellite data image of 1989 and 1995 confirms the existence and continuity of the *'dedicated transport road* from 1989 till date. It also confirms that the survey blocks: **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27** of Piligao Village, Bicholim Taluka, Goa are part of '*dedicated transport road'*.

Therefore, we are of the opinion that it is very evident that the road marked in the figure 5(a) and figure 5 (b) and figure 6 whose center line coordinates are annexed in the Annexure 1 of approximate 5.5 km existed at the given location from the year 1989, and the analysis confirms that Survey No **CTS no. 140, 141, 106, 151, 152, 153, 154, 164, 184, 163, 161, 160, 159, 157, 158, and 27 of Piligao Village, Bicholim Taluka, Goa** ***part of the dedicated transport road identified using historical satellite imaginaries.***

NOTE: All the data / method that have been sourced to compile this report has been obtained and analyzed in open source, which can be viewed and verified.

Prof. Madhuraj Naik
Asstt. Professor

Dr. Ganesh Hegde
Professor & Faculty Incharge

References:

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https://tigerprints.clemson.edu/all_dissertations/615.Accessed 28 February 2023.

Annexure 1

Table showing the point coordinates along the Bicholim mine to Sarmanas Jetty as per road.
DGPS SURVEY

Point no.	Coordinates	
	Longitude	Latitude
1	E73° 56' 21.39"	N15° 34' 59.97"
2	E73° 56' 22.31"	N15° 35' 00.78"
3	E73° 56' 24.80"	N15° 35' 02.96"
4	E73° 56' 27.64"	N15° 35' 02.60"
5	E73° 56' 29.49"	N15° 34' 59.98"
6	E73° 56' 30.84"	N15° 34' 57.01"
7	E73° 56' 32.69"	N15° 34' 54.30"
8	E73° 56' 34.68"	N15° 34' 51.68"
9	E73° 56' 37.32"	N15° 34' 49.75"
10	E73° 56' 39.82"	N15° 34' 47.58"
11	E73° 56' 42.19"	N15° 34' 45.28"
12	E73° 56' 44.54"	N15° 34' 42.95"
13	E73° 56' 45.73"	N15° 34' 39.99"
14	E73° 56' 45.94"	N15° 34' 36.80"
15	E73° 56' 47.10"	N15° 34' 33.74"
16	E73° 56' 48.28"	N15° 34' 30.70"
17	E73° 56' 50.39"	N15° 34' 28.19"
18	E73° 56' 53.19"	N15° 34' 26.39"
19	E73° 56' 55.90"	N15° 34' 24.50"
20	E73° 56' 57.02"	N15° 34' 21.48"
21	E73° 56' 57.53"	N15° 34' 18.27"
22	E73° 56' 57.33"	N15° 34' 15.07"
23	E73° 56' 56.63"	N15° 34' 11.94"
24	E73° 56' 56.73"	N15° 34' 08.69"
25	E73° 56' 57.44"	N15° 34' 05.51"
26	E73° 56' 58.57"	N15° 34' 02.49"
27	E73° 57' 01.69"	N15° 34' 01.64"
28	E73° 57' 05.04"	N15° 34' 01.86"
29	E73° 57' 08.18"	N15° 34' 02.98"
30	E73° 57' 11.47"	N15° 34' 03.10"
31	E73° 57' 14.50"	N15° 34' 01.79"
32	E73° 57' 17.79"	N15° 34' 01.63"
33	E73° 57' 21.08"	N15° 34' 02.27"
34	E73° 57' 24.17"	N15° 34' 02.13"
35	E73° 57' 25.31"	N15° 33' 59.31"
36	E73° 57' 25.46"	N15° 33' 56.15"
37	E73° 57' 27.18"	N15° 33' 53.36"
38	E73° 57' 27.97"	N15° 33' 50.46"
39	E73° 57' 29.67"	N15° 33' 47.86"
40	E73° 57' 27.77"	N15° 33' 45.22"

41	E73° 57' 25.78"	N15° 33' 42.69"
42	E73° 57' 25.58"	N15° 33' 39.46"
43	N15° 33' 39.46"	N15° 33' 36.24"
44	E73° 57' 25.30"	N15° 33' 33.00"
45	E73° 57' 24.90"	N15° 33' 30.01"
46	E73° 57' 26.72"	N15° 33' 27.28"
47	E73° 57' 28.51"	N15° 33' 24.53"
48	E73° 57' 29.89"	N15° 33' 21.59"
49	E73° 57' 30.88"	N15° 33' 18.49"
50	E73° 57' 30.85"	N15° 33' 15.29"
51	E73° 57' 29.58"	N15° 33' 12.28"
52	E73° 57' 28.26"	N15° 33' 09.29"
53	E73° 57' 26.95"	N15° 33' 06.30"
54	E73° 57' 26.76"	N15° 33' 03.06"
55	E73° 57' 27.36"	N15° 32' 59.93"
56	E73° 57' 30.16"	N15° 32' 58.20"
57	E73° 57' 32.92"	N15° 32' 56.39"
58	E73° 57' 34.85"	N15° 32' 53.74"
59	E73° 57' 35.28"	N15° 32' 51.23"
60	E73° 57' 33.34"	N15° 32' 48.57"
61	E73° 57' 31.40"	N15° 32' 45.91"

Prof. Madhuraj Naik
Asstt. Professor

Dr. Ganesh Hegde
Professor & Faculty Incharge

IN THE HON'BLE HIGH COURT OF JUDICATURE OF BOMBAY AT PORVORIM, GOA

Miscellaneous Civil Application No. 229/2025 [F]

in P.I.L. Writ Petition No. 6/2024

M/s. Vedanta Limited ....Applicant

V/s

The Directorate of Mines and Geology & Ors. ...Respondents

ADDITONAL AFFIDAVIT OF THE RESP. NO. 10

I, Anil Datta Salelkar, aged 44 years, the Resp. No. 10 herein, do hereby solemnly affirm and state as under:

1. I state that this affidavit is being filed to tender an unconditional and absolute apology to this Hon'ble Court for certain incorrect statements made by the deponent in the affidavit dt. 29.01.2025 filed in this matter.

2. In the said affidavit, I had made statements to the effect that I had no role to play in the protests by local villagers against the ore transportation, and the obstructions caused to the company

on account thereof. I most humble state and submit that this statement was made from my unfortunate and flawed understanding of the matter at hand. The deponent regrets having made this incorrect statement and submits that his intention was never to mislead or willfully make false statements before this Hon'ble Court. I most humbly and sincerely apologize for the incorrect statement made by me in this regard.

3. Given the peculiar nature of the misstatements made by me in this matter, and in the interests of fairness, I state and submit that the deponent, the Resp. No. 10 in this Application, is hereby ready and willing to make an undertaking not to impede the ore transportation of the Applicant, to the extent of prayer clause (b) as sought by the Applicant. In other words, I am ready and willing to undertake that I will not create any impediment in the transportation by the Applicant via designated route otherwise than in terms of law.

4. It is however vehemently denied that the deponent filed M.C.A. 102/2025 [F] for any collateral purposes as averred by the Applicant in its affidavit. Though the deponent was admittedly a workman of the erstwhile mining company, the deponent reiterates that the said application was moved in public interest to protect the right to life and a healthy environment of the villagers of Pilgaon, which was being disturbed by the transportation activities of M/s. Vedanta Ltd.

5. The deponent requests this Hon'ble Court to permit the deponent to withdraw from both this Application and M.C.A.

102/2025 [F] filed by the deponent. However, as the public interest of the villagers of Pilgaon is involved in both these matters, and this should not suffer, the deponent earnestly requests this Hon'ble Court to permit one "Ramakant Yanu Salelkar" to step into the shoes of the deponent in both the matters to further espouse the public interest of the villagers. Mr. Ramakant Yanu Salelkar, a senior citizen, aged 63 years, retired from the erstwhile mining company [*Sesa Mining Corp.*] around 2018. He does not have any involvement in the blockages caused by villagers to the ore transportation of the Applicant company, and has conveyed his willingness to be impleaded in these matters to raise the villagers' issues in public interest. As such, this Hon'ble Court may be pleased to substitute the deponent with Mr. Ramakant Yanu Salelkar in both these matters.

6. The deponent once again wholly and unconditionally apologizes for the incorrect statements made in the affidavit dt. 29.01.2025 filed in this matter.

7. I state that the contents of paragraphs 1, 2(p), 3(p), 4(p), 5(p), and 6 are correct and true to my own knowledge and as per official documents/records, and that the contents of paras 2(p), 3(p), 4(p), and 5(p) are my submissions made on legal advice which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

Solemnly affirmed at Porvorim, Goa,
this the 12th day of February 2025

Deponent

Solemnly affirmed before me by Mr. Anil Datta Salelkar who is identified before me by Adhar card no. 2272 5047 5627 whom I personally know. Dated this 12th day of February 2025

Section Officer
High Court of Bombay
at Goa, Porvorim

Vinita

IN THE HIGH COURT OF BOMBAY AT GOA

MISC. CIVIL APPLICATION NO. 102 OF 2025-FILING
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024.

ANIL DATTA SALELKAR ... Applicant.

Versus

THE DIRECTORATE OF MINES AND GEOLOGY THR ITS DIRECTOR AND 6 ORS. ... Respondents.

Mr Om D'Costa and Mr Sherwyn Correia, Advocate for the applicant.

Mr D. Pangam, Advocate General with Mr D. Shirodkar, Additional Government Advocate for respondent Nos.1 to 5.

Ms Simran Khadilkar, Advocate for respondent No.7.

Mr R. Chodankar, Advocate for respondent No.8.

Mr Yogesh Nadkarni and Mr Nilay Naik, Advocates for respondent No.9.

Mr Shivan Desai, Advocate for respondent No.10.

Ms Normal Alvares, Senior Advocate with Ms Malisa Simoes, Advocate for respondent no.16.

WITH
MISC. CIVIL APPLICATION NO. 229 OF 2025-F
IN

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024.

M/S VEDANTA LIMITED THR. ITS AUTH. SIGNATORY DHIRAJKUMAR NAMDEO JAGDISH .... Petitioner.

VS

THE DIRECTORATE OF MINES AND GEOLOGY THR ITS DIRECTOR AND 16 ORS. .....Respondents.

Mr Shivan Desai and Ms T. Menezes, Advocate for the applicant.
Mr D. Pangam, Advocate General with Mr D. Shirodkar, Additional Government Advocate for respondent Nos.1 to 5.
Mr Yogesh Nadkarni and Mr Nilay Naik, Advocates for respondent No.7.
Mr Om D'Costa and Mr Sherwyn Correia, Advocate for respondent no.10.
Mr Gaurish Malik, Advocate for respondent no. 11 to 14.

CORAM: M. S. KARNIK &
NIVEDITA P. MEHTA, JJ.

DATE: 13th February 2025.

P.C

1. We have heard Mr O. D'Costa, learned counsel for the applicant in Misc. Civil Application No. 102/2025/F, Mr S. Desai, learned Counsel for the applicant in Misc. Civil Application No.229/2025/F, Ms N. Alvares, learned Senior Advocate for respondent no.16, Mr D. Pangam, learned Advocate General for the State, Mr Y. V. Nadkarni, learned counsel for respondent. 9, Ms S. Khadilkar, learned Advocate for respondent no. 7 and Mr R. Chodankar, learned counsel for respondent no. 8.

2. Misc. Civil Application No.102/2025/F is filed by one of the villagers opposing the transportation of the ore. The following reliefs are prayed:-

> *"a. Direct the D.M.G. and the Police authorities to ensure that ore transportation from MB-I by M/s. Vedanta Ltd. is carried out strictly during the working hours only in terms of the S.O.P. of the D.M.G;*
>
> *b. Direct the D.M.G. and the Police authorities to ensure that ore transportation from MB-I by M/s. Vedanta Ltd. is not carried out on the approx. 850 m length portion of the route presently being used, i.e. NBP Gate No. II till Matwada Junction, which is not approved under the EC and which passes through the settlement of the Pilgao village;*
>
> *c. For any other reliefs this Hon'ble Court may be pleased to pass."*

3. So far as prayer (a) is concerned, learned Advocate General submitted that the State shall ensure that the transportation of the ore by M/s. Vedanta Ltd will be carried out strictly during the working hours in terms of EC/SOP of DMG. So far as prayer clause (a) is concerned the same is worked out in view of the assurance given by the learned Advocate General.

4. On the last date of hearing it was brought to the notice of this Court that the State had permitted transportation of the ore even at night which is contrary to the terms of the EC. Learned Advocate

General has assured this Court that such permission was granted under some misconception for facilitating the transportation so as to avoid any inconvenience to the public at large travelling during the day time. However, learned Advocate General submits that such permission has since been withdrawn and the State shall ensure that the transportation will be strictly during working hours and in accordance with the terms of EC/SOP of DMG. It is further assured by learned Advocate General on instructions that strict action will be taken against the mine owners/transporters, if it is noticed that any transportation is done contrary to the terms of EC/SOP or as per the directions issued by this Court. The statement is accepted as an undertaking to this Court. Learned Advocate General has placed on record a copy of communication dated 11.12.2024 which permitted transportation of ore during night time. Learned Advocate General has already made a statement that said permission for transportation of ore during the night time stands withdrawn.

5. We make it clear that if it comes to the notice of this Court that any transportation of the ore is carried out beyond the hours stipulated in the EC/SOP, this Court will take strict action against the concerned officials of the State Government who are responsible for effecting compliance of the terms of the EC and the directions of this Court.

6. Prayer clause (b) is for a direction to the D.M.G. and the Police authorities to ensure that ore transportation from MB-I by M/s Vedanta Ltd is not carried out on the approximately 850 m length portion of the route presently being used, i.e. NBP Gate No. II till Matwada Junction, which is not approved under the EC and which passes through the settlement of Pilgao Village.

7. At this stage we may note the detailed order passed by this Court in PIL on 29.6.2024 wherein several directions were issued. Pursuant to this order when the actual transportation of the ore commenced, it was grievance of the villagers that the stretch of private road admeasuring approximately 900 mts which is private road, in respect of which respondent nos. 11 to 14 claim to be tenants, was being used.

8. Learned Senior Advocate Ms Alvares appearing for the petitioners in the PIL submitted that M/s Vedanta Ltd in their application for getting the EC described the said road as a dedicated corridor. This information, according to her, was misleading. It is submission of learned Senior Advocate that this road could never have been projected as dedicated corridor as the same was always in possession and occupation of respondent nos. 11 to 14 as tenants. It is submitted that M/s Vedanta Ltd unauthorisedly attempted to transport the ore by trucks through this route. There are Civil proceedings

initiated by private owners/tenants of the road restraining M/s Vedanta Ltd from using the said road.

9. Learned Advocate General submitted that as a result of restraint put by villagers on the user of the road by the transport operators, there arose a law and order situation. Efforts were undertaken to resolve the matter. Our attention is then drawn by learned Advocate General to the affidavit filed on behalf of respondent nos. 1 and 2. Paragraphs 7, 8 and 9 of the affidavit are relevant, read thus:-

> *"7 As regards the other contention that the route on which the transportation is being done is not the one which is approved in the EC, I say that the transportation could not be done from that route on account of objections and obstructions by villagers, who forcibly blocked the said route which resulted in law and order situation. Meetings were held by the Deputy Collector in order to try and resolve the issue but the same has not been resolved yet. Due to this, the party applied for transportation by the other available route, which is a public road. This new route is the same route approved in EC with a small portion of deviated route as the original route was blocked by the villagers. The same was considered by the authorities and permit was granted allowing transportation on this route.*
>
> *8 I say that the permit for the other route was granted after inspection conducted by an inter-departmental committee comprising officials from the Police Department, Public Works Department, Transport Department, Office of the Deputy Collector, Bicholim, Goa State Pollution Control Board and Direcrtorate of Mines & Geology. I say that the Committee recommended that*

transportation through the alternate route may be allowed. The same was considered by the Government, which approved the proposal and accordingly, the permit was granted by this Respondent. I say that grant of approval for the routes is within the domain of the State authorities, which have considered the relevant aspects and examined the feasibility, after conducting inspection.

9 I say that the fact that the EC refers to a particular route does not mean that no transportation can be permitted by the State authorities from a different route. I say that it is pertinent to note that the route in question is a public road. I say that no person can be prevented from using the public road. I say that adequate safeguards are in place to keep a check on the transportation activity, including monitoring by the GSPCB."

10. Ms Alvares made an attempt to submit that transportation of ore should be strictly in accordance with EC/SOP and no deviation is permissible. It is her submission that if the State Government if at all wanted to permit M/s Vedanta Ltd to use an alternate route, the appropriate remedy for the State Government was to have approached the authority which granted that EC for necessary modification.

11. Learned Advocate General therefore submitted that it is not open for this Court to prohibit the transportation of ore through the Major District Road when the State Government has approved such transportation. It is submitted that merely because there is minor deviation from the permission granted by the EC, does not necessarily

mean that this application should be entertained, as the State is empowered to permit the transportation in a Major District Road. Learned Advocate General placed reliance on the judgment in the case of Saghir Ahmad Vs State of Uttar Pradesh and others (1954) 2 SCC 399 in support of his submission that just because EC specifies the route, does not mean that State cannot permit the transportation of ore from public road.

12. A reference needs to be made to paragraph 9 of the judgment which reads thus:-

> *"9. It is not disputed that the Bulandshahr-Delhi route is a part of the Grand Trunk Road which is a public highway. According to English law, which has been applied all along in India, a highway has its origin, apart from statute, in dedication, either express or implied, by the owner of land of a right of passage over it to the public and the acceptance of that right by the public [Pratt & Mackenzie on Law of Highways, 19th Edn., p. 13] . In the large majority of cases this dedication is presumed from long and uninterrupted user of a way by the public, and the presumption in such cases is so strong as to dispense with all enquiry into the actual intention of the owner of the soil and it is not even material to enquire who the owner was [Ibid, p. 28] . The fact that the members of the public have a right of passing and repassing over a highway does not mean however that all highways could be legitimately used as foot passages only and that any other user is possible only with the permission or sufferance of the State. It is from the nature of the user that the extent of the right of passage has to be inferred*

and the settled principle is that the right extends to all forms of traffic which have been usual and accustomed and also to all which are reasonably similar and incidental thereto [Ibid, p. 35] . The law has thus been stated in Halsbury's Laws of England [Vol. 16, p. 185] :

"Where a highway originates in an inferred dedication, it is a question of fact what kind of traffic it was so dedicated for, having regard to the character of the way and the nature of the user prior to the date at which they infer dedication; and a right of passage once acquired will extend to more modern forms of traffic reasonably similar to those for which the highway was originally dedicated, so long as they do not impose a substantially greater burden on the owner of the soil."

There can be no dispute that the Grand Trunk Road which, as a public highway, has been in existence since the 15th Century A.D. has been used for all sorts of vehicular traffic that were in vogue at different times. Motor vehicles were certainly not known when the road came into existence but the use of motor vehicles in modern times as means of locomotion and transport could not, on the principle stated above, amount to an unwarrantable extension of the accustomed user to which the highway is subjected. If there is any danger to the road by reason of such user, or if such user by one interferes with the user by others, it is up to the State to regulate the motor traffic or reduce the number or weigh of vehicles on the road in any way it likes, and to that no objection can possibly be taken. <u>But the right of the public to use motor vehicles on the public road cannot, in any sense, be regarded as a right created by the Motor Vehicles Act. The right exists anterior to any</u>

> *legislation on this subject as an incident of public rights over a highway. The State only controls and regulates it for the purpose of ensuring safety, peace, health and good morals of the public. Once the position is accepted that a member of the public is entitled to ply motor vehicles on the public road as an incident of his right of passage over a highway, the question is really immaterial whether he plies a vehicle for pleasure or pastime or for the purpose of trade and business. The nature of the right in respect to the highway is not in any way affected thereby and we cannot agree with the learned Advocate General that the user of a public road for purposes of trade is an extraordinary or special use of the highway which can be acquired only under special sanction from the State."*
>
> *(emphasis supplied)*

13. Learned Advocate General further pointed out that under the Constitution of India, contract carriers as well as the common carriers would occupy the same position so far as guarantee under section 19(1)(g) is concerned and both are liable to be controlled by regulations under clause 6 of the Article.

14. Learned Advocate General further submitted that even otherwise, major part of the transportation is over the major district road and that the company's claim to the dedicated corridor is merely 900 mts, in such circumstances State Government permitted M/s Vedanta Ltd to use alternate road from the same major district road

to the extent of 900 mts and that too after an informed decision was taken by the State Government.

15. Mr Desai appearing for the M/s Vedanta Ltd as well as Mr Nadkarni appearing for the transport operators submitted that village road was being used for almost 40 to 50 years by the erstwhile mining companies for transportation of the ore. It is submitted that respondent no. 11 to 14 then had no issue with the transportation as they were employed those mining company. It is submitted that now as they are no longer employed, they have taken law in their hand.

16. Be that as it may, we are not inclined to entertain the application made by Mr Anil Salelkar or M/s Vedanta Ltd in a disposed of PIL. The MCA filed by M/s Vedanta Ltd seeks the following reliefs:-

> *"a. Directing Respondent No. 1 & 6 to permit transportation in terms of the EC including the conditions pertaining to the number of trips and hours of transportation in the route indicated in the EC dated 23/01/2024 or the additional route indicted and approved by the State Government with same trips and hours of transport as indicated in the EC dated 2301 2024 which is subject matter of the above application.*
>
> *b. Directing Respondent no. 10 to 14 to ensure that judgment and order dated 29/06/2024 is not*

subverted or breached in any manner or not to create any impediment in the transportation by the Applicant via designated route otherwise than in terms of law.

c. Pending hearing and final disposal of this matter this Hon'ble Tribunal be pleased to grant Ad interim in terms of prayer clause (a) and (b)."

17. It is open for M/s Vedanta Ltd to seek reliefs prayed in the MCA in appropriate proceedings before the appropriate forum.

18. So far as road deviation permitted for iron ore transportation is concerned, it is open for the applicant in MCA No.102/2025/F to agitate the same before appropriate forum in appropriate proceedings as it is the contention that such deviation is permitted without taking into consideration the carrying capacity of the road, inconvenience that will be caused to the existing users of the road who are mainly villagers. It is not possible for us to examine these contentions in a disposed of PIL which have been brought before us by way of the present application.

19. Keeping the remedies of the applicants open, the Misc. Civil Applications are disposed of. All contentions are kept open.

20. Learned counsel for M/s Vedanta Ltd on instructions submits that an undertaking will be filed within one day after this order is

uploaded by M/s Vedanta Ltd and/or transporters of the ore that they are not resorting to any transportation of the ore at night or beyond permissible working hours stipulated.

21. Mr Om D'Costa filed an affidavit on behalf of respondent nos.10 to withdraw the incorrect statement made in the affidavit dated 29.1.2025. Though the learned counsel for the M/s Vedanta Ltd opposed such request made by Anil Salelkar, we find that apology being unconditional and absolute, the same is accepted. We are not inclined to pass any order on the request made by the applicant for substitution as we are not inclined to entertain the MCA in a disposed of PIL.

22. Applications stand disposed of. No costs.

NIVEDITA P. MEHTA, J. **M. S. KARNIK, J.**

Signed by: VINITA VIKAS NAIK
Designation: Personal Assistant
Date: 18/02/2025 20:24:49

IN THE HIGH COURT OF BOMBAY AT GOA

PORVORIM, GOA

Writ Petition No.: /2025

Mr. Sandeep Salelkar **.... Petitioner**

Versus

The State of Goa & Ors **...Respondents**

INDEX

SR.NO.	DESCRIPTION	PAGE NO.
1.	Chronology of Dates and Events	A - D
2.	Points of Determination	E - F
3.	Memo of Writ Petition	1 - 49
4.	**Exhibit A-** is the Copy of the Environmental Clearence dated 23.01.2024 issued by the Ministry	50 - 88

	of Environment, Forest & Climate Change.	
5.	**Exhibit B** - is the Copy of the Order dated 13.02.2025 passed by this Hon'ble Court in MCA (F) No. 102/2025.	89 - 101
6.	**Exhibit C** - is the Copy of the Application dated 17.07.2025 addressed by the Petitioner to the Mamltdar, Bicholim.	102 -
7.	**Exhibit D- Colly-** is the Copy of the Applications dated 05.08.2025 addressed by the Petitioner to the Collector, North Goa, Directorate of Mines and Geology, the Town	103 - 117

	and Country Planning Department and Village Panchayat of Piligao.	
8.	**Exhibit E colly-** are the Copies of Form I & XIV.	118 - 181
9.	**Exhibit F-** is the Screenshot of the Regional Plan 2021 for the Said Properties of Village Piligao, Bicholim, Goa.	182
10.	**Exhibit- G-** is the Copy of the Letter dated 28.01.2025 addressed by the Mamlatdar of Bicholim Taluka to the Dy Collector, Bicholim, North Goa along with its enclosures.	183 - 219

11.	**Exhibit- H-** is the Excerpt of the Minutes of the Meeting dated 05.08.2025 by the Goa Coastal Zone Management Authority.	220 – 222
12.	**Exhibit- I-** is the Copy of the Letter dated 23.06.2025 addressed by the Mamlatdar of Bicholim Taluka to the Dy Collector, Bicholim, North Goa along with its enclosures.	223 – 254
13.	Affidavit	255-256
14.	Vakalatnama	

PLACE: Panaji-Goa

DATE: 04.09.2025

ADVOCATE FOR THE PETITIONER

A

IN THE HIGH COURT OF BOMBAY AT GOA

PORVORIM, GOA

WRIT PETITION NO.: /2025

Mr. Sandeep Salelkar **.... Petitioner**

Versus

The State of Goa & Ors **...Respondents**

CHRONOLOGY OF DATES AND EVENTS

SR.NO.	DATE	DESCRIPTION
1.	23.01.2024	Environment clearance was issued by Ministry of Environment, Forest and Climate Change (IA Division) having File No. IA-J-11015/3/2023-IA-II(NCM) to M/s. Vedanta Limited.
2.	2024	M/s. Vedanta Limited commenced minining in Bicholim, Goa, and started transporting

B

		and storing the same on agricultural tenanted lands.
3.	2024	Several Complaints were made by farmers and local villagers against the alleged use of agricultural tenanted lands for mining activities.
4.	28.01.2025	The Mamlatdar of Bicholim, vide Letter dated 28.01.2025 to the Dy Collector, Bicholim, furnished the reports/ enquiry conducted with respect to the agiruclltural tenanted properties.
5.	23.06.2025	The Mamlatdar, Bicholim, addressed a Letter dated 23.06.2025 to the Dy Collector, North Goa District, informing it that the site inspection had been carried out and enclosed all the reports and material

		therewith wherein it is construction and mining activity has been observed in agricultural tenanted lands.
6.	17.07.2025	The Petitioner filed Right to Information Application addressed to the Mamltdar, Bicholim seeking inspection reports pertaining to the said agricultural tenanted lands.
7.	05.08.2025	On this day, in the minutes of the meeting of the Goa Coastal Zone Management Authority it is observed that the Authority issued Show Cause Notice to the Respondent No. 6 for illegal constructing jetties and other developments in CRZ III areas. However, despite the above, the Respondent No. 6 failed to appear before the Goa Coastal Zone Management Authority.

D

8.	05.08.2025	The Petitioner addressed Right to Information applications to the Collector, North Goa, Directorate of Mines and Geology, the Town and Country Planning Department and Village Panchayat of Piligao. However, till date no information has been furnished to the Petitioner.
9.	04.09.2025	Aggrieved by the actions of the Respondent No. 6 and the fact that the rEspondent Authorities had failed to take any action, the the Petitioner is filing the present Writ Petition before this Hon'ble Court.

PLACE: Panaji-Goa

DATE: 04.09.2025

ADVOCATE FOR THE PETITIONER

E

POINTS OF DETERMINATION

1. Whether the use of agricultural tenanted lands in Village Piligao, Bicholim, by Respondent No. 6 for mining-related activities such as construction, storage, dumping, and transportation of ore is illegal, unauthorized, and contrary to the Goa Agricultural Tenancy Act, 1964, the Goa Land Use (Regulation) Act, 1991, and other applicable laws?
2. Whether Respondent Nos. 1 to 5, 7 and 9, being statutory and regulatory authorities, have failed to discharge their constitutional and statutory duties to prevent and restrain the illegal use of agricultural tenanted lands and CRZ areas, despite inspection reports establishing violations?
3. Whether such inaction on the part of the Respondent Authorities amounts to arbitrary exercise of power, dereliction of duty, and violation of the Petitioner's and the public's fundamental rights under Articles 14 and 21 of the Constitution of India?
4. Whether the actions of Respondent No. 6, in connivance with certain tenants and aided by the inaction of the State machinery, violate the principles of sustainable

F

development, the public trust doctrine, and settled judicial precedents including ***Pilerne Citizens Forum v. State of Goa 2010 SCC OnLine Bom 1494***?

ACTS AND RULES

1. Constitution of India
2. Goa Agricultural Tenancy Act,1964
3. Goa Land Revenue Code
4. Goa Town and Country Planning Act, 1974
5. Goa Land Use (Regulation) Act, 1991
6. Goa Panchayat Raj Act, 1994

CASE LAWS

Nil At the Moment

PLACE: Panaji-Goa

DATE: 04.09.2025

ADVOCATE FOR THE PETITIONER

NOTARY
SMITA N. SAWANT
BICHOLIM TALUKA
REG. NO.336
EXP. DATE
07-03-2029
GOVT. OF GOA (INDIA)

IN THE HIGH COURT OF BOMBAY AT GOA

PORVORIM, GOA

PIL WP No. _____/2025

IN THE MATTER UNDER ARTICLE 226 OF THE CONSTITUTION OF INDIA

AND

IN THE MATTER UNDER ARTICLE 14 AND 21 OF THE CONSTITUTION OF INDIA

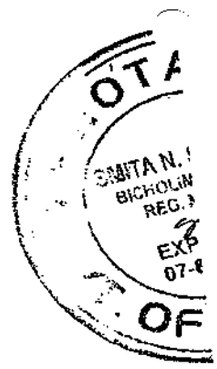
AND

IN THE MATTER OF ILLEGAL AND CONSTRUCTION IN TENANTED AGRICULTURAL LAND

AND

2

IN THE MATTER OF ILLEGAL STORING, DUMPING AND TRANSPORTATION OF ORE IN TENANTED AGRICULTURAL LAND IN CONTRAVENTION OF PREVALENT LAWS IN FORCE AND WITHOUT ANY PERMISSIONS FROM THE GOVERNMENT AUTHORITIES



Mr. Sandeep Salelkar,

Son of Mr. Datta Salelkar

53 years of age, Indian National,

Resident of #02, Bag Wada, Piligao

Bicholim, North Goa, Goa, 403504.

Mob: 8390161415 **... PETITIONER**

IRY
AWANT
ALUKA
386
DATE
3-2029
GOA (INDIA)

VERSUS

1. The State of Goa,
   Through its Chief Secretary,
   Secretariat, Porvorim-Goa, 403521.

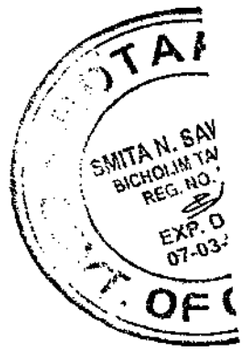
2. The Collector, North Goa,
   Collectorate Building,
   Opp. Municipal Garden,
   Panaji Goa, 403001.

3. The Directorate of Mines & Geology,
   Through its Director,
   Institute Menezes Braganza, Ground Floor,
   Panaji -Goa, 403001

4. The Mamlatdar of Bicholim Taluka,
   Government Office Complex,
   Bicholim Goa, 403504.

4

5. The Goa Coastal Zone Management Authority,
C/o Department of Environment and
Climate Change (Govt. of Goa)
4th Floor, Dempo Towers,
Patto, Panaji- Goa, 403001



6. M/s. Vedanta Ltd.,
Through its Authorised Representative,
Sesa Ghor, 20 EDC Complex,
Patto, Panaji, Goa- 403001.

7. The Goa State Pollution Control Board,
Through its Member Secretary,
Near Pilerne Fire Station,
Opposite Saligao Seminary,
Saligao, Goa.

8. The Communidade of Pilgao,
Through its President,
Piligao, Bicholim, Goa.

9. The Village Panchayat of Piligao,
Through its Secretary,
Piligao, Bicholim, Goa.

10. Mr. Sudhakar Vasudev Vaingankar
Son of late Vasudev Atmaram Vaingankar
Indian National,
Resident of House no. 65,
Bagwada, Pilgao, Bicholim -Goa, 403504

11. Mr. Rahul Gajanan Tivrekar,
Major in Age, Indian National,
Resident of House No. 04,
Gimone, Piligao,
Bicholim, Goa

12. Mr. Raj Ratnakar Kuttikar,
Major in Age, Indian National,
Resident of House No. 298,

6

Gaokar wada, Piligao,

Bicholim, Goa.

13.Mr. Rajendra Gopinath Pilgaokar,

Major in age, Indian National,

Resident of H. No. 26, Dwelwada,

Piligao, Bicholim, Goa.

14.Mr. Nagesh Shankar Chawan,

Major in Age, Indian National,

Resident of H. No. 18,

Sarmanas, Piligao, Bicholim, Goa.

15.Mr. Mahesh Fondu Volvoikar,

Major in Age, Indian National,

H. No. 26/1, Sarmanas,

Piligao, Bicholim, Goa. **...RESPONDENTS**

[ALL THE ABOVE ARE REGISTERD ADDRESSES OF THE PARTIES]

TO,

THE HON'BLE JUSTICES

OF THE HON'BLE HIGH COURT

OF BOMBAY AT GOA

THE HUMBLE PETITION OF THE

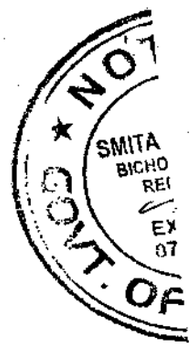
PETITIONER ABOVE NAMED

MOST RESPECTFULLY SHEWETH:

The Petitioner above named most respectfully state and submit as under:

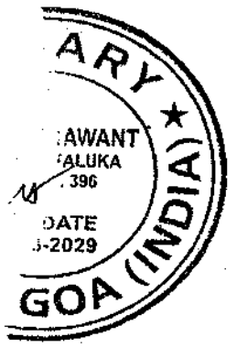
1. **The Particulars of Cause:** The Petitioner herein is constrained to invoke the extraordinary jurisdiction of this Hon'ble Court under Article 226 of the Constitution of India in public interest, seeking urgent intervention and action against the arbitrary, illegal, and unauthorized actions of Respondent No. 6, who has unlawfully constructed structures, stored materials/ore, and undertaken transportation activities through large tracts of tenanted agricultural lands admeasuring an approx. 80,000 sq. mts. in Village Piligao, Bicholim, which is in blatant violation of applicable land laws, and regulatory norms.

2. From the records it is clear that the Respondent Nos. 1 to 5 and 7 and 8, including the Collector and other Competent Authorities, have failed and neglected to take any action to safeguard the agricultural tenanted lands or to prevent such illegal activities which are completely impermissible in law. The Petitioner, therefore, seeks declaratory and injunctive reliefs, as well as mandamus to the Respondent Authorities to take action in terms of law and restore the agricultural lands to their original status and further, to ensure enforcement of the law.



3. The Petitioner is in employment and works as an employee with MRF Ltd. in their plant at Usgao, Goa. The Petitioner resides in the Village of Piligao. The Petitioner has previously been an elected member of the Village Panchayat of Piligao between 2017 -2022 and has also served as a Sarpanch for a brief period during his tenure as a Panch. The Petitioner is espousing the present cause solely in public interest. The Petitioner has also filed an original application before the Hon'ble National Green Tribunal pertaining to the

Environmental Clearence violations by the Respondent No. 6 herein.



4. The Petitioner states that Respondent No. 1 is the State of Goa, represented through its Chief Secretary, and is responsible for governance and enforcement of statutory obligations within the territory of Goa. Respondent No. 2 is the Collector of North Goa, who is the competent authority vested with the responsibility of overseeing the implementation of land use regulations and enforcement of laws pertaining to mining and land administration. Respondent No. 3 is the Directorate of Mines and Geology, the regulatory authority entrusted with supervision, regulation, and monitoring of mining operations within the State of Goa. Respondent No. 4 is the Mamlatdar of Bicholim Taluka, who exercises powers under the Goa Agricultural Tenancy Act and other allied land laws, and is inter alia responsible for adjudicating tenancy rights, protecting tenants from illegal eviction, conducting site inspections, maintaining tenancy records, and ensuring compliance with land use norms applicable to agricultural lands. Respondent No. 5 is the Goa Coastal Zone Management Authority, a

10

statutory body responsible for regulating development and activities in coastal regulation zones in accordance with the Coastal Regulation Zone (CRZ) Notifications and environmental laws. Respondent No. 6 is the private company that has been illegally using agricultural tenanted lands without any authority or requisite permissions, and has commenced mining-related activities including the dumping, storage, and transportation of ore, thereby causing serious ecological degradation and irreparable harm to the tenanted agricultural lands. The Respondent No. 7 is the Goa State Pollution Control Board (GSPCB) which is responsible for monitoring and controlling pollution levels in air, water, and soil within the state. It implements environmental laws, grant consents to industries and other activities. The Respondent No. 8 is the Communidade of Piligao. The Respondent No. 9 is the Village Panchayat of Piligao. The Respondent Nos. 10 to 15 are some of the tenants whose lands have been used for mining purposes. The Petitioner submits that Respondent Nos. 1 to 5 fall within the ambit of 'State' under Article 12 of the Constitution of India

and are thus amenable to the writ jurisdiction of this Hon'ble Court under Article 226.



5. **Particulars of the Petitioner:** The Petitioner herein is a resident of Pilgao, Bicholim, Goa, as identified in the cause title above and has been living there for over 53 years, since his birth. The Petitioner is in employment and works as an employee with MRF Ltd. in their plant at Usgao, Goa. The Petitioner has previously been an elected member of the Village Panchayat of Piligao between 2017 -2022 and has also served as a Sarpanch for a brief period during his tenure as a Panch. The Petitioner's PAN No. is AXZPS2265D. The Petitioner's Annual Income is about Rs. 6,70,000/- (Rupees Six Lakhs Seventy Thousand) and the Petitioner files income tax returns yearly.

6. **Declaration & Understanding of the Petitioner:** The Petitioner is filing the present Petition on his own and not at the instance of someone else. The Petitioner herein is bearing the entire litigation cost on his own. The Petitioner herein is not acting in personal interest and has approached this Hon'ble

Court in larger public interest. The Petitioner does not have any Criminal cases against him as on the date of filing the present Petition. The Petitioner has obtained all the documents relied upon in this Petition under the Right to Information Act, 2005 and some of the documents were available on the websites online.



7. The Petitioner has undertaken thorough research in the matter to the best of his abilities and all the information and material procured by the Petitioner is being placed on record to true and correct to the best of his knowledges.

8. The Petitioner has understood that in the course of hearing of this Petition, the Court may require any security to be furnished towards costs or any other charges, and the Petitioner shall have to comply with such requirements.

9. **Brief Facts Constituting the Case:** At the very outset, the Petitioner respectfully sets out the brief facts giving rise to the present Writ Petition. The Petitioner submits that Respondent No. 6 was awarded a mining block situated at Bicholim and was thereafter granted an Environmental Clearance ("EC")

dated 23.01.2024, issued by the Ministry of Environment, Forest and Climate Change ("**MoEF&CC**").

*Annexed hereto and marked as **"Exhibit-A"** is the Copy of the Environmental Clearence dated 23.01.2024 issued by the Ministry of Environment, Forest & Climate Change*

10. The Petitioner states that Respondent No. 6, in its application seeking Environmental Clearance, proposed a specific route for the transportation of mined minerals from the leasehold area to the Sarmanas Jetty, Piligao, located approximately 5.48 kilometers away. Based on the said application, the Ministry of Environment, Forest and Climate Change ("MoEF&CC") sanctioned the said route as part of the Environmental Clearance dated 23.01.2024. However, the Respondent No. 6 deliberately and wilfully failed to disclose that the area leading to the Sarmanas Jetty is tenanted agricultural land which cannot be used for any other purpose other than cultivation. Additionally, the Sarmanas Jetty is also constructed in CRZ area, without any regulatory permissions and therefore, is completely illegal. It appears from official records and public

domain sources that Respondent No. 6 commenced mining operations at the Bicholim block in or around June or July of 2024.

11. The Petitioner further submits that in January 2025, Respondent No. 6, in clear deviation of the sanctioned transportation route, began using an alternative route for the transportation of mined ore. Moreover, Respondent No. 6 was also permitted to transport the ore during night hours, an action that is impermissible and in violation of the binding law laid down by this Hon'ble Court. In fact, by an Order dated 13.02.2025 passed in MCA (F) No. 102/2025, this Hon'ble Court took note of the deviation from the Environmental Clearance conditions and observed that the grievances regarding the alternate route and violations of EC conditions may be agitated before the appropriate forum. However, insofar as the night-time transportation of ore was concerned, this Hon'ble Court recorded the categorical statement of the State Government that the said permission had been withdrawn. The Court further directed that strict action be taken in the event any mining company, including Respondent No. 6, is found

transporting ore beyond the statutorily permissible hours. In view thereof, the said Miscellaneous Application came to be disposed of.

*Annexed hereto and marked as **"Exhibit- B"** is the Copy of the Order dated 13.02.2025 passed by this Hon'ble Court in MCA (F) No. 102/2025.*

12. This Petitioner thereafter filed an Original Application No. 65/2025 (WZ), Sandeep Salelkar v. State of Goa before the Hon'ble National Green Tribunal (Western Zone) with respect to the deviation of sanctioned route and consequent violation of the conditions in the Environmental Clearence granted to Respondent No. 6. The Petitioner craves leave to refer and rely upon the pleadings in the Original application, as and when necessary.

13. The Hon'ble Tribunal vide its Order dated 17.06.2025 was pleased to constitute a Joint Committee and issued a direction to the Joint Committee to visit the site in question and submit a fact finding report within a period one month.

14. Thereafter, the Petitioner was informed by the local villagers that they had made several complaints pertaining to the illegal use of agricultural tenanted lands by the Respondent No. 6 and no action was taken by the authorities. Subsequently, the Petitioner made some local inquiries and the Petitioner learnt that the entire area leading to Sarmanas Jetty was agricultural tenanted land. The Petitioner perused the survey records which reflected the names of the Tenants. Upon visiting the site, the Petitioner observed that the Respondent No. 6 has constructed several structures and built roads in the agricultural tenanted lands without procuring any permissions or converting the lands for non-agricultural use. The Respondent No. 6 has also constructed a Jetty in the CRZ area which is completely illegal and without any permissions. Therefore, it is evident that the Respondent No. 6 has been illegally using agricultural tenanted and ecologically sensitive areas for transportation and storage of mined ore which is completely impermissible and illegal.

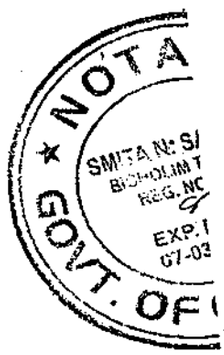
15. The Petitioner is challenging the fraud played by the Respondent No. 6 in connivance with the Respondent Authorities and some of the tenants whereby, the Respondent



No. 6 is using these large agricultural tenanted lands situated in Village Piligao, Taluka Bicholim, Goa, illegally and unlawfully for storing mined ore and transportation of mined ore through the Sarmanas Jetty. These actions of the Respondent No. 6 and the silence of the Respondent Authorities in taking action is in complete violation of the fundamental rights of the Petitioners as well as other citizens of the State of Goa. It appears that the Respondent No. 6 is undertaking these activities in connivance with some of the agricultural tenants who have arrived in at a private arrangement with the Respondent No. 6. The Petitioner has arrayed some of the tenants as Respondent Nos. 10 to 15. The Petitioner has also made the Respondent No. 8 Communidade of Piligao as a Party Respondent who is the one of the owner of the tenanted lands. Such activity on agricultural tenanted lands are grossly illegal in terms of the prevalent laws in force and the same is in violation of Article 14 and 21 of the Constitution of India. The Petitioner craves leave to add additional parties, if and when necessary.

16. The Petitioner was further informed by the concerned villagers present at the inspection that although the Mamlatdar of

Bicholim had, on prior occasions, undertaken site inspections in relation to the illegal transportation and route deviation, no consequential or remedial action has been initiated by the authorities till date. Upon learning of these regulatory lapses, the Petitioner, acting in public interest, submitted an application dated 17.07.2025 under the Right to Information Act, 2005, seeking copies of all site inspection reports, correspondence, and records pertaining to the subject properties and the transportation route adopted by Respondent No. 6. Pursuant thereto, the office of the Mamlatdar of Bicholim furnished the inspection reports and related documents, which now form part of the present Petition and are relied upon to demonstrate the inaction of the authorities and the continuing breach of Environmental Clearance conditions by Respondent No. 6.



Annexed hereto and marked as ***"Exhibit- C"*** *is the Copy of the Application dated 17.07.2025 addressed by the Petitioner to the Mamltdar, Bicholim.*

17. Similarly, the Petitioner filed several other applications before the other Authorities and is awaiting their response. As on date, the Petitioner has not received the information as sought for and therefore, is filing the present Petition with the information and documents in its possession. The Petitioner craves leave of this Hon'ble Court to refer and rely upon the documents upon receipt of the same.

Annexed hereto and marked as ***"Exhibit- D- Colly"*** *is the Copy of the Applications dated 05.08.2025 addressed by the Petitioner to the Collector, North Goa, Directorate of Mines and Geology, the Town and Country Planning Department and Village Panchayat of Piligao, .*

18. The tenanted lands are identified under various survey numbers, inter alia, Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao (hereinafter collectively referred to as the ***"Said Properties/ Subject Properties"*** for the sake of brevity). The rights of the tenants over the Said Properties are duly recorded in Form I & XIV, and the said properties have been used for

cultivation for several decades. To the best of the Petitioner's knowledge, the lands being used for cultivation since 1940's. The Petitioner, for the sake of illustration and to obviate the record from becoming voluminous, is annexing herewith some of copies of Form I and XIV. The Petitioner craves leave to produce all the Form I and XIVs pertaining to the subject properties by way of additional documents, as and when necessary.



Annexed hereto and marked as ***"Exhibit- E Colly"*** *are the Copies of Form I & XIV.*

19. The Petitioner states that the said properties were used for agricultural activities, predominantly paddy cultivation. Upon being a successful bidder for the mining block in Bicholim, it is clear that the Respondent No. 6 misrepresented to the authorities as far as its mining route till the Sarmanas Jetty is concerned, in as much as the route runs through tenanted agricultural land leading to the Jetty.

20. The Petitioner submits that the Said Properties are categorically classified as tenanted agricultural lands under the Goa Agricultural Tenancy Act, 1964. The Regional Plan for Goa

2021 also classifies these lands as cultivable lands and therefore, are strictly to be used for agricultural purpose only.

Annexed hereto and marked as ***"Exhibit- F"*** *is the Screenshot of the Regional Plan 2021 for the Said Properties of Village Piligao, Bicholim, Goa.*

21. Nevertheless, notwithstanding any provision contained in the Goa Town and Country Planning Act, 1974 or any planning scheme framed thereunder, Section 2 of the Goa Land Use (Regulation) Act, 1991 categorically mandates that no land vested in a tenant shall be used for any purpose other than agriculture. This statutory protection applies with overriding effect, thereby reinforcing the agricultural character and regulating the use of such lands. Accordingly, the Said Properties, being tenanted agricultural lands, are doubly protected under the Goa Land Use (Regulation) Act, 1991, and cannot lawfully be diverted, converted, or exploited for any non-agricultural, industrial, or commercial use. This law has been enacted in public interest to protect the tenanted lands in the State of Goa.

22. This being the position, the Respondent No. 6 is using the Said Properties in connivance with the Respondent authorities and some tenants in blatant violation of the tenancy and land use laws, and thereby utilizing the agricultural lands for activities such as dumping, storage, and transportation of mined ore. Furthermore, Respondent No. 6 has erected unauthorized structures on the Said Properties for the storage of ore, all of which have been undertaken in active collusion and connivance with certain officials of the Respondent Authorities and other local bodies. These illegal commercial operations have not only degraded the agricultural character of the land but have also caused irreparable damage to the tenanted fields. All these activities carried out by the Respondent No. 6 are without any permissions/approvals/NOCs from the Competent Authorities and on that count as well, the Respondent No. 6 is in blatant violation of law.

23. The Petitioner further submits that on Survey No. 150/3, the Respondent No. 6 has unlawfully erected a compound wall and deployed private security personnel. In addition, the sluice gates situated within the Said Properties, which are essential

for irrigation and water management during the cultivation cycle, have been blocked or rendered non-functional due to the said illegal activities, resulting in a significant decline in agricultural productivity. The Petitioner also states that the Sarmanas Jetty, located in close proximity to the Said Properties, is presently being utilized for loading and transportation of ore by Respondent No. 6, further contributing to environmental degradation and directly affecting the usability and viability of the adjoining agricultural lands for cultivation and ecological sensitive areas including the coastal areas.

24. The Petitioner states that following the commencement of mining activities through the agricultural tenanted lands, some villagers and tenants filed lodged complaints with the Authorities highlighting the unlawful commercial exploitation of the Said Properties. Pursuant thereto, the Office of Mamlatdar of Bicholim Taluka issued a Memorandum directing the Talathi of Piligao to conduct an enquiry regarding illegal mine dumps in agricultural lands.

25. Pursuant thereto, the Talathi of Piligao conducted the necessary site inspections and enquiry and thereafter, addressed a letter dated 14.01.2025 to the Mamlatdar of Bicholim Taluka along with the site inspection report conducted on 03.10.2024 and 05.12.2024 and the checklists and photographs prepared by the Talathi dated 14.01.2025. The Mamlatdar of Bicholim, vide Letter dated 28.01.2025 to the Dy Collector, Bicholim, furnished the reports/ enquiry conducted with respect to the said properties. The findings of the inquiry report and site inspection which are as follows:



a. It was found that there were six metal sheets structures over masonry plinth in Survey Nos. 142/10, 11, 12, and 143/14, 15, 16, 17 on the date of inspection.

b. There is a concrete road and mud road in Survey nos. 142/11 & 12, and Tar Road exists in Survey No. 142/12 of Piligao village.

c. On the northern boundary of survey nos. 142/10, 11 & 12, there exist metal sheets fencing and two gates;

*Annexed hereto and marked as **"Exhibit- G"** is the Copy of the Letter dated 28.01.2025 addressed by the Mamlatdar of Bicholim Taluka to the Dy Collector, Bicholim, North Goa along with its enclsoures.*

26. The Petitioners state that the inspection revealed and duly recorded illegal activities being carried out by Respondent No. 6, including unauthorized fencing of agricultural land, illegal dumping and storage of mining material, and construction of structures within the tenanted agricultural areas, all in clear contravention of the Goa Agricultural Tenancy Act, 1964, Goa Land Use (Regulation) Act, 1991 and other applicable land use regulations. The findings of the Mamlatdar unequivocally establish the encroachment and unlawful commercial exploitation of the Petitioners' agricultural lands. Despite these findings, till date the authorities have failed to take any action.

27. Furthermore, this Petitioner learnt from the villagers that the Goa Coastal Zone Management Authority issued a Show Cause Notice to the Respondent No. 6 (formerly known as M/s. Sesa Mining Corporation Ltd.), with respect to the illegal construction of jetties and dock in the property bearing Survey

No. 140/1 of Village Piligao, Bicholim. It appears from the minutes of the GCZMA Meeting dated 05.08.2025 that a joint site inspection had been conducted and gross illegal constructions had been observed in violation of the CRZ notification. The following violations have been observed:



a. There are two jetties in CRZ III (within NDZ);
b. Jetty 1 is made up of concrete material and built on pile foundation;
c. Jetty 2 is made up of fabricated steel material and approx. dimensions of the jetty are 13.75 mts. x 10.5 mtr.;
d. in the dockyard area, there is a concrete protection wall built on bank of the river;
e. in the dockyard area, there is a metal fabricated shed is present;
f. there also exists a retaining wall in the dockyard area.

*Annexed hereto and marked as **"Exhibit- H"** is the Excerpt of the Minutes of the Meeting dated 05.08.2025 by the Goa Coastal Zone Management Authority.*

28. It is respectfully submitted that Survey No. 140/1 of Village Piligao falls within the Coastal Regulation Zone (CRZ) III – Riverine No Development Zone (NDZ), wherein any form of construction or development activity is strictly prohibited under the CRZ Notification, 2011 and subsequent amendments. Despite this prohibition, Respondent No. 6, in collusion with the authorities, has illegally constructed permanent concrete and metal structures on the said land and is carrying out mining-related operations, including the storage of ore in containers and transportation of ore through the jetties. These jetties themselves are unauthorized and are being used to facilitate the unlawful commercial exploitation of ecologically sensitive and protected land, in brazen violation of CRZ norms and environmental laws.

29. It appears that subsequently, more complaints were filed by some of the villagers and tenants with the Collector and Mamlatdar with respect to the illegal activities in tenanted agricultural lands by the Respondent No. 6. Pursuant thereto, a fresh memorandum was issued to conduct site inspection in the said properties. The Talathi, Piligao, conducted site inspection

on 17.06.2025 and submitted its Report dated 20.06.2025 to the Mamlatdar of Bicholim along with the site inspection report and other material. The Mamlatdar, Bicholim, addressed a Letter dated 23.06.2025 to the Dy Collector, North Goa District, informing it that the site inspection had been carried out and enclosed all the reports and material therewith.

*Annexed hereto and marked as **"Exhibit- I"** is the Copy of the Letter dated 23.06.2025 addressed by the Mamlatdar of Bicholim Taluka to the Dy Collector, Bicholim, North Goa along with its enclosures.*

30. The Petitioner states that, during the above site inspection, Respondent No. 4, the Mamlatdar, confirmed the existence of a mud road being used by Respondent No. 6 for the transportation of ore through tenanted lands. This mud road traverses multiple survey numbers, including Survey Nos. 143/19, 143/21, 143/26, 148/0, and 142/1 to 142/12. The inspection revealed significant encroachments, including 262 square meters in Survey No. 142/10 and 1,263 square meters in Survey No. 142/12. A follow-up inspection further confirmed that Respondent No. 6 had constructed six unauthorized metal

sheet structures on masonry plinths across Survey Nos. 142/10 to 142/12 and 143/14 to 143/17, among others. There are photographs enclosed with these reports which further evidences the degradation of the agricultural tenanted and cultivable lands.

31. The Petitioner respectfully submits that all the joint inspection reports unequivocally establish the unauthorized and illegal use of tenanted agricultural lands by Respondent No. 6 for non-agricultural and commercial/industrial activities, in blatant violation of applicable land use and tenancy laws. Despite the availability of clear evidence confirming these violations, the concerned authorities have failed and neglected to take any effective action to prevent or remedy the illegality, thereby enabling the continued degradation of the tenanted lands. The complaints by the villagers and farmers, though culminating into site inspection reports, have not fructified into any action by the Respondent Authorities.

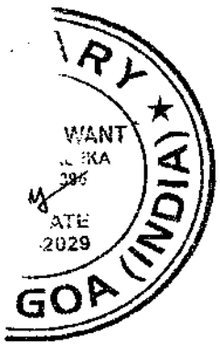
32. The Petitioner further submits that the widespread mud-filling activity across multiple survey numbers, undertaken without any statutory permissions or approvals, amounts to a deliberate

and premeditated attempt by Respondent No. 6 to alter the character and classification of the agricultural land in violation of land use and tenancy laws. It is submitted that low lying cultivable lands have been filled up by the Respondent No. 6 without obtaining any permission under Section 17 A of the Town and Country Planning Act, 1974, which is in complete violation of the prevalent laws in force.



33. The Respondent No. 6 is in complete violation of the provisions of the Goa Town and Country Planning Act, 1974, Goa Land Use Act (Regulation) 1991, Goa Land Revenue Code, 1968, Goa Agricultural Tenancy Act, 1974, Goa Panchayat Raj Act 1994, Goa Building Regulations 2010, Air and Water Act, etc. The Respondent Authorities have turned a blind eye and permitted the Respondent No. 6 to conduct its illegal activities in complete contravention of law. In view of the inspection Reports, the Collector and Mamlatdar ought to have taken action in view of their findings, however, it appears that the authorities are hand in gloves with the Respondent No. 6 and hence, till date no action has been taken.

34. Hence, being aggrieved by the action of the Respondents, the Petitioners herein has preferred the present Petition on the following grounds which are set out herein below without prejudice to each other: -



GROUNDS

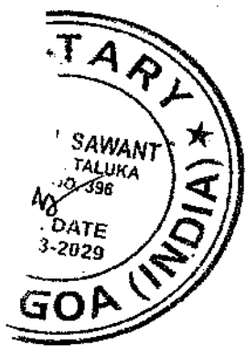
a) The actions and omissions of the Respondents, particularly the illegal and unauthorized commercial/industrial exploitation, and environmental degradation of the tenanted agricultural lands by Respondent No. 6, coupled with the deliberate inaction of the State authorities despite complaints from the villagers, constitutes a gross violation of the Petitioner's fundamental rights guaranteed under the Constitution of India. The Petitioner's right to livelihood and clean and green environment, which is an integral facet of the right to life under Article 21, is being directly infringed by the illegal conversion and destruction of agricultural land by those who are entrusted with protecting the environment.

32

b) Further, the arbitrary inaction by Respondent Nos. 1 to 5, 7 and 9 despite the existence of clear and undisputed evidence of encroachment and illegality, amounts to a violation of Article 14, as the Respondent No. 6 is being permitted by the Respondent Authorities to continue the exploitation of agricultural tenanted lands, without complying with any provision of law. The Authorities are constitutionally obligated to act fairly, reasonably, and are bound to enforce the law. Their failure to discharge statutory duties, while allowing a private party to violate tenancy, land laws, building regulations and environmental laws with impunity, results in hostile discrimination and an abuse of public power and hence, the continued inaction and tolerance of such illegality by the Respondents infringe upon the Petitioner's fundamental rights under Articles 14 and 21, warranting the invocation of this Hon'ble Court's writ jurisdiction under Article 226.

c) That despite several complaints by the villagers and consequent site inspections undertaken by the Mamlatdar (on two different occasions) which records the illegalities,

Respondent Nos. 1 to 5, 7 and 9 (including the Collector and concerned authorities) have utterly failed to discharge their statutory duties to take action against the illegal activities of Respondent No. 6. The inaction of the statutory authorities amounts to dereliction of duty and failure to enforce the applicable land laws, thereby warranting the intervention of this Hon'ble Court by issuance of a writ of mandamus.



d) The Petitioner submits that the action of the Respondents are completely discriminatory, malafide and arbitrary in as much as the Respondent Nos. 1 to 5, 7 and 9 has failed to take any action against the Respondent No. 6 despite the site inspection report recording structures and other commercial activities on the agricultural tenanted lands. The Authorities ought to have immediately stopped all commercial and industrial exploitation of the agricultural lands. Failure to do so, has resulted in lands being completely unfit for cultivation.

e) The continued illegal use of the tenanted land for non-agricultural and commercial purposes violates the Petitioner's fundamental rights under Article 14 and 21 of

the Constitution. The inaction of the Respondents is blatant and evident, effectively rendering the entire framework of planning and environmental laws nugatory and devoid of any meaningful enforcement.

f) That the actions of Respondent No. 6, facilitated and perpetuated by the inaction of Respondent Nos. 1 to 5, 7 and 9 are in clear violation of the Goa Agricultural Tenancy Act, 1964, which expressly prohibit the conversion or use of tenanted agricultural land for any non-agricultural purpose without the prior consent of the tenant and without following due legal process. The unlawful commercial / industrial exploitation of the tenanted lands by Respondent No. 6, coupled with the deliberate failure of the concerned authorities to enforce the statutory protections under the said Act, amounts to a direct infringement of the tenancy laws and undermines the legislative intent behind the Tenancy Act.

g) That the failure of the State machinery to act in the face of blatant illegality amounts to arbitrary exercise of power and discrimination in violation of Article 14 of the Constitution

of India. The selective inaction of authorities is violative of the principles of equality before the law and equal protection of laws and it appears that the Respondents are hands in glove with the Respondent No. 6.

h) It is submitted that the State is the trustee of all natural resources, which are meant for public use and enjoyment. The failure of the Respondents to prevent the illegal occupation, construction and misuse of agricultural tenanted land, which is a critical natural resource, amounts to a breach of the public trust doctrine as recognised and therefore, the Respondents are required to immediately restore the lands to the Petitioners.

i) That the Respondent No. 6 has undertaken commercial/industrial activities and construction activities on agricultural land without any lawful authority, or any permission or approval under the Town and Country Planning Act, Village Panchayat Act, Building Regulations 2010, or Goa Land Revenue Code and therefore, all actions of the Respondent No. 6 are illegal and unlawful.

j) That the Respondent Nos. 1 to 5, 7 and 9 have failed in their constitutional and statutory duties to safeguard the rights of lawful tenants and protect agricultural land from unauthorized encroachment and illegal activities despite several representations.

k) It is submitted that if a land is classified for agricultural purposes under the Regional Plan then the unauthorized commercial/industrial use without following due procedure under the Goa Land Revenue Code, is illegal and on this count itself, the Respondents are required to be directed to restore the lands to its original state.

l) It is submitted that for putting any agricultural land to non-agricultural use one is required to obtain a conversion sanad under Section 32 of the Land Revenue Code, 1968. In the present circumstances, the Respondent No. 6 has not obtained any conversion sanad and is using the agricultural lands for storing, processing, and transportation of ore which is completely illegal and impermissible in law and hence, the activities of the Respondents are required to be declared illegal and stopped forthwith. It is respectfully

submitted that, in terms of Section 32 of the Goa, Daman and Diu Land Revenue Code, 1968, no agricultural land can be put to any non-agricultural use without obtaining a prior conversion sanad from the competent authority. In the present case, Respondent No. 6 has not obtained any conversion sanad and is unlawfully utilizing the agricultural tenanted lands for the purposes of storing, processing, and transporting ore. Such activities are wholly illegal, unauthorized, and in clear violation of the statutory mandate. In these circumstances, the ongoing illegal use of the agricultural lands by Respondent No. 6 is required to be declared illegal and the said activities must be stopped forthwith under the directions of this Hon'ble Court.

m) That Respondent No. 6 has commenced and is continuing the illegal construction on the agricultural tenanted lands without obtaining any prior permission or development approval from the Town and Country Planning (TCP) Department as mandatorily required under the Goa Town and Country Planning Act, 1974. Any construction or development activity undertaken on an immovable property

without such permission is ex facie illegal and liable to be demolished. The failure to obtain TCP approval renders the activities of Respondent No. 6 wholly unauthorized and in violation of statutory provisions. However, the authorities have in this case, decided to remain silent and have failed to take any action.

n) That Respondent No. 6 has failed to obtain the necessary sanctions, approvals or technical clearance as required under the applicable Goa Building Regulations 2010 for construction activities or development in the subject properties. The construction carried out without adherence to building codes, safety norms, and regulatory standards is illegal, unsafe, and liable to be prohibited. The continued use of the agricultural lands in contravention of these regulations undermines the statutory safeguards put in place to ensure planned and lawful development.

o) That Respondent No. 6 has not obtained the mandatory construction licence, or any other requisite permissions from the local Village Panchayat as required under the Goa Panchayat Raj Act, 1994. In the absence of

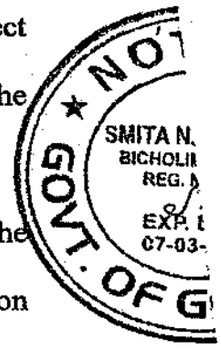
such approvals, the activities of Respondent No. 6 on the Petitioners' lands are entirely unauthorized and illegal. The unauthorized use and occupation of the said lands without Panchayat permissions is liable to be immediately restrained and action is required to be taken by the statutory authorities in accordance with law.



p) The Respondent No. 6 has not obtained any Consent to Establish or Consent to Operate from the Respondent No. 7 to undertake mining activities including storing and transportation from the said properties which are cultivable lands. Additionally, the Respondent No. 6 has failed to obtain any Consent to Establish or Operate from the Respondent No. 7 for the Jetty which is being used for transportation. In these circumstances, the Respondent No. 7 ought to have taken action in terms of law against the Respondent No. 6 who is acting in complete violation of environmental norms.

35. The Petitioner has not filed any other petition on the same subject matter before the Supreme Court of India or in this Court except the present Petition. However, as a matter of

abundant caution, though not connected with the present issue, the Petitioner has filed an Original Application No. 65/2025 before the Hon'ble National Green Tribunal (WZ) with respect to Non-EC sanctioned route for transportation by the Respondent No. 6.



36. **Source of Information:** The Petitioner states that the Petitioner sought for Information vide Right to Information Applications addressed to the Public Information Officer of various departments as stated herein above and placed on record. The Petitioner has received certain information from online sources and government websites. The Petitioner received the information which is enclosed herewith. The Petitioner has filed multiple other applications seeking information on the same subject matter and shall produce the same as and when the same is received. The Petitioner has placed on record other documents which he has received from the websites in public domain.

37. **Injury Apprehended:** The Petitioner submits that the State of Goa, being an ecologically sensitive region with pristine forests, sensitive hill slopes, and vital river systems, has

received environmental and regulatory protection. Several judgments of the Hon'ble Supreme Court and this Hon'ble Court have emphasised the paramount importance of sustainable development and strict adherence to environmental and land-use norms in the State. This Hon'ble Court in *Pilerne Citizens Forum v. State of Goa & Ors.*, 2010 SCC OnLine Bom 1494, has held that tenanted lands cannot be diverted to non-agricultural use without the sanction of the competent authority under the Tenancy Act, and any such unauthorised use is null and void. The statutory intent is to safeguard the tenure and the agricultural character of such lands, and to prevent their exploitation for commercial or industrial activities to the detriment of tenants' rights and public interest. In the present case, the utilisation of tenanted property for mining transportation and storage, being non-agricultural in nature and undertaken without lawful sanction, is in direct contravention of the protective mandate of the Tenancy Act and liable to be restrained.

38. However, in the present case, the actions of Respondent No. 6, a private mining operator, demonstrates a flagrant disregard for

binding legal and regulatory frameworks. The Respondent No. 6 has with apparent administrative acquiescence, engaged in illegal storing and transportation of mined ores in large tracts of agricultural lands, which are in complete violation of the applicable land laws and local planning regulations.

39. The Petitioner apprehends that such violations, if allowed to continue unchecked, will set a dangerous precedent whereby well-financed corporate entities can circumvent environmental safeguards and regulatory obligations with impunity, irrespective of the position of the law. This unchecked defiance of the rule of law undermines the foundational principle of equality before the law enshrined under Article 14 of the Constitution of India.

40. In these circumstances, immediate and urgent intervention by this Hon'ble Court is warranted to prevent further environmental degradation, to uphold the sanctity of the law, and to protect the rights of present and future generations to a clean and safe environment under Article 21 of the Constitution.

41. **Interim Relief:** In view of the foregoing facts and circumstances, the Petitioner respectfully prays that this Hon'ble Court may be pleased to grant interim reliefs in the interest of justice and to prevent further irreparable injury to the environment and the local community. It is submitted that unless restrained, Respondent No. 6 will continue to carry out mining operations, storage of mined ore and transportation of ore in brazen violation of the applicable land and environmental laws. Such continued illegal activity will result in irreversible environmental degradation of agricultural tenanted lands, compromise public safety, and embolden further regulatory violations. Accordingly, the Petitioner prays that this Hon'ble Court may be pleased to forthwith restrain Respondent No. 6 from using any part of the agricultural tenanted lands and the Sarmanas Jetty, for either storing or transportation of mined ore and restore the said properties to their original conditions.

42. **Representation:** The Petitioner has not made any representation to the Respondent Authorities and has had to directly approached this Hon'ble Court with utmost urgency as

despite multiple complaints and site inspection reports, the Respondent Authorities have failed to take any action which has resulted in continuous violation by the Respondent No. 6. Additionally, the Respondent authorities have failed to act on the complaints/representations made by the villagers/farmers of Piligao and the site inspection reports issued by the Mamlatdar, Bicholim.



43. **Delay, if any, in filling the Petition:** The Petitioner states that there has been no delay on the part of the Petitioner herein in approaching this Hon'ble Court. The Petitioner learnt of that the Respondent No. 6 is undertaking storing and transportation of mined ore in agricultural tenanted lands in the month of July 2025. The Petitioner immediately began applying for information and has approached this Hon'ble Court with utmost urgency, to prevent any further irreversible damage to the tenanted agricultural lands. The Petitioner had been awaiting to receive information from other authorities, however, since no information has been received, the Petitioner is immediately moving this Hon'ble Court.

44. **Documents relied upon:** The Petitioner states that the Annexures filed along with the present petition are the true copies of the originals and the petitioner craves leave to refer and rely on the said annexures as if the same form a part and parcel of the present Petition.

45. **Jurisdiction:** The Petitioner submits that this Hon'ble Court has Jurisdiction to adjudicate the present Petition.

46. **Caveat Statement:** The Petitioner states that the Petitioner is not in receipt of any caveat notice from the Respondents.

47. The Petitioner states that the Petitioner has paid the requisite court fee with respect to the present Petition.

48. The Petitioner submits that the Petitioner has approached this Hon'ble Court in the larger Public Interest and in urgency without any delay. The Petitioner submits that considering the urgency of the matter the Petitioner does not have any other alternative efficacious remedy, and the reliefs prayed for herein if granted will be complete in themselves.

49. The Petitioner craves leave of this Hon'ble Court to amend the Petition by adding or deleting the paragraphs as and when found necessary.

50. The Petitioners therefore prays as follows:

PRAYERS

a. That this Hon'ble Court be pleased to issue a Writ of Mandamus or any other appropriate Writ, Order, or Direction, directing Respondent Nos. 1 to 5, 7 and 9 including the Collector and other concerned authorities, to forthwith take appropriate action in accordance with law to prevent further exploitation/use and the illegal activities of Respondent No. 6 and further forthwith restrain the Respondent No. 6 by using the said properties by sealing the entire area in Survey Nos. Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao of Village Piligao, and to protect the agricultural tenanted lands;

b. That this Hon'ble Court be pleased to issue an appropriate writ, order, or direction restraining Respondent No. 6, its agents, servants, representatives, or any person claiming through or under it, from continuing any further

construction, storage, transportation, or any other use of the agricultural tenanted lands in Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao, Bicholim, Goa;



c. That this Hon'ble Court be pleased to direct Respondent No. 6 to forthwith remove all construction, materials, and goods from the agricultural tenanted lands in Survey Nos. Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao, Bicholim, Goa and to restore the lands to their original condition;

d. Pending hearing and Final disposal of the Petition, this Hon'ble Court be pleased to forthwith restrain the Respondent No. 6, its agents, representatives, or any person claiming through or under it, from any exploitation or use of the lands in Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao and direct the Respondent Nos. 1 to 5, 7 and

9 to immediately seal the areas in Survey Nos. 142/1 to 142/12, 143/1 to 143/30, 145/1 to 145/97, 146/1 to 146/87, 147/1 to 147/65, 148/0, 149/1 to 149/1 to 149/69, and 150/1 to 150/90 of Village Piligao Bicholim, Goa;

e. Ex Parte Ad interim reliefs in terms of prayer clause (d) hereinabove;

f. That this Hon'ble Court be pleased to pass such other and further orders as may be deemed just and proper in the facts and circumstances of the present case.

Place: Panaji – Goa

Date: 04.09.2025

PETITIONER

VERIFICATION

I, Mr. Sandeep Salelkar, Son of Mr. Datta Salelkar, 53 years of age, Indian National, Resident of #02, Bag Wada, Pilgao, Bicholim, North Goa, Goa, 403504, the Petitioner herein above, do hereby state on solemn affirmation that the contents of the above paragraph nos. 1 to 50 are based on records available with the

Petitioner which the Petitioner believes to be true and correct and is based on legal advice.

Verified at ~~Panaji~~ Bicholim – Goa }

On this 4th day of September 2025 }

DEPONENT

BEFORE ME

04/09/2025

SMITA N. SAWANT
Advocate & Notary Public
Reg. No. 396/2024
1014, Nagzarwada, Bicholim Goa
Mob: 7387521419

Annexure A-8



IN THE HON'BLE HIGH COURT OF BOMBAY AT GOA

PILWP/6 /2024

THE MULAKH KHAJAN FARMERS ASSOCIATION AND ANR. ...PETITIONERS

V/S

DIRECTOR OF MINES AND GEOLOGY, GOVERNMENT OF GOA & ORS

...RESPONDENTS

ADDITIONAL AFFIDAVIT-IN-REPLY IN RESPONSE TO AFFIDAVIT DATED 14/06/2024 FILED BY PETITIONER NO. 2

MOST RESPECTFULLY SHOWETH:-

I, Mr. Benecio Menezes, 56 years of age, Indian National, having residence at St. Roque Waddo, Colvale, Bardez, Goa, Authorised Signatory of Applicant Company, do hereby on solemn affirmation state and submit as under:-

1. The said affidavit is also filed by Petitioner No. 2 in response to the application filed by the Applicant (Vedanta) in the above Application and it is in that context that he applicant herein seeks leave to file the additional affidavit.



2. In the said affidavit, Petitioner no. 2 has adverted to the aspect of potential trips per hour that will be undertaken by the Applicant herein for transportation of ore and for the said purpose reliance is placed on the corrigendum dated 06/06/2023 to the memorandum dated 05/04/2023. Petitioner no. 2 has suppressed the memorandum dated 05/04/2023 which has to be read with the corrigendum dated 06/06/2023 to understand the nature and the import of the original memorandum. It was incumbent upon the Petitioner no. 2 to place on record the original memorandum in the context of the assertions made in the affidavit. The memorandum dated 05/04/2023 along with

the corrigendum is annexed hereto and marked as **ANNEXURE A-1 (COLLY).**



3. A mere perusal of the original memorandum demonstrates that the said memorandum read with the corrigendum is not applicable to the Applicant. The said memorandum facially and textually applies to winning bidders/firms who are owning auctioned ore at primary/original locations and are transporting the said ore from time to time. Applicant herein is the successful auction bidder in the auction conducted by the State Government in respect of BICHOLIM BLOCK Mine. In pursuance to the same, a lease deed dated 22.03.2024 is executed by the State government in favour of the Applicant and the Applicant has commenced mining operations. In the instant case, the ore in respect of which transportation permit is granted by DMG and Goa State Pollution Control Board is mined in the subject mine in pursuance to the above lease. Applicant is not a winning bidder/firm of the auctioned

ore as contemplated in the memorandum. Applicant falls in a different category as compared to the bidders or the winning bidders in the ore e-auctions conducted by DMG for the following amongst other reason:



i. Unlike the e-auction winners, Applicant has an environment clearance dated 23/01/2024 granted by MOEF, which is annexed herewith as **Annexure A-2**. The said clearance was granted by an expert agency after a comprehensive and elaborate scrutiny process which involves public hearing.

ii. Unlike the e-auction winners, the route approved by the DMG and GSPCB was also considered and endorsed by MOEF at the time of grant of EC. MOEF is the principal authority in respect of scrutiny of the mining approval process which includes the transportation route.

iii. The aspect of number of trips is also factored in and scrutinized by the expert agencies including MOEF at the time of grant of EC. It bears mentioning that the

EC is granted for production of iron ore of 3 million tons per annum and utilization of the said capacity has a direct bearing on the feasibility and productibility of the mining operations and formed a fundamental basis at the time of evaluation of the commercial viability of the operations.

4. After the grant of EC by MOEF, the Applicant has also obtained the Consent to Operate (CTO) dated 04/03/2024 from the Goa State Pollution Control Board (GSPCB), which is annexed herewith as **Annexure A-3**. The CTO provides for Conditions Stipulated under the Air Act at Sr. No. (xv) to (xxiv) which are required to be complied with for transportation of iron ore. The Applicant has also got its transportation route approved from the Directorate of Mines & Geology and thereafter from GSPCB as per the Order dated 22/04/2024 of this Hon'ble Court. The affidavit dated 08/05/24 filed by the GSPCB while approving the transportation route of the Applicant also

stipulates Recommendations for Pollution Safeguards at Exhibit R-1 which the Applicant is willing to comply with in the course of its transportation of iron ore from Bicholim mine to Sarmanus Jetty. Having obtained all these consents and approvals from MOEF & GSPCB including the transportation route approval by DMG & GSPCB as per the Order of this Hon'ble Court dated 22/04/2024 the Applicant cannot be made to comply with memorandum read with the corrigendum which is applicable over the winning bidders/firms who are owning auctioned ore at primary/original locations and are transporting the said ore from time to time.



5. It is also important to mention that compliance with the EC conditions, CTO conditions & additional Recommendations for Pollution Safeguards at Exhibit R-1 of GSPCB Affidavit dated 08/05/24 are more than sufficient to safeguard public interest involved in the transportation of iron ore.

6. In light of above, Applicants application stands on a separate pedestal and the parameters applicable to the Applicant and the e-auction winners are different. The memorandum dated 05/04/2023 is not applicable to the Applicant. It bears mentioning that the Applicant has paid an amount of 230.33 crores to the State Government in anticipation of timely commencement of mining operations which includes transportation for export and captive purposes. On account of the orders passed in the above matter there is a deficit of about 6 months in the quantum of ore to be transported in terms of the per annum capacity which is causing substantial prejudice to the Applicant. The details of Rs. 230.33 crores (Rupees two hundred and thirty crores and thirty three lakhs only) already paid to the State Government for Bicholim Block along with the Bank Guarantee of Rs. 135.83 crores (Rupees one hundred and thirty five crores and eighty three lakhs only) is as under:



a) BANK GUARANTEE: Rs. 135.83 crs

b) UPFRONT PAYMENT: Rs. 135.83 crs

c) STAMP DUTY: Rs. 90 crs

d) REGISTRATION CHARGES: Rs. 4.5 crs.

7. Any hourly trip restriction shall prevent the Applicant from achieving the 3 million ton per annum iron ore production capacity mentioned in the EC and therefore, the same shall act counterproductive to the State Exchequer as the State Government shall be deprived of substantial revenue in the form of royalty, auction premium, DMFT & NMET contribution.

8. Any unwarranted or misconstrued linkage of the memorandum with mining leases granted by the State Government and having the necessary permissions & approvals (EC, CTO etc.) as sought by the Petitioners shall have severe implications on the contributions to the State Exchequer and engagement/ employment of individuals in the State of Goa directly & indirectly.

9. The details regarding amount to be contributed to State Exchequer by the Applicant, employment/ engagement at stake and impact on the truck drivers is as under:



(i) AMOUNT TO BE CONTRIBUTED TO STATE EXCHEQUER - The total revenue loss to the Government of Goa due to non-transportation of iron ore from Bicholim Block in the form of Royalty, DMF, NMET, Premium etc. is Rs. 800,00,00,000 (Rupees eight hundred crores only) per annum approx.

(ii) EMPLOYMENT/ ENGAGEMENT AT STAKE - The operations of the Applicant, including mining, transportation, and processing, directly and indirectly employ & engages a significant number of individuals. The total number of people employed & engaged by the Applicant directly &

indirectly and dependent upon the operation of Bicholim Block for their livelihood is 1250 approx.

(iii) IMPACT ON TRUCK DRIVER - The Applicant's operations rely on a network of truck drivers for transportation of iron ore. The implementation of the relief sought in the Application may have an impact on the livelihoods of these truck drivers. The total number of truck drivers likely to be impacted is 185 approx.

10. I say that the contents of para 1, 2, 3 and 4 are true to my own knowledge and/or based on records.

Solemnly affirmed at ~~Porvorim~~ Panaji, Goa
On this 17th day of June 2024

BEFORE ME

SHRI FRANCIS D'SOUZA
NOTARY FOR TISWADI TALUKA
STATE OF GOA (INDIA)

DEPONENT

NOTARY
Francis D'Souza
Reg. No. 323
TISWADI - TALUKA
Expiry Date:
28.2.2029
NOTARIAL NOTARIAL NOTARIAL
GOVT OF GOA (INDIA)

GOA (INDIA)

hereby attest the above signature/s of
Shri/Smt./Miss. Bineeta Agnes Fernandes
Who has been identified before me
by ..... who is personally known to me
registered under No. 755/2024
Dtd: 17.06.2024

ADV. FRANCIS D'SOUZA
NOTARY
KAMAKSHI PRASAD BLDG
THIRD FLOOR, FLAT NO. 304
PATTO, PANAJI
TISWADI GOA - 403 001

IN THE HIGH COURT OF BOMBAY AT GOA

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 199 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 215 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024
WITH
MISC. CIVIL APPLICATION NO. 1216 & 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
AND
MISC. CIVIL APPLICATION NO. 1416 OF 2024 (F)
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com.

... Petitioners

WITH

2024:BHC-GOA:1036-

MISC. CIVIL APPLICATION NO. 199 OF 2024
IN
PUBLIC INTEREST LITIGATION WP NO. 6 OF 2024

Surakshit Distributors Pvt. Ltd., a Company incorporated under the Companies Act, 1956, having its office at Unit No. 306, 3rd Floor, Gera Imperium Grand, EDC Complex, Patto Plaza, Panaji, Goa, and represented herein by its Authorised signatory, Mr. Sushil Khandelwal.

... Applicant

IN

1. The Mulakh Khajan Farmers Association, with office at Haldanwadi, Mayem, Bicholim, Goa – 403504, through its Secretary, Mr. Sakharam Anant Pednekar, age 58 years, H. No. 766, Gaonkarwada, Mayem, Bicholim, Goa – 403504, Approx. Annual Income – Rs. 1,20,000/-. Aadhar No. 439600055987, Mobile – 9767050503.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, age 75 years, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507, PAN No.AAAAG0249C, Income : Rs – 10 – 15,00,000/- p.a. (approx.) Registration No. - 23/Goa/86, Email id: goafoundation@gmail.com.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, Secretariat, Porvorim, Goa, 403 521.

3. The Deputy Collector and SDO Bicholim, Bicholim, Goa – 403 504.

4. The Mamlatdar Bicholim, Office of the Mamlatdar, Bicholim, Goa – 403 504.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa – 403 504.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa, 403 511.

7. M/s. Blueglobe Exports Private Limited, B-3, F-1, Prudential Paradise, Peddem, Mapusa, Goa – 403 507. ... Respondents.

WITH

MISC. CIVIL APPLICATION NOS. 215 AND 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

... Applicant

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar, H. No. 776, Gaonkarwada, Mayem, Bicholim, Goa – 403504.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa,

Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

WITH
MISC. CIVIL APPLICATION NO. 1216 OF 2024 (F)
IN

2024:BHC-GOA:1036-

MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

... Applicant

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Narendra Vinayak P. Gaoncar, aged about 50 years, Son of late Vinayak P. Gaoncar, R/o. Pilgao, Bicholim, Goa. ...Applicant/ Intervener

WITH
MISC. CIVIL APPLICATION NO. 1217 OF 2024 (F)
IN
MISC. CIVIL APPLICATION NO. 239 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City

2024:BHC-GOA:1036-

MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant Pednekar. ... Applicant

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi, 110 003. ... Respondents.

AND

Shri Trivikram Govind Prabhu Gaunkar alias Prabhugaonkar, aged about 47 years, son of Govind Vasudev Prabhu Gaunkar, R/o. H. No. 76, Pilgao, Bicholim, Goa 403 504 ...Applicant/ Intervener

AND

MISC. CIVIL APPLICATION NO. 1416 OF 2024
IN
PUBLIC INTEREST LITIGATION WRIT PETITION NO. 6 OF 2024

Vedanta Limited, A public company duly incorporated under the provisions of the Indian Companies Act, 1956, having its registered office at 1st Floor, C wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East) NA Mumbai , Mumbai City MH 400093 IN. Having local office at Sesa Ghor, 20 EDC Complex, Patto, Panaji, Goa, 403 001, Represented in this petition through its authorised signatory, Mr. Benecio Menezes, 56 years of age, Indian National, Having residence at St. Roque Waddo, Colvale, Bardez, Goa.

IN

1. The Mulakh Khajan Farmers Association, through its Secretary Sakharam Anant ... Applicant

Pednekar.

2. The Goa Foundation, through its Secretary Dr. Claude Alvares, having Regd. Office at Room No. 7, Above Mapusa Clinic, Mapusa, Goa – 403507.

Versus

1. The Director of Mines and Geology, through its Director, Ground Floor of Institute Menezes Braganza, Panaji, Goa – 403 001.

2. The State of Goa, through its Chief Secretary, having office at the Secretariat Complex, Porvorim, Bardez, Goa.

3. The Deputy Collector and SDO Bicholim, Office of the Deputy Collector and SDO, Bicholim, Bicholim, Goa.

4. The Mamlatdar, Office of the Mamlatdar, Bicholim, Goa.

5. The Bicholim Police Station, through its Police Inspector, Bicholim, Goa.

6. The Goa State Pollution Control Board, through its Member Secretary, near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Goa, 403 511.

7. Blueglobe Exports Private Limited, through its Director, B-3, F-1 Prudential Paradise, Peddem, Mapusa, North Goa, GA – 403 507 In.

8. The Union of India, through the Secretary, Ministry of Environment, Forests and Climate change, Government of India, Indira Paryavaran Bhavan, Jor Bagh Road,

2024:BHC-GOA:1036-

Aliganj, New Delhi, 110 003.

... Respondents.

AND

1. Shankar Chandrakant Jalmi, aged 25.

2. Savlo Raghu Kavlekar, aged 49, both major, residents of H. No. ...., Bagwada, Pilgao, Bicholim, Goa.

3. Sudhakar Vasudev Vaignkar, Age 43, major, resident of H. No. 65,Bagwadao, Bicholim, Goa.

4. Govind Shankar Kavlekar, age 62, major, resident of H. No. 23, Gaonkar Wada, Pilgao, Bicholim, Goa. ...Applicant/ Interveners

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Ms. Norma Alvares, Advocate *with Mr. Om D'Costa, Advocate for the Petitioners.*

Mr Y. V. Nadkarni, Advocate *with Mr Nilay Naik and Ms. Simran S. Khadilkar, Advocate for the Applicant in MCA No. 199/2024.*

Mr. D. Pangam, Advocate General *with Mr. Deep Shirodkar, Additional Government Advocate for Respondent nos. 1 to 5.*

Mr. Manish Salkar, Government Advocate *for Respondent no.6-GSPCB.*

Mr. Raviraj Chodankar, Central Government Standing Counsel *for the Union of India-Respondent No.8.*

Mr. A. D. Bhobe, Advocate *with Ms. A. Fernandes Advocate for Respondent No. 9.*

2024:BHC-GOA:1036-

Mr. Janak Dwarkadas, Senior Advocate *(Through V.C.) with Mr. Shivan Desai, Mr. A. Gosavi, Advocate with Ms. Krupa Naik and Mr. Guruprasad Naik, Advocates for the Interveners-Applicants in MCA No. 215/2024 and MCA No. 239/2024.*

Mr. H. D. Naik, Advocate *for the Applicant in MCA No. 1216/2024(F) and MCA No. 1217/2024(F).*

Mr. Nigel Da Costa Frias, Advocate *with Ms. Sonadevi Nishad and Mr. Shane Coutinho, Advocates for the Applicants-Interveners in MCA No.1416/2024(F)*

CORAM: M. S. KARNIK &
VALMIKI MENEZES, JJ.

RESERVED ON : 26th JUNE 2024
PROUNOUNCED ON : 29th JUNE 2024

JUDGMENT (*Per M. S. Karnik, J.)*

1. We have taken up this petition for final disposal in view of the earlier order passed and with the consent of all parties.

2. It is the case of the petitioner that the otherwise tranquil situation in the village will be jeopardised as a result of the large scale transportation of mineral ore. The safety of the villagers, and that of the school going children will be endangered with the sudden increase in the traffic of trucks/tippers carrying the ore. The resultant noise pollution as well as the environmental pollution resulting from such unwarranted intrusion in the serene and peaceful environs of the village is in complete conflict with the cherished principles of

2024:BHC-GOA:1036-

fundamental right enshrined by Article 21 of the Constitution of India. The submission is that this massive invasion will completely disturb the equilibrium of the village which serves only the business interests of the project proponent to the detriment of the villagers. The villagers say that they do not deserve such intrusion.

3. The concern expressed by the villagers is genuine. On one hand are the fundamental rights of villagers and on the other are the economic interests of the State as well as the rights of the project proponent. These are competing interests in conflict with each other.

4. It goes without saying that it is the foremost duty of the State to work towards achieving and maintaining a fine balance between competing interests taking into account various myriad considerations. Present is a case where there is an apparent conflict between the fundamental rights of the villagers and that of the State. The State finds mining and as a consequence transportation necessary to further its economic interest for the development of the State. A conflict in the present case has arisen between the right to life under Article 21 of the Constitution of India on one hand and Article 19(1)(g) of the Constitution of India on the other. The villagers claim a right to a dignified existence in a safe pollution free environment. The State asserts its economic right necessitating such transportation which villagers submit amounts to bulldozing the otherwise peaceful life

2024:BHC-GOA:1036-

which they are accustomed to for a long time. The task of achieving this fine balance is surely a difficult one as observed by His Lordship in **K. S. Puttaswamy (Aadhaar-5J) vs. Union of India[1].** The observations which form a part of a dissenting opinion in **K. S. Puttaswamy** (supra) are significant. An ideal situation would be one which would preserve the core of the right for both sets of citizens whose entitlements to freedom appears to be in conflict. Realistically, drawing balances is not a simple task. Balances involve sacrifices and the foregoing of entitlements.

5. While forming an opinion, we have extensively sought guidance from the aforementioned decision of the Supreme Court and the observations in **Rajeev Suri vs. Delhi Development Authority & Ors.**[2], which we have referred to in the later part of our order.

6. Let us now consider the facts of the present case. Our attention is invited to the interim order dated 17.01.2024 and the subsequent orders passed during the pendency of the petition. This petition raises an important issue in the public interest about the transportation of mineral ore by road through the village of Mayem. The petition as filed was limited to the problems to be faced by village 'Mayem'

1 (2019) 1 SCC 1

2 (2022) 11 SCC 1

2024:BHC-GOA:1036-

7. By subsequent orders, the scope of the petition was expanded to the transportation of ore through the villages in Goa. The State of Goa and the project proponents opposed restrictions in the transportation of ore through the village roads asserting their rights on the basis of valid permissions and right to carry on business. Examination of such conflicting interests is surely not an easy task. How do we achieve the right balance while considering competing interests in the present case; does such transportation pass the muster of the relevant legislations; what should be the safeguards; are the measures to mitigate the perils of transportation through village roads adequate, are questions which arise for our consideration. Please show compassion to those living in the villages is the fervent plea of Ms. Norma Alvares, learned counsel for the petitioner.

8. The petitioners contended that the permissions granted by the Goa State Pollution Control Board ('*GSPCB'*, for short), and the Director of Mines and Geology ('*DMG*', for short), were without any application of mind to several relevant considerations, including, but not restricted to the conditions referred to in the Office Memorandum (OM) dated 29.10.2014, issued by the Ministry of Environment, Forests and Climate Change (Annexures to the petition at pages 40 and 42 of the paper book) and the ground conditions at the Mayem village. Pursuant to the filing of the petition, the GSPCB and DMG

2024:BHC-GOA:1036-

have by way of SOPs, proposed several safeguards and measures for safe transport and as fairly submitted by Ms. Norma Alvares, these measures are positive. Such submission is made by the learned Counsel for the petitioners with a caveat that the concern of the villagers must be more adequately addressed in the best manner possible. She submits that though several safeguards are put in place, the environmental concerns affecting the safety and health of the villagers must be monitored effectively and addressed from time to time with the aid of real time monitoring of pollution with modern sophisticated equipment.

9. Learned Advocate General has serious objection to the course adopted by us in expanding the scope of the PIL as according to him there are no pleadings to justify such a course. We strongly feel that the concern of transportation through village roads needs to be addressed. We cannot ignore the larger issue of such large scale transportation through the village roads. Do we overlook the concerns of those residing in these villages through which roads the transporting operations are to take place only on some technical objections raised? We do appreciate the submission that the concerns may differ from village to village. It is the duty of the State and the statutory authorities to conduct a scientific exercise in evaluating what requirements are best suited on a village to village basis to ensure the

2024:BHC-GOA:1036-

safety of the life and limb of its subjects. Howsoever small the population may be, the basic aspiration of their right to live should not be bulldozed on some technical considerations. The Court is not expected to shut its eyes and not even question the State as to what the measures proposed for the safety of the villagers are. There is not the slightest doubt in our mind that such a course is necessary. The petition was filed specific to village Mayem. During the course of hearing, learned Advocate General submits a decision is taken that there is to be no transportation through village 'Mayem'.

10. Let us examine what are the measures in place to regulate transportation through such villages in the first place. The problems cited of transportation of ore through the villages will have to be addressed in the context of two scenarios which are :-

(i) Transportation of the ore which was already extracted in the course of the decisions in **Goa Foundation vs. Union of India & Ors.**[3] (referred to as *Goa Foundation-I*) and **Goa Foundation vs. Sesa Sterlite Limited & Ors.**[4] (referred to as *Goa Foundation-II*), which we refer to as 'e-auction ore'; and

(ii) Transportation of ore by the project proponent i.e. Vedanta, who has intervened in the present case in whose favour there exists a 50-year lease having been granted Environmental Clearance (EC, for short) under the

3 (2014) 6 SCC 590

4 (2018) 4 SCC 218

Environment Protection Act. This aspect pertains to transportation pursuant to the EC granted as a result of fresh leases executed.

11. The second aspect i.e. in respect of EC granted to Vedanta, need not detain us much. This petition does not challenge the EC granted to Vedanta. We make it clear that though learned Senior Advocate Shri Janak Dwarkadas was at pains to point out that the EC has been granted pursuant to a detailed examination by an expert body constituted under the EP Act, we do not express any opinion on such submission in this petition. The limited issue that we are examining is transportation of ore through the villages which allegedly creates disharmony in the fundamental right to life of the villagers. We make it clear that it is open for the aggrieved persons to lay a challenge to the EC on its own merits and in accordance with law before the forum competent to entertain such a challenge. It must be noted that the measures and safeguards recommended and which are part of the EC are accepted by Vedanta.

12. The first aspect of transportation of 'e-auction ore" is something we need to examine in some detail. Ms. Alvares alleged that the conditions imposed by the GSPCB and DMG were not complied with by the transporters during the earlier regime. It was pointed out that there was incessant transportation of ore through trucks right from 4.30 a.m. in the morning till 6.30 p.m. in the evening. It is submitted

2024:BHC-GOA:1036-

that such transportation is a source of pollution that has affected the entire village and the villagers.

13. On the basis of the submission of learned Counsel appearing for the petitioners and hearing the respondents, this Court was of the *prima facie* opinion that there was not much application of mind by either the GSPCB and DMG before the clearances or transit permits were issued in the context of the route now proposed by the project proponent, i.e. the seventh respondent. This Court *prima facie* observed that the authorities, without adverting to several relevant considerations, not to mention the Ministry's OM dated 29.10.2014, mechanically issued the clearance or the transit pass. It was noticed that there was confusion about the roles the GSPCB and the DMG was expected to play in such matters affecting the lives and properties of the villagers. After referring to the provisions of OM dated 29.10.2014, this Court was of the opinion that some measures had to be put in place which would safeguard the life and properties of the Villagers. The relevant directions issued from paragraph 26 onwards which form part of the interim Order dated 17.01.2024 read thus :

> "26. We direct the DMG and GSPCB to file detailed affidavits on the issue of grant of permissions, etc., for transportation of ore through villages in the State of Goa. The affidavits, as far as possible, should state the procedure that is

2024:BHC-GOA:1036-

presently followed and the procedure that the authorities would like to follow in the future in case there are any shortcomings in the existing procedure. We think that the DMG and GSPCB should act in tandem and coordinate with each other so that proper procedures are evolved. For this, if possible, the authorities should hold a meeting. Other stakeholders, like the representatives of the mining industry, transportation industry, environmentalists, representatives of the Panchayat, etc., could also be invited to such meetings so that some policy which takes care of the interests of all stakeholders could be evolved.

27. The affidavits must also deal with an action plan for implementation or enforcement of the conditions included in the permissions. There is no point in imposing conditions to prevent pollution and hardships to villagers if there is no will or proper mechanism for effective implementation. It is not uncommon that considerable police forces are deployed when villagers raise their voices against ore transportation through villages. While it is improper for the villagers to take the law into their own hands, the Authorities must be vigilant in the enforcement of the conditions imposed for the benefit of such villagers. If the transporters disregard such conditions with impunity, strict action must be taken.

28. Since there is no clarity on the procedures for granting permissions for transportation or ores through villages, and at least prima facie, we get the

2024:BHC-GOA:1036-

impression that DMG and GSPCB are passing the buck on each other without each of them assuming any responsibility, we direct that until the next date, no permissions shall be granted for transportation of ore by private parties through villages, without the leave of this Court. Such a direction is necessary to avoid a repetition of what has happened in the present case. Besides, we propose to dispose of this Petition at an early date.

29. We stand over this matter to 20.02.2024. The affidavits should be filed by 12.02.2024 by giving advance copies to the learned counsel for the petitioners. If the petitioners wish to file any rejoinder, they may do so on or before 20.02.2024 by giving advance copies to the learned counsel for the respondents. We also direct the Petitioners to implead and serve the Union of India through the Ministry of Environment, Forests and Climate Change.

30. The matter is posted for final disposal at the admission stage."

14. Learned Counsel for the petitioners submitted that having regard to the measures and safeguards provided and placed on record by the GSPCB and DMG pursuant to the filing of the petition so far as transportation of 'e-auction ore' is concerned, the spirit of the conditions which are set out in the OM of 2014 has been imbibed in the Standard Operating Procedure ('SOP' for short). At one stage, learned Advocate General did proceed to canvas that the OM of 2014

2024:BHC-GOA:1036-

does not bind the GSPCB or the DMG as the said OM is only an executive instruction which does not pass muster of Section 3 of 'The Environment (Protection) Act, 1986, (herein after referred to as the *EP Act* for short). In view of the aforesaid submission of the learned Counsel for the petitioners, we refrain from expressing any opinion on such contention of learned Advocate General in this petition.

15. It needs to be considered whether there should be a complete ban on transport of the ore through village routes or providing safeguards and measures for mitigating the concerns of the villagers while permitting transportation can be a solution. For a better understanding, it would be apposite to refer to the decisions of the Supreme Court in **Goa Foundation vs. Union of India & Ors.**[5] (s*upra*) and **Goa Foundation vs. Sesa Sterlite Limited & Ors.**[6] (s*upra*). The facts related to mining in Goa is set out by Their Lordships in Goa Foundation-I, which reads thus :

> "2. Prior to 19-12-1961 when Goa was a Portuguese territory, its Portuguese Government had granted mining concessions in perpetuity to concessionaires. On 19-12-1961, Goa was liberated and became part of the Indian Union and on 1-10-1963, the Mines and Minerals (Development and Regulation) Act, 1957 (for short "the MMDR Act") was made applicable to the State of Goa. On 10-3-1975, the

5 (2014) 6 SCC 590

6 (2018) 4 SCC 218

2024:BHC-GOA:1036-

Controller of Mining Leases issued a Notification calling upon every lessee and sub-lessee to file returns under Rule 5 of the Mining Leases (Modification of Terms) Rules, 1956 and sent copies of the notification to the concessionaires in Goa. Aggrieved, the concessionaires moved the Bombay High Court, Goa Bench, and by judgment dated 29-9-1983, in *Vassudeva Madeva Salgaocar* v. *Union of India*, the Bombay High Court restrained the Union of India from treating the concessions as mining leases and from enforcing the notification against the concessionaires.

3. Parliament thereafter passed the Goa, Daman and Diu Mining Concessions (Abolition and Declaration as Mining Leases) Act, 1987 (for short "the Abolition Act") which received the assent of the President on 23-5-1987. Section 4 of the Abolition Act abolished the mining concessions and declared that with effect from the 20th day of December, 1961, every mining concession will be deemed to be a mining lease granted under the MMDR Act and that the provisions of the MMDR Act will apply to such mining lease. Section 5 of the Abolition Act further provided that the concession holder shall be deemed to have become a holder of the mining lease under the MMDR Act in relation to the mines in which the concession relates and the period of such lease was to extend up to six months from the date when the Abolition Act received President's assent i.e. up to 22-11-1987. On 14-10-1987, sub-rules (8) and (9) were inserted in Rule 24-A of the Mineral Concession Rules, 1960 (for short "the MC Rules")



which deal with renewal of mining leases in Goa, Daman and Diu.

4. The Abolition Act was challenged by the lessees before the Bombay High Court in a writ petition. The High Court passed an interim order permitting the lessees to carry on mining operations and the mining business in the concessions for which renewal applications had been filed under Rule 24-A of the MC Rules. Subsequently, the High Court held in its judgment dated 20-6-1997 that the Abolition Act was valid but Section 22(1)(a) of the Abolition Act would operate prospectively and not retrospectively. The concessionaires filed special leave petition against the judgment dated 20-6-1997 before this Court. On 2-3-1998, this Court passed an interim order permitting the concessionaires to carry on mining operations and mining business in the mining areas for which renewal applications have been made on the condition that the lessee pays to the Government dead rent from the date of commencement of the Abolition Act. Subsequently, this Court granted leave in the special leave petition and continued the aforesaid interim order.

The Justice Shah Commission and its Report

5. As reports were received from various State Governments of widespread mining of iron ore and manganese ore in contravention of the provisions of the MMDR Act, the Forest (Conservation) Act, 1980, the Environment (Protection) Act, 1986 and other rules and guidelines issued thereunder, the Central Government appointed the Justice Shah Commission under Section 3 of the Commissions of

Inquiry Act, 1952 by Notification dated 22-11-2010. Paras 2 and 3 of the Notification, which are relevant, are extracted hereinbelow:

"2. The terms of reference of the Commission shall be-

(i) to inquire into and determine the nature and extent of mining and trade and transportation, done illegally or without lawful authority, of iron ore and manganese ore, and the losses therefrom; and to identify, as far as possible, the persons, firms, companies and others that are engaged in such mining, trade and transportation of iron ore and manganese ore, done illegally or without lawful authority;

(ii) to inquire into and determine the extent to which the management, regulatory and monitoring systems have failed to deter, prevent, detect and punish offences relating to mining, storage, transportation, trade and export of such ore, done illegally or without lawful authority, and the persons responsible for the same;

(iii) to inquire into the tampering of official records, including records relating to land and boundaries, to facilitate illegal mining and identify, as far as possible, the persons responsible for such tampering; and

(iv) to inquire into the overall impact of such mining, trade transportation and export done illegally or without lawful authority, in terms of destruction of forest wealth, damage



to the environment, prejudice to the livelihood and other rights of tribal people, forest dwellers and other persons in the mined areas, and the financial losses caused to the Central and State Governments.

3. The Commission shall also recommend remedial measures to prevent such mining, trade, transportation and export done illegally or without lawful authority."

6. The Justice Shah Commission visited Goa and issued notices under Section 4 of the Commissions of Inquiry Act, 1952 calling for information from the authorities concerned and the lessees and submitted its interim report on 15-3-2012 to the Ministry of Mines, Union of India. On 7-9-2012, the Justice Shah Commission Report on Goa was tabled in Parliament along with an Action Taken Report of the Ministry of Mines and on 10-9-2012 the State Government of Goa passed an Order suspending all mining operations in the State of Goa with effect from 11-9-2012. Pursuant to this Order of the State Government, on 11-9-2012 and 12-9-2012 the District Magistrates of the State of Goa banned transportation of iron ore in their respective districts and the Director of Mines and Geology ordered for verification of mineral ore which was already extracted. On 13-9-2012, the Director of Mines and Geology, Government of Goa issued show-cause notices to 40 mining leases. On 14-9-2012, the Ministry of Environment and Forests of the Union of India also directed that all

2024:BHC-GOA:1036-

environmental clearances granted to mines in the State of Goa be kept in abeyance.

7. On the basis of findings in the Report of the Justice Shah Commission on illegal mining in the State of Goa, Goa Foundation has filed Writ Petition (C) No. 435 of 2012 as public interest litigation praying for directions to the Union of India and the State of Goa to take steps for termination of the mining leases of lessees involved in mining in violation of the Forest (Conservation) Act, 1980, the Mines and Minerals (Development and Regulation) Act, 1957, the Mineral Concessions Rules, 1960, the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 as well as the Wild Life (Protection) Act, 1972. Goa Foundation has prayed that a direction be issued to the respondents to prosecute all those who have committed offences under the different laws and are involved in the pilferage of State revenue through illegal mining activities in the State of Goa including the public servants who have aided and abetted the offences. Goa Foundation has also sought for appointment of an independent authority with full powers to take control, supervise and regulate mining operations in the State of Goa and to ensure the implementation of the laws. Besides, the aforesaid main reliefs, Goa Foundation has also prayed for some incidental and consequential reliefs.

8. On 5-10-2012, this Court issued notice in Goa Foundation v. Union of India to the respondents and

2024:BHC-GOA:1036-

directed the Central Empowered Committee (for short "CEC") to submit its report on the writ petition and also directed that till further orders, all mining operations in the leases identified in the report of the Justice Shah Commission and transportation of iron ore and manganese ore from those leases, whether lying at the mine-head or stockyards, shall remain suspended, as recommended in the report of the Justice Shah Commission.

9. Different mining lessees of the State of Goa and the Goa Mining Association also filed writ petitions in the Bombay High Court, Goa Bench for a declaration that the report of the Shah Commission is illegal and for quashing the findings in the Report of the Justice Shah Commission and also for quashing the Order dated 10-9-2012 of the Government of Goa suspending mining operations in the State of Goa and the Order dated 14-9-2012 of the Ministry of Environment and Forests, Government of India, directing that the environmental clearances granted to the mines in the State of Goa be kept in abeyance. These writ petitions have been transferred to this Court for hearing along with the hearing of Writ Petition (Civil) No. 435 of 2012 filed by Goa Foundation.

10. The writ petitions and the transferred cases were heard during September, October and November 2013. On 11-11-2013 an order was passed by this Court directing that the inventory of the excavated mineral lying ores in different mines/stockyards/jetties/ports in the State of Goa made by the Department of Mines and Geology of

2024:BHC-GOA:1036-

the Government of Goa be verified and thereafter the whole of the inventoried mineral ores be sold by e-auction and the sale proceeds (less taxes and royalty) be retained in separate fixed deposits (leasewise) by the State of Goa till the Court delivers the judgment in these matters on the legality of the leases from which the mineral ores were extracted. The Court has also directed that this entire process of verification of the inventory, e-auction and deposit of sale proceeds be monitored by a Monitoring Committee appointed by the Court. By the said order dated 11-11-2013, this Court also constituted an Expert Committee to conduct a macro-EIA study on what should be the ceiling of annual excavation of iron ore from the State of Goa considering its iron ore resources and its carrying capacity, keeping in mind the principles of sustainable development and intergenerational equity and all other relevant factors. On 11-11-2013 the case was also reserved for judgment."

16. Upon considering the submissions, Their Lordships in Goa Foundation-I held thus :

"87. In the result, we declare that:

87.1. The deemed mining leases of the lessees in Goa expired on 22-11-1987 and the maximum of 20 years renewal period of the deemed mining leases in Goa expired on 22-11-2007 and consequently mining by the lessees after 22-11-2007 was illegal and hence the impugned Order dated 10-9-2012 of Government of Goa and the impugned Order dated

14-9-2012 of MoEF, Government of India are not liable to be quashed.

87.2. Dumping of minerals outside the leased area of the mining lessees is not permissible under the MMDR Act and the Rules made thereunder.

87.3. Until the order dated 4-8-2006 of this Court is modified by this Court in IA No. 1000 in *T.N. Godavarman Thirumulpad v. Union of India*, there can be no mining activities within one kilometre from the boundaries of national parks and sanctuaries in Goa.

87.4. By the order dated 4-12-2006 in *Goa Foundation v. Union of India*, this Court has not prohibited mining activities within 10 kilometres' distance from the boundaries of the national parks or wildlife sanctuaries.

87.5. It is for the State Government to decide as a matter of policy in what manner mining leases are to be granted in future but the constitutionality or legality of the decision of the State Government can be examined by the Court in exercise of its power of judicial review."

17. After the declaration and directions in Goa Foundation-I, some controversy arose as the State of Goa granted second renewals to the mining lease holders. It was one of the contention of the petitioners in Goa Foundation-II that the State of Goa was obliged to grant fresh mining leases in accordance with law and not second renewals to the mining lease holders. The observations of Their Lordships in Goa

2024:BHC-GOA:1036-

Foundation-II which also contains reference to the observations in Goa Foundation-I are significant, which read thus :

> "1. Rapacious and rampant exploitation of our natural resources is the hallmark of our iron ore mining sector coupled with a total lack of concern for the environment and the health and well-being of the denizens in the vicinity of the mines. The sole motive of mining leaseholders seems to be to make profits (no matter how) and the attitude seems to be that if the rule of law is required to be put on the backburner, so be it. Unfortunately, the State is unable to firmly stop violations of the law and other illegalities, perhaps with a view to maximise revenue, but without appreciating the long- term impact of this indifference. Another excuse generally put forth by the State is that of development, conveniently forgetting that development must be sustainable and equitable development and not otherwise.
>
> 2. Effective implementation and in some instances circumvention of the mining and environment related laws is a tragedy in itself. Laxity and sheer apathy to the rule of law gives mining leaseholders a field day, being the primary beneficiaries, with the State being left with some crumbs in the form of royalty. For the State to generate adequate revenue through the mining sector and yet have sustainable and equitable development, the implementation machinery needs a tremendous amount of strengthening while the law enforcement machinery needs strict vigilance.

Unless the two marry, we will continue to be mute witnesses to the plunder of our natural resources and left wondering how to retrieve an irretrievable situation.

3. The Government of India appears to have received information of large-scale illegal mining of iron ore and manganese ore in different States in contravention of the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 (the MMDR Act); the Forest (Conservation) Act, 1980; the Environment (Protection) Act, 1986 and other rules and guidelines issued on the subject from time to time.

4. Acting on this information, the Government of India appointed Justice M. B. Shah, a former Judge of this Court as a Commission of Inquiry under Section 3 of the Commissions of Inquiry Act, 1952 by a Notification dated 22-11-2010. The terms of reference of the Commission for the State of Goa were as follows:

> "2. The terms of reference of the Commission shall be-
>
> (i) to inquire into and determine the nature and extent of mining and trade and transportation, done illegally or without lawful authority, of iron ore and manganese ore, and the losses therefrom; and to identify, as far as possible, the persons, firms, companies and others that are engaged in such mining, trade and transportation of iron ore and manganese ore, done illegally or without lawful authority;
>
> (ii) to inquire into and determine the extent to which the management, regulatory transportation, trade and export of such

ore, done illegally or without lawful authority, and the persons responsible for the same;

(iii) to inquire into the tampering of official records, including records relating to land and boundaries, to facilitate illegal mining and identify, as far as possible, the persons responsible for such tampering; and

(iv) to inquire into the overall impact of such mining, trade, transportation and export, done illegally or without lawful authority, in terms of destruction of forest wealth, damage to the environment, prejudice to the livelihood and other rights of tribal people, forest dwellers and other persons in the mined areas, and the financial losses caused to the Central and State Governments.

3. The Commission shall also recommend remedial measures to prevent such mining, trade, transportation and export done illegally or without lawful authority."

5. Justice Shah visited Goa and after calling for and receiving information from the authorities concerned as well as the mining leaseholders, he submitted a report on 15-3-2012 and another on 25-4-2012 to the Ministry of Mines in the Government of India. The reports were tabled in Parliament on 7-9-2012 along with an Action-Taken Report and as a result, the Government of Goa passed an order dated 10-9-2012 suspending all mining operations in the State with effect from 11-9-2012. The Ministry of Environment and Forests (MoEF) of the Government of India acted similarly and kept in abeyance the environmental clearances granted to 139 mines (actually 137 mines - there is some duplication) in the State of Goa by an order dated 14-9-2012.

2024:BHC-GOA:1036-

6. Subsequent to the reports given by Justice Shah, a writ petition was filed by Goa Foundation in this Court being WP (C) No. 435 of 2012. The writ petition was a public interest litigation praying, inter alia, for directions to the Union of India and the State of Goa to take steps to terminate the mining leases where mining was carried out in violation of various statutes.

7. Similarly, several mining leaseholders preferred writ petitions in the Bombay High Court for a declaration that the reports given by Justice Shah are illegal and also for quashing the orders dated 10-9-2012 and 14-9-2012 whereby mining operations were suspended and environmental clearances were kept in abeyance. The writ petitions filed in the High Court were transferred to this Court for hearing along with WP (C) No.435 of 2012.

8. This Court heard all these matters and rendered its decision in Goa Foundation v. Union of India on 21-4-2014. Among other conclusions arrived at, it was held by the Court that all the iron ore and manganese ore leases had expired on 22-11-2007. Consequently, any mining operation carried out by the mining leaseholders after that date was illegal. It was also held that all the mining leaseholders had enjoyed a first deemed renewal of the mining lease and for a second renewal an express order was required to be passed in view of and in terms of Section 8(3) of the MMDR Act. For a second renewal of the mining lease, it was held that the State Government must apply its mind and record reasons for renewal being in the interest of mineral

2024:BHC-GOA:1036-

development and the necessity to renew the mining lease. Any decision taken by the State Government should also be in conformity with the constitutional provisions. The decision taken by the State of Goa to grant a mining lease in a particular manner or to a particular party could be examined by way of judicial review. It was also held that the orders dated 10-9-2012 and 14-9-2012 are not liable to be quashed and that they would continue till decisions are taken to grant fresh leases and fresh environmental clearances for mining projects." (emphasis supplied)

18. The Supreme Court in Goa Foundation-II concluded thus :

"154 - In view of our discussion, we arrive at the following conclusions:

154.1. As a result of the decision, declaration and directions of this Court in Goa Foundation, the State of Goa was obliged to grant fresh mining leases in accordance with law and not second renewals to the mining lease holders.

154.2. The State of Goa was not under any constitutional obligation to grant fresh mining leases through the process of competitive bidding or auction.

154.3. The second renewal of the mining leases granted by the State of Goa was unduly hasty, without taking all relevant material into consideration and ignoring available relevant material and therefore not in the interests of mineral development. The decision was taken only to

2024:BHC-GOA:1036-

augment the revenues of the State which is outside the purview of Section 8(3) of the MMDR Act. The second renewal of the mining leases granted by the State of Goa is liable to be set aside and is quashed.

154.4. The Ministry of Environment and Forest was obliged to grant fresh environmental clearances in respect of fresh grant of mining leases in accordance with law and the decision of this Court in Goa Foundation and not merely lift the abeyance order of 14th September, 2012.

154.5. The decision of the Bombay High Court in Lithoferro v. State of Goa (and batch) (2014 SCC Online Bom 997) giving directions different from those given by this Court in Goa Foundation is set aside.

154.6. The mining lease holders who have been granted the second renewal in violation of the decision and directions of this Court in Goa Foundation are given time to manage their affairs and may continue their mining operations till 15th March, 2018. However, they are directed to stop all mining operations with effect from 16th March, 2018 until fresh mining leases (not fresh renewals or other renewals) are granted and fresh environmental clearances are granted.

154.7. The State of Goa should take all necessary steps to grant fresh mining leases in accordance with the provisions of the Mines and Minerals(Development and Regulation) Act, 1957. The Ministry of Environment and Forest should also take all necessary steps to grant fresh environmental clearances to those who are successful in obtaining

2024:BHC-GOA:1036-

fresh mining leases. The exercise should be completed by the State of Goa and the Ministry of Environment and Forest as early as reasonably practicable.

154.8. The State of Goa will take all necessary steps to ensure that the Special Investigating Team and the Team of Chartered Accountants constituted pursuant to the Goa Grant of Mining Leases Policy, 2014 give their reports at the earliest and the State of Goa should implement the reports at the earliest, unless there are very good reasons for rejecting them.

154.9. The State of Goa will take all necessary steps to expedite recovery of the amounts said to be due from the mining lease holders pursuant to the show cause notices issued to them and pursuant to other reports available with the State of Goa including the report of Special Investigating Team and the Team of Chartered Accountants.

155. The writ petitions and SLPs are disposed of in accordance with the above conclusions and directions."

19. The State of Goa, therefore, now had to proceed with the auction of the ore ('e-auction ore'), which was already extracted; and secondly, initiate the process of issuing fresh mining leases (allotment of blocks) in accordance with the directives of the Supreme Court as per law.

2024:BHC-GOA:1036-

20. What is in issue in this PIL are the problems caused by bulk transport of minerals (iron ore) through mining villages in the mining zone of Goa that have plagued village communities in the past. The petitioner expects the Government to accept their rights to a clean, healthy and pollution free environment as the primary consideration which should guide them while granting transport permissions to the mining companies/transporters of the minerals, rather than the commercial interests of the project proponent/transporters. The grievance is that though statutory provisions are in place to regulate such operations, they are grossly inadequate and worse still poorly implemented. The submission is that poor implementation of norms lead to road deaths, insufferable dust pollution, destruction of roads and water delivery infrastructure, occupation of the road by heavy vehicles from dawn to dusk resulting in the degeneration of quality of life in the villages. It is submitted that with a fresh regime of mining now commencing, it was necessary that the transportation Rules ought to have been comprehensively re-examined especially in the context of findings of the two-year study of environmental impacts of mining done by the Dhanbad Institute of Mines, by the Ministry of Environment. According to the petitioners there is no scientific study of the village routes for sustainable transport before granting the permissions. Thus, it is vehemently urged that the transportation of the ore by means of trucks/tippers will not only disturb the peace and

2024:BHC-GOA:1036-

tranquillity of the villages but seriously affect the safety of the villagers apart from increased pollution which will have an adverse effect on the health of the villagers.

21. As indicated earlier, learned Advocate General submitted that so far as village Mayem is concerned, the grievance is worked out as no transportation will be permitted from this village. It is further submitted that there are adequate safeguards in place in the form of rules, notifications, under the EP Act and also SOPs have been issued pursuant to the interim orders passed by this Court providing for adequate safety measures for safeguarding life and property of the villagers apart from addressing environmental concerns expressed.

22. We completely agree with learned Counsel for the petitioners, that there is bound to be heavy increase of transportation through the village roads as the materials on record indicate. However, in balancing the conflicting rights, we must bear in mind the observations of the Supreme Court in the matter in **Rajeev Suri vs. Delhi Development Authority & Ors.**(supra)**.** Their Lordships made significant observations for striking a just balance between two competing environmental and development concerns. Paragraph 519 to paragraph 528 reads thus :

2024:BHC-GOA:1036-

"519. Indubitably, environment and development are not sworn enemies of each other. It would be an anomalous approach to consider environment as a hurdle in development and vice versa. The entities like EAC and NGT are created to strike a just balance between two competing interests and a time-tested principle of striking this balance is timely invocation of mitigating environmental measures amidst a development activity. True that mere application of certain mitigating measures may not alleviate environmental concerns in all matters and in some circumstances, the project is simply incomprehensible with the environment. But as long as a legitimate development activity can be carried on in harmony with the idea of environmental protection and preservation including sustainable development, the Courts as well as expert bodies should make their best endeavour to ensure that harmony is upheld and hurdles are minimised by resorting to active mitigating measures.

520. The principle of sustainable development and precautionary principle need to be understood in a proper context. The expression "sustainable development" incorporates a wide meaning within its fold. It contemplates that development ought to be sustainable with the idea of preservation of natural environment for present and future generations. It would not be without significance to note that sustainable development is indeed a principle of development, it posits controlled development. The primary requirement underlying this principle is to ensure that every development work is *sustainable*;



and this requirement of sustainability demands that the first attempt of every agency enforcing environmental rule of law in the country ought to be to alleviate environmental concerns by proper mitigating measures. The future generations have an equal stake in the environment and development. They are as much entitled to a developed society as they are to an environmentally secure society.

521. By the Declaration on the Right to Development, 1986, the United Nations has given express recognition to a right to development. Article 1 of the Declaration defines this right as:

> " i. The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized."

522. The right to development, thus, is intrinsically connected to the preservance of a dignified life. It is not limited to the idea of infrastructural development, rather, it entails human development as the basis of all development. The jurisprudence in environmental matters must acknowledge that there is immense interdependence between the right to development and the right to natural environment.

523. In *International Law and Sustainable Development*, Arjun Sengupta in the chapter "*Implementing the Right to Development* [*International Law and Sustainable Development*

— *Principles and Practice* (Publisher : Martinus Nijhoff, Edn. 2004) p. 354.] " notes thus:

> "... Two rights are interdependent if the level of enjoyment of one is dependent on the level of enjoyment of the other..."
>
> The concern of the regulatory agencies is to weed out the unsustainable from the development plan and to parallelly ensure that the right to development is not trumping upon any other right. Sengupta further notes:
>
> "... There is an improvement in the right to development only if at least one of the constituent rights improves and no other right deteriorates or is violated, which means the right to development conforms to the principle of the indivisibility of human rights... [*International Law and Sustainable Development — Principles and Practice* "

524. The precautionary principle duly mandates that all agencies of the State, including Courts, must make their best endeavour to ensure that precaution is instilled in the process of development. The very requirement of prior EC is born out of this need for precaution. It is a manifestation of the precautionary principle in India and if development work is carried out in furtherance of prior EC and such EC is not vitiated by illegality, it would be a case of proper adherence with the precautionary principle.

525. In matters of balancing between competing environmental and development concerns, the Court has to be project-specific. In environmental matters, even one fact here or there may have the effect of attributing a totally distinct character to the project and accordingly, the scope of judicial review may vary. This sentiment is best reflected in the following words of Professor Schotland [D.C. Circuit Judicial

Conference, *Environmental Protection : Law and Policy*, 2nd Edn. (Cambridge : Cambridge University Press, 2007) p. 122.] who proposed ranking of standards of judicial review according to strictness:

> "3. ... I have always thought of scope of review as a spectrum, with de novo at one end, with unconstitutionality at the other end, and in between a number of what I will call "mood-points" or degrees of judicial aggressiveness or restraint, such as preponderance of the evidence, clearly erroneous, substantial evidence on the whole record, scintilla of evidence, abuse of discretion and last, right next to or even into unconstitutionality, arbitrary and capricious. And since these are only "mood-points", there is considerable room within each for difference."

526. The proper balance of judicial review in environmental matters in a constantly developing society is a matter of great debate across all jurisdictions. In *Ethyl Corpn.* v. *Environmental Protection Agency* [*Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976). Ed. : Cert. denied in *Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976) against *Ethyl Corpn.* v. *Environmental Protection Agency*, 541 F 2d 1 (DC Cir 1976).] , the observations of Wright, J. present a just balance. He observed thus:

> "There is no inconsistency between the deferential standard of review and the requirement that the reviewing court involve itself in even the most complex evidentiary matters; rather, the two indicia of arbitrary and capricious review stand in careful balance. The close scrutiny of the evidence is intended to educate the court. It must understand enough about the problem confronting the agency to comprehend the meaning of the evidence relied upon and the evidence discarded; the questions



> addressed by the agency and those bypassed; the choices open to the agency and those made. The more technical the case, the more intensive the court's effort to understand the evidence, for without an appropriate understanding of the case before it the court cannot properly perform its appellate function. ..."

527. Wright, J. in *Ethyl Corporation* [*Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976). **Ed.** : Cert. denied in *Ethyl Corpn.* v. *Environmental Protection Agency*, 426 US 941 (1976) against *Ethyl Corpn.* v. *Environmental Protection Agency*, 541 F 2d 1 (DC Cir 1976).] then notes the need for realising the limits of judicial function thus:

> "*But the function must be performed with conscientious awareness of its limited nature. The enforced education into the intricacies of the problem before the agency is not designed to enable the court to become a superagency that can supplant the agency's expert decision-maker*. To the contrary, the court must give due deference to the agency's ability to rely on its own developed expertise. The immersion in the evidence is designed solely to enable the court to determine whether the agency decision was rational and based on consideration of the relevant factors. It is settled that we must affirm decisions with which we disagree so long as this test is met...." (emphasis supplied)

528. They must always look for a careful balance when two equally relevant interests compete with each other. The task may not be easy, but is the only reasonable recourse. For the proper application of these principles, the first and foremost thing to be kept in mind is the nature of the project. In the present case, the subject project is an independent building and construction project wherein one-time

2024:BHC-GOA:1036-

> construction activity is to be carried out. It is not a perpetual or continuous activity like a running industry. It is absolutely incomprehensible to accept that a project of this nature would be unsustainable with the needs and aspirations of future generations. Furthermore, the increase in footprint is not shown to be substantial and the inclusion of new Members of Parliament after the delimitation exercise is anyway going to lead to an inevitable increase in footprint (floating though) that cannot be countenanced as a concern here."

23. We have therefore to look for a careful balance when two equally relevant interests compete with each other. At this juncture itself, we may refer to the MCA No. 239 of 2024 filed by Vedanta Limited. Shri Janak Dwarkadas submitted that Vedanta Limited has been granted Environmental Clearance (EC) to the project for Block – I, Bicholim Mineral Block and Block VII-Cudnem Mineral Block. It is submitted that the EC is granted after following a detailed procedure laid down under the EP Act and the Rules framed thereunder. Our attention is invited to the Notification dated 14.09.2012 published by the Ministry of Environment, Forest and Climate Change, which provides for requirements of prior environmental clearances for matters falling under category 'A' of the Schedule. Shri Dwarkadas submitted that the Expert Appraisal Committee comprises of domain experts. It is submitted that rigorous conditions are imposed in the EC. It is further submitted that transportation is a mechanism

provided under the Expert Appraisal Committee (EAC) regime. It is submitted that the EAC comprises of persons who are outstanding environmental policy experts with wide expertise in the relevant development sector. It consists of only professionals and experts fulfilling the qualifying criteria provided by the notification. It is submitted that a detailed procedure is prescribed for appraisal. A procedure is conducted for public hearing. It is thus submitted that before granting EC, it has to pass the muster of the stringent provisions of the EP Act and the Rules framed therein.

24. It is already indicated by us that we are not examining the challenge to the EC hence we refrain from expressing any opinion to the legality or otherwise of the EC. In appropriate proceedings, such challenge can be gone into. We also make it clear that what is being recorded by us are the assurances accepted by Vedanta in the matter of transportation. We may not be understood to mean that we have examined the legality and propriety of the conditions for transport in the EC and the Consent to Operate ('CTO' for short). The challenge to these conditions in the EC and the CTO regarding the transport and the measures incorporated is kept open for consideration in appropriate proceedings before the appropriate forum as and when a proper challenge to the EC as well as the CTO is made.

2024:BHC-GOA:1036-

25. Shri Dwarkadas was at pains to point out that Vedanta's consent to operate incorporates all the safeguards necessary to ensure that the competing rights of the villagers regarding their safety and environmental concern are properly balanced with that of the right of the project proponent to carry mining operations pursuant to the valid EC. Shri Dwarkadas submitted that Vedanta's affidavit dated 17.06.2024 provides for measures of safeguards to prevent pollution under CTO. On instructions, Shri Dwarkadas submits that Vedanta shall be strictly complying with all conditions of transportation mentioned at serial nos. 13 to 24 of the CTO.

26. The CTO has been granted by the GSPCB under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6(i) of the Hazardous and Other Wastes (Management and Transboundry Movement) Rules 2016, as amended thereafter. In the EC granted to Vedanta Limited, we find that during the site inspection, certain observations were made by the sub-committee. The observations at item 4 and the reply of the project proponent thereon are relevant, reading thus :

> "4. The Project Proponent needs to bypass the public road and also to explore the possibility of increasing the capacity of the truck so as to reduce the no. of trips. The EAC opined that the Project

2024:BHC-GOA:1036-

Proponent needs to revisit the traffic load by considering the cycle time and waiting time. The Project Proponent needs to submit the action plan for strengthening the road and for converting the unpaved road into concrete road.

The Project Proponent submitted the map showing the transportation route comprising of dedicated road corridor and public road. The total travel distance upto Jetty is 5.48 kms (4.54 km dedicated road and 0.94 km MDR-20 Public Road). Traffic load and effective distance between two trucks are as follows :-

S.No.	Transportation working days	Quantity (In TPA)	Tonnes/Day	Trips per day	Mode of trnas port
1	237	30,00,000	12658	1205	Road
	Total trips per day			1205	

The road witdth details for various segments are as follows :

Dedicated Road corridor	
3.31 km	1.23 km
12-15 mts wide Road	7 mts wide Road

Further, the Project Proponent submitted the following details :

i. Capacity of truck is 10.5 tons as per directives of Dept. Of Mines & Geology, Goa.

2024:BHC-GOA:1036-

ii. Total Handling per day is 12658 tons/day

iii. Transportation timings are 6.00 a.m. to 7.00 am, 8.00 a.m. to 12.45 pm and 2.00 p,m to 5.45 pm. Therefore, the effective transportation time is 9.30 hrs.

iv. Per Hour Handling is : 1332 tons/hour

v. No. of vehicles per Hour (One Way): 127 vehicles

vi. No. of Vehicles per Hour (to and fro) : 254 vehicles

vii. The Speed of vehicle is 25 KMPH and the lead distance is 5.48 kms.

viii. The time taken for 5.48 km is 13.15 mins for each truck and loading time is 1 min, weighment time at both source location is 2 min, Tarpaulin typing and untying time is 2 min, unloading time 1 min and waiting time 10 min.

ix. Each truck length is 15'.5" (4.58 m)

x. Distance from truck to truck is 5 m both side – 10 m

xi. Each vehicle occupies a min. distance of 14.58 m =~ 15 m

xii. The length of road is 5.48 Km = 5480

xiii. No. of vehicle which can travel on this road for one side =5480/15=365, However we would be plying only 127 trucks hence effective distance between two vehicles is 43 m.

The Project Proponent submitted the following mitigation measures for transportation :

i. Public road is hot mixed and same will be maintained.

ii. Dedicated road is proposed to be hot mixed in phased manner.

iii. Entire Dedicated transportation route is surrounded by thick Green Belt

2024:BHC-GOA:1036-

iv. Transportation vehicles shall be properly maintained to minimize the exhaust emission.

v. Regular tests shall be carried out to check exhaust emission and PUC certification of transportation vehicles at prescribed interval.

vi. Transportation trucks will be loaded with prescribed capacity and covered with tarpaulin before leaving mines premises.

vii. Overloading of the material will be avoided.

viii. Regular monitoring of the emission levels.

ix. Over speeding of Vehicle will not be allowed.

x. Traffic Marshalls shall be provided for regulating movement of vehicles as well as for safety of persons.

xi. Training will be given to all drivers about safe driving.

xii. Regular water sprinkling by means five hired water tanker of 10kL capacity on haul road and loading points will be carried out.

xiii. Used of fixed dust suppression system on haul roads

xiv. Installation of two wheel washed system (one each at the exit of the dedicated road and jetty exit respectively.

xv. Manual and mechanised machines for road sweeping.

xvi. Washing of mine exit points/Junctions (Mayem, Pilgao and Jetty exit area) after transportation hours/at night with water tanker having pipe arrangements

xvii. Underpass proposed at Mayem junction to prevent interface with public."

2024:BHC-GOA:1036-

27. By way of a note submitted at the time of hearing, a summary of major compliances ensured by Vedanta are as under:

CTO CONDITION	COMPLIANCE	STATUS
13	The mining unit shall install online noise monitoring station approved by USEPA, TUV or CPCB, CSR or MCERTs at the transportation route near sarmanas in consultation with the Board and connect the same to thye Board server within one month of receipt of this Consent and submit compliance report to the Board.	24 x 7 real time online monitoring station connected with GSPCB has been set-up
14	The mining unit shall install CCTV Camera at exit gate from mine towards the jetty to monitor if the trucks are properly covered with tarpaulin before exit and should	Installed Camera shall give the status of compliance by Trucks to GSPCB



	be connected online to GSPCB, within one month of receipt of this Consent to Operate	
16	The trucks/tippers engaged in transportation of ore shall have with atleast six inches free board after filling the cargo box to avoid spillage	This shall be complied with
17	All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box ensure the ore does not get air borne or spill on the road.	
20	The mining unit shall provide wheel washing facility for the ore transport vehicles shall be provided at the	Wheel Washing System already set-up

2024:BHC-GOA:1036-

	exit point of the mine	
23	The mining company should submit details regarding transportation of ore mentioning Source, Destination, Qty., No. Of trips (tipper trucks), Route (names of villages through which transportation takes place), Remarks	This shall be complied with

28. Shri Dwarkadas submitted, on instructions, that Vedanta is bound by the aforesaid conditions and the mitigating measures provided for transportation. Furthermore, even the CTO has provided for conditions for transportation mentioned at serial nos. 13 to 24. In the affidavit dated 17.06.2024 filed by Vedanta, it is assured that all the conditions pertaining therein will be strictly adhered to. Statements in the affidavit and the assurances aforementioned are accepted as an undertaking to this Court.

2024:BHC-GOA:1036-

29. This Court by an Order dated 22.04.2024, directed the GSPCB to file an affidavit pursuant to the inspection carried out and place a status report on record. So far as Vedanta is concerned, the route applied for permission was NSP-1, Top-NBP Junction-NBP-Matwada Junction-Sarmanas jetty. As directed by DMG, the Board officials inspected the site along with unit representative on 03.05.2024. Following were the recommendations for pollution control safeguard:

> "**Recommendations for pollution control safeguard**
>
> • The truck/tippers engaged in transportation of ore shall have sufficient free board after filling the cargo box to avoid spillage.
>
> • All trucks/tippers engaged in the transportation of ore shall be covered with tarpaulin and the tarpaulin shall be properly fastened to the cargo box to ensure the ore does not get air borne or spill on the road.
>
> • In case of break down of loaded trucks/tippers unloading of ore at the road side shall be strictly avoided.
>
> • The roads within mining lease areas shall be sprinkled with water to suppress dust pollution.
>
> • Spillage of ore on the public roads shall be removed immediately on occurrence.
>
> • The mining company should make suitable arrangement for sweeping of roads affected due to transportation of iron ore.
>
> • The mining firm should manage the daily trips in staggered manner in consultation with DMG, so that traffic congestion is avoided at major junctions.
>
> • The Board shall carry out monitoring along the route through the Ministry of Environment, Forests and Climate

Change approved lab and monitoring charges shall be recovered from the transporters/mining firms as per actual. The Transportation/mining firms shall pay an advances of Rupees Three lakhs towards the monitoring charges.

- The Department of Mines to provide the transportation route for enabling the Board to identify suitable monitoring locations. The Department may also ensure power supply for the monitoring stations.
- Speed of ore carrying trucks should be controlled by online GPS monitoring done by DMG through its authorized agency.
- Road sweeping machines may be jointly/severally developed in hotspot areas/ stretches.
- The shoulders of the mining transport roads may be tarred whenever needed.
- DMG may ensure maintenance of public road in the mining area with respect to repair of potholes/widening of roads whenever necessary.
- The Operator is required to carry out manual wheel washing in order to clean the wheels of the trucks and subdue dust arising out of it whenever wheel washing stations are not installed.
- In case the air quality standards are breached the transport frequency should be reduced and the transporters to be levied polluter pays penalty.

Permission can be granted to above mentioned route."

30. Shri Dwarkadas submitted that the Project Proponent-Vedanta is accepting all these safeguards and assures this Court on instructions that the conditions will be strictly followed and implemented. The learned Advocate General as well as learned Counsel for the implementing agencies assures that the monitoring will be strict and

2024:BHC-GOA:1036-

effective and not an eye wash. We accept these assurances as undertaking to this Court.

31. It is submitted by Shri Dwarkadas that in any case the transportation of Vedanta is through a dedicated corridor and not through village roads. The stretch of 0.9 kms though not a part of dedicated corridor is not a village road. Learned Senior Advocate submitted that they are even willing to provide for additional safeguards for this non-village/Major District Road of 0.9 kms by deployment of traffic marshals to avoid congestion and inconvenience to the public at large on arrival of the ferry. Whether to accept these additional safeguards is something which the DMG and transport authorities shall look into and take an informed decision depending on the ground conditions.

32. MCA No.1416/2024, is an intervention filed by Shri Shankar Chandrakant Jalmi and others in Vedanta's application. Upon hearing Mr. Frias, learned Counsel for the interveners, we are satisfied that the grievance about the road being illegally constructed through the lands of the interveners cannot be made a subject matter of this PIL Petition as and by way of an intervention application. It is for the Applicant-intervener to resort to appropriate remedies available in law. If any authority is required in support of this view, we may refer to the decision of the Supreme Court in **Saraswati Industrial Syndicate**

2024:BHC-GOA:1036-

Ltd. vs. Commissioner of Income Tax, Haryana, Rohtak[7]. In paragraph 12, Their Lordships held that the only purpose of granting an intervention application is to entitle the intervener to address arguments in support of one or the other side. Keeping all contentions open with liberty to avail of appropriate remedies in accordance with law, the intervention application is disposed of.

33. Let us now examine the measures and safeguards provided for transportation of 'e-auction ore'. A meeting was convened by DMG along with the Officials of GSPCB, Transport Department, Police Department, Stakeholders, Transporters, Panchayat Representatives on 29.01.2024 at 3.30 p.m. It was decided that the DMG and GSPCB should mutually devise a Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads. The Standard Operating Procedure (SOP) for grant of route approvals for transportation of ore through village roads, reads thus :

> "1. The transporter will first approach the Directorate of Mines and Geology for approval of the route of transportation. In their application they shall indicate the approximate width of the road and facts about number of houses along the route and availability of alternate route. The Directorate of Mines and Geology will examine the applications and decide upon the route to be allowed for transportation. Upon such approval, the transporter

7 (1999) 3 SCC 141

2024:BHC-GOA:1036-

will apply to the GSPCB for setting up monitoring stations on the route. 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.

2. The transporter upon receiving transit permit shall ensure that all conditions of transportation are adhered and complied. All trucks shall be registered with the Department and fitted with GPS.

3. GEL shall continuously monitor Vehicle speed and any Violation (above 40 km/hr) shall entail penalty i.e. Trucks shall be blocked for 3 days and further as per the Order dated 26/04/2016.

4. On the Bhumija Potal GEL through VTS System shall ensure that the total number of trips shall be restricted per Operator on the route to min 20 and maximum 40 per hour.

5. The road congestion shall be monitored by GEL on Bhumija Ore Monitoring System on a real time basis and accordingly trips shall be restricted.

6. Intimation about permitted transport shall be made to SP. North, SP. South and SP Traffic informing them that transporter has to strictly follow the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, Order of the Directorate of Mines & Geology dated 26/04/2016, check whether the above conditions are followed by the Transporters and monitor the same.

7. 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.

8. GEL should ensure that no trip sheets are generated beyond the prescribed time so that transportation of Ore happens only within the specified time."

34. Apart from the aforesaid, there are in place "The Goa (Prevention of Illegal Mining Storage and Transportation of Minerals) Rules 2013, published in the Official Gazette, of the Government of Goa, dated 17.10.2013. Rule 17 under Chapter V deals with Regulation of Transport and Extraction. The Regulation provides for various stipulations regarding transporting the ore. These Rules shall be scrupulously followed and measures provided effectively monitored. Rule 23 provides for reasonable restrictions on transport reading thus :

"23. Reasonable Restriction on Transport.- The Government shall have power to impose reasonable restrictions, such as, restricting the number of carriers to be permitted for transport of mineral, fixing the maximum number of years for using carriers for mining transport, deciding a cut off date after which the carrier registered with Transport Department shall not be registered for transportation of the mining ore or any other similar restriction that may be necessary to ensure smooth

2024:BHC-GOA:1036-

flow of traffic in the State, to counter congestion on State roads, for public safety, to regulate damage to ecology and environment of the State due to haphazard movement of trucks or vehicles or due to any other mode of transport authorized to carry ore including barges."

35. Our attention is also invited to the instructions containing route safety in the matters concerning transportation on road issued by the DMG on 26.04.2016. The instructions are for strict compliance by the truck owners, machinery owners, leaseholders, traders, end users, etc. These instructions are issued in exercise of powers under the Goa (Prevention of illegal Mining, Storage and Transportation of Minerals) Rules, 2013 and all other powers enabling in this behalf. The instructions are thus :

"INSTRUCTIONS CONCERNING ROAD SAFETY IN MATTERS CONCERNING TRANSPORTATION ON ROAD

Following instructions are issued to all Truck Owners, Machinery Owners, Leaseholders, Traders, Endusers, etc. for strict compliance in exercise of powers under the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013 and all other powers enabling in this behalf:

1. Since Hon'ble Supreme Court of India in Writ Petition No. 435/2012 in order dated 21/04/2014 directed the State Government to strictly enforce the Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013, as such in exercise of power under Rule 17(10) of Goa (Prevention of Illegal Mining, Storage and

2024:BHC-GOA:1036-

Transportation of Minerals) Rules, 2013, the speed limit for vehicles used for transportation of minerals is fixed at 40 km/hr.

2. The upper speed limit is applicable to the trucks registered with department irrespective of the facts whether it is involved in transportation of minerals or is driven for any other purpose. The speed limit shall be applicable to all such registered vehicles throughout the State of Goa and throughout the year so that confidence is reposed in the citizen that such vehicles shall not endanger the lives of other commuters on road.

3. The software with the help of VTS device fitted on transportation vehicles shall automatically debar all the trucks found to be exceeding the speed limit for the period mentioned as under:

(1) 1st Violation: Debarred upto 1 day
(2) 2nd Violation: Debarred upto 3 days
(3) 3rd Violation: Debarred upto 7 Days
(4) 4th Violation: Debarred upto 10 days
(5) 5th Violation: Debarred upto 15 days
(6) 6th Violation: Debarred upto 30 days
(7) 7th Violation: Debarred upto 60 days
(8) 8th Violation: Debarred upto full season

4. If in exigency situation if the truck exceeds limit beyond 40 km/hr. upto 50 km/hr., it shall not be treated as wilful violation of the speed limit. For this purpose any increase in speed of vehicle above 40 km/hr. up to 60 second at a time shall be presumed to be such exigency and shall not be treated as wilful violation of speed limit.

5. The list of violators shall be displayed on the website in the late evening of the same day or on next day.

6. It shall be the duty of the Leaseholder/Trader/end User, Transportation Contractors etc. not to employ such debarred vehicles' for any activities concerning Major Minerals like using such vehicles for internal movements within lease or jetty or storage points.

2024:BHC-GOA:1036-

7. If the debarred vehicle is used for transportation of the minor minerals like sand, laterite stones, rubbles, murram etc. during when it was debarred, such vehicle may be made liable for exorbitant fines' so also person who employed such vehicles.

8. Since debarring of trucks is done by use of software, the Social Status, Political Status or Economical Status either of the truck owner or driver shall not influence either monitoring or process of debarring trucks.

9. The registration of vehicles with the department is voluntary, as such once registered with the department, the owner and driver of the truck or machinery shall be governed by provisions of the MMDR Act, 1957 and rules made therein, so also administrative instructions issued by Department from time to time.

10. Irrespective of financial arrangements or other commercial decision with regards to employing of vehicle between Lease Holders, traders and endusers etc. and owner of vehicles or machinery, the department shall fake serious note if any attempt by owner of vehicle or through others' to illegal stop the transport. The department reserves the right to take stern action against such person if they are found to have stopped or abated legal transportation in accordance with law which is authorised by this department.

11. The department shall monitor all the vehicles registered with it throughout the year, as such VTS device of all the vehicles registered with department shall be active throughout the year irrespective of the fact whether it is mining season or otherwise.

12. The choice of vehicles to be used for transportation concerning the particular lease holder, traders or end users shall be exclusively left to the choice of lease holders, traders or end users. As such mere registration of vehicle with department shall not give any rights to any of the vehicle owner

to get business of transportation as a matter of right from the department/lease holder, end user etc.

13. The vehicle engaged for one lease hold area/end user shall be expressively barred for undertaking transportation or other allied activities for other lease holder/end user on the same day.

14. The time for transportation of minerals though starts from 6 a.m. to 10 p.m. the same may be modified from time to time at different locations' taking into accounts the usage of infrastructure facilities by members of public, so also all school going children etc.

15. To decongest the roads it is hereby ordered that there shall be equal way bridges at loading and unloading points.

16. Proper care shall be taken by the owner and driver of the vehicle to cover the minerals with turpentine etc. so that no wastage of mineral takes place at the same time dust pollution is avoided.

17. The Lease Holders or transportation contractors, end users shall ensure that before vehicles leaves their premises, the tyres of the vehicles are washed properly so that dust pollution on the road due to tyres 'can be avoided.

18. The trucks owners shall ensure that speedometer of vehicles are in good condition so as to enable the driver to control the speed of the vehicle and drive within the speed limit.

19. When any violation shall be noticed, the message of debarring of the truck shall be sent to all the owners/drivers on mobile numbers provided by them to department for over speeding. The duration for which they are debarred shall be intimated by auto generated SMS and when such message is received, it shall be the duty of such owner/driver not to use vehicle for any mining related activity during such period, any wilful defines of such instruction shall be solely attributed to such owner/driver and

employing of such debarred vehicle shall be liable for further grievous action both monitory and otherwise.

20. In case when vehicle registered with the department meets with an accident, it shall be presumed to be at fault and strict action shall be initiated against such vehicle. It shall be the duty of the vehicle owner to prove his innocence.

21. It is hereby clarified that whenever the old vehicles shall be replaced, they shall be replaced with new vehicles of capacity of at least 15 tons.

The above instructions are issued not only for implementation of the Goa (Prevention of illegal Mining, Storage and Transportation of Minerals) Rules, 2013 but also for honouring directions of the Hon'ble Supreme Court of India. The said action is initiated so that confidence is reposed in the minds of general public that the transportation of ore is not only in compliance with legal requirements but also keeping in mind safety of the general public, which is of paramount importance.

Since actions are initiated by the help of software with electronics monitoring devices there is no scope of human intervention for favouring any person or against any person as such should be taken into right spirit so that necessary corrective majors are taken.

Place: Panaji sd/-
(Prasanna A. Acharya)
Dated: 26th April, 2016. Director of Mines & Geology

(emphasis supplied)

36. The underlined portion of the instructions is significant. DMG is conscious of the directions of the Supreme Court. It also has in mind safety of the general public. As far as back as in 2016, the need

was felt to use software to do away with the scope for any human intervention. As experts concerned with the safety of citizens, adopting modern technology, upgrading software should be routine. To this end, we expect the DMG and GSPCB to be proactive. The suggestions of learned Counsel for the petitioners which we have dealt with in the later part of this judgment assumes relevance and need to be seriously looked into. As an expert body, we expect the DMG and GSPCB to examine these suggestions and depending on the scientific study enforce them if found useful.

37. In respect of transportation of 'e-auction ore', vide Corrigendum dated 06.06.2023, the DMG has imposed the following restrictions on traffic movement on different transportation routes. Such restrictions read thus:

> **CORRIGENDUM**
>
> **Subject: Transportation of Ore**
>
> This Department vide Memorandum No.03/66/2023/Major/Mines/194 dated 05/04/2023 had put restriction on number of trips per hour to avoid traffic congestion on village roads. This restriction stands amended to the extent given below:
>
> The traffic movement on different transportation routes will be monitored by Goa Electronics Limited on real time basis and the number of trips will be staggered between

20 trips to 40 trips per hour depending on the traffic congestion on the roads.

Sd/-
(Dr. S. Shanbhogue)
Director & Ex-officio Joint Secretary

38. Now we come to OM dated 29.10.2014 issued by the Ministry of Environment, Forests and Climate Change, as regards the 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. The said OM provides thus :

OFFICE MEMORANDUM

Subject: 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- Regarding.

The Ministry has been receiving mining proposals wherein the habitations and villages are part of mine lease areas or habitations and villages are surrounded by the mine lease area.

2. To discuss the impact of mining activities on habitations and to develop a code of practice on these issues, a meeting was held under the Chairmanship of Shri M.S. Nagar, Chairman EAC (Non Coal Mining Sector) on 23.06.2014. After detailed deliberations by the Experts, the following suggestions were made as part of mitigation

measures to avoid adverse impact of mining operations in the case of such habitations/villages:-

a) The Project Authority shall adopt Best Mining Practice for the given mining conditions. In the mining area, adequate number of check dams, retaining walls/structures, garland drains and settling ponds should be provided to arrest the wash-off with rain water in catchment area.

b) The natural water bodies and or streams which are flowing in and around the village should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Authorities have to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table.

c) 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. The Project Proponents (PPs) must ensure that the

biological clock of the villagers is not disturbed by orienting the floodlights/ masks away from the villages and keeping the noise levels well within the prescribed limits for day/night hours.

d) The Project Authority shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate arrangements for livestock grazing. In this context, Project Authority should implement the directions areas for the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun should be scrupulously guarded against felling, lest the cattle abandon the grazing ground or return home by noon.

e) Where ever blasting is undertaken as part of mining activity, the Project Authority shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the zone of influence and impact of blasting on the neighbourhood. Within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/rock breakers/surface miners etc. should be seriously considered and practiced

wherever practicable. A provision for monitoring of each blast should be made so that the impact of blasting on nearby habitation and dwelling units could be ascertained. The covenant of lease deed under Rule 31 of MCR 1960 provides that no mining operations shall be carried out within 50 meters of public works such as public roads and buildings or inhabited sites except with the prior permission from the Competent Authority.

f) Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry fogging system. Belt- conveyors should be fully covered to avoid air borne dust.

g) The Project Authority shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop Liability Insurance Policy has to be taken by the PP as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease area for such insurance policy. In case, several mines are located in a cluster, the Associations of owners of the cluster mines, formed inter-alia, to sub-serve such an

objective, shall take responsibility for securing such Crop Liability Policy.

h) In case any village is located within the mining leasehold which is not likely to be affected due to mining activities during the life of mine, the Expert Appraisal Committee (EAC) should consider the proposal of Environmental Clearance (EC) for reduced mining area. The Mining lease may be executed for the area for which EC is accorded. The mining plan may also be accordingly revised and required stipulations under the MMDR Act, 1957 and MCR, 1960 met.

i) Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The PP shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

j) Likewise, alteration or re-routing of foot paths, pagdandies, cart roads, and village infrastructure/public utilities or

roads (for purposes of land acquisition for mining) shall be avoided to the extent possible and in case such acquisition is inevitable, alternative arrangements shall be made first and then only the area acquired. In these types of cases, Inspection Reports by site visit by experts may be insisted upon which should be done through reputed Institutes.

k) As CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial turn-over, Socio Economic Development of the neighborhood Habitats could also be planned and executed by the PPs more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers on the lines as required under TOR. "R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the

village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the EIA report."

3. The matter was examined in the Ministry and accordingly, it has been decided that the above mentioned conditions at para-2 (a-k) may be included as a condition of Environmental Clearance letter to mitigate the adverse impact of mining operations in the case of such habitations/villages.

4. This issues with the approval of Competent Authority." (emphasis supplied)

39. It is therefore not as if transportation of the ore through village roads is completely prohibited as fairly submitted by the learned Counsel for the petitioner. Moreover, the aforesaid SOPs/measures are put in place to mitigate the adverse impact of mining operations in the case of such habitations/villages. Learned Counsel for the petitioners fairly submitted that the spirit of the OM dated 29.10.2014 is imbibed in the SOPs issued by the authorities from time to time. The safeguards imposed by way of SOPs, instructions, Rules and Regulations before and after filing of the PIL accords with the spirit of the OM dated 29.10.2014. These measures be strictly implemented.

2024:BHC-GOA:1036-

40. Learned Counsel for the petitioners made a fervent plea that the number of trips per hour be reduced and that there should be real time monitoring about the impact of pollution caused as a result of such transport. Learned counsel submitted that so far as transport is concerned, as a result of this Court's intervention, the SOP was evolved jointly by the DMG and the GSPCB. Learned Counsel submitted that the timing of ore transportation should be from 9.00 a.m. instead of 8.00 a.m. to 1.00 p.m. as per the SOP condition no.7. It is submitted that time period of 8.00 a.m. to 9.00 a.m. is the peak time for people travelling, large number of children going to school, etc. It is submitted that heavy truck movement is dangerous for human safety and it would seriously impede and inconvenience the day to day travel of a large number of people during this period from 8.00 a.m. to 9.00 a.m. It is then submitted that the total number of trips be restricted to the minimum or less than 20 trucks per hour and not the upper cap of 40 trucks per hour. It is submitted that no technical study has been carried out for the capacity of village roads and the figure proposed in the SOP is an adhoc figure not backed by data. The constant movement of the trucks would be hazardous for the locals. It is requested that the total number of trips ought not to be higher than 20 (load) trips per hour.

2024:BHC-GOA:1036-

41. So far as monitoring of ore transportation operation by GSPCB and DMG is concerned, learned Counsel for the petitioners submitted that the monitoring of ore transportation is proposed to be done under the new regime i.e. installation of monitoring stations along the ore transportation route, readings of air quality taken twice a week and averaged out for 24 hours and results obtained after six days. She submits that the use of 24-hour ambient air quality monitoring data for truck transport of ore is wholly inappropriate since the truck transport does not happen over a 24-hour period as is the case with an industrial unit working three shifts. Thus, while the actual transportation period in which air pollution levels are higher are approximately 8 hours only, these air pollution readings are merged into the readings captured over the period of 24 hours, which results in the air pollution levels being averaged out and almost always being within permissible limits on account of no major activity taking place in the balance 16 hours (i.e. of non transportation). According to learned Counsel, the average pollution level readings are thus deemed to be within the norms (Ambient Air Quality for Residential Areas). Learned Counsel for the petitioners suggested that, (a) the monitoring of air pollution needs to be done daily and exclusively within the ore transportation timings and (b) monitoring should be in the nature of real time, online monitoring, with the equipment linked with the PCB servers and Panchayat. Learned Counsel submitted that at present the

2024:BHC-GOA:1036-

monitoring system neither indicates the true picture of dust pollution levels during ore transportation nor does it enable the Board to respond quickly by reducing the transport or shutting it down temporarily and more focused method is required to achieve proof of air pollution and most importantly, enable the Board to conduct what is actually "point source" monitoring. It is further submitted that while the movement and timing of trucks is already subject to real time monitoring online by the DMG, the measurement of pollution levels (in terms of PM10 and PM2.5) is available only six days after the actual events, due to outdated technology. Learned Counsel submitted that with the outdated system, the chance of policy intervention and quick action being taken against excessive pollution is ruled out.

42. Learned Counsel for the petitioners urged that the need of the hour is to ensure the updation of pollution monitoring technology to keep up with scientific advancements. According to her, Real Time monitoring of air pollution levels will enable the Pollution Control Board to swiftly take action in the event air pollution levels are breached on a particular day. The petitioner wants this Court to recommend to the Board to invest in and use low-cost air quality monitoring for dust pollution in village settlements and crowded roads in the forthcoming season itself, commencing September 2024. It is

2024:BHC-GOA:1036-

submitted that the costs may be recovered from the transporter. It is submitted that the transportation of 'e-auction ore, which is actually never ending process will always be an ongoing phenomenon. Learned Counsel urged that the Board must take a proactive approach while entering a new phase of mining. It is submitted that trials of the new, low-cost electronic sensor-based air quality technologies (also used by Govt. Pollution Control Boards in Rajasthan, Maharashtra and - Karnataka) should be started during the monsoon itself, so that the difference between pure air and polluted air will be obvious, if pollution is generated by this activity. The low-cost systems suggested (or any other sensible equivalent) would enable the person at the monitoring station /P.C.B. officer to immediately shut down the activity or warn the transporter (and connected leaseholder), if the PM standards (100 for PM10 and 60 for PM 2.5) are breached. This according to the learned Counsel would be similar to the real time action that the D.M.G. states it will take if the number of trucks deployed is in violation of the number permitted, or if stipulated speed levels are exceeded. The petitioners have provided details about some of the low cost air quality monitoring device which has been deployed in various cities. Learned Counsel suggested that 'ATMOS' real time Air Quality Monitoring Device, developed by the research team at IIT Kanpur is useful. The features of this device are :

- It enables real time monitoring of PM 1, PM 2.5 and PM 10 levels.

- The average cost per unit is Rs,30,000/-

- It has an inbuilt GPRS module and does not require additional WIFI/network setups.

- Monitoring data is transmitted real time and is accessible on an online dashboard.

- On a full charge, the device can monitor air levels for a period of 8 hours.

43. Pursuant to the orders passed by this Court, we find that the DMG and the GSPCB have suggested measures and put SOPs in place which are mitigating measures. We have no manner of doubt that the GSPCB and DMG will adopt a proactive approach in embracing modern technology which will go a long way in striking a just balance between two competing interests as the time tested principle of striking this balance is primary invocation of mitigating measures amidst such activity. We have no manner of doubt that the suggestions made by the learned Counsel for the petitioners which we find worth considering will be given due weightage. The GSPCB as an expert body should make best possible endeavor to ensure that harmony is upheld and hurdles for the citizens are minimised by resorting to active mitigating measures. The suggestions of the learned Counsel for the petitioners be given serious consideration by

the authorities. It is the primary duty of the expert agencies to ensure a right balance and we expect that a proactive approach be adopted in the best interest of the villagers.

44. The DMG and GSPCB to ensure that the measures aforesaid are strictly monitored and implemented in its true letter and spirit. Any violation be dealt with firmly.

45. We thus find from the materials that the expert bodies like GSPCB and the DMG have issued the SOPs and imposed necessary safeguards in the transportation of the 'e-auction ore'. It is not possible for us to substitute our opinion for that of the expert body like the GSPCB and DMG. The recommendations and decision of the DMG and GSPCB cannot be undermined in a light manner and due deference must be accorded to expert agencies when the decisions do not attract the taint of legal unjustness/infirmity. We, however, feel the need to record that the mitigating measures must be strictly observed by the project proponent/transport operators in letter and spirit during the transportation of the ore. They shall ensure regular monitoring. Any infraction be dealt with seriously. The suggestions made by the petitioners be given due weightage by the GSPCB and DMG. The GSPCB and the DMG should make every possible endeavour to strike a just balance in the conflict of competing interests by resorting to modern techniques amidst the transportation activity.

2024:BHC-GOA:1036-

46. We find it necessary to direct that a proper study be carried out by preparing a report specific to each route permitted by DMG and GSPCB for transportation of ore through the villages on the basis of carrying capacity of each road. The DMG and GSPCB undoubtedly will have to consider the length of the route, number of houses/hamlets, situated on the route with the study of the population enroute, the details of schools or other such activities that may exist along the route apart from other factors while taking a decision on granting transport permission based on the carrying capacity set down for each route. This will accord with the spirit of the OM issued by the Ministry of Environment. The DMG and GSPCB shall, as far as possible, monitor the trucks on each route on Real Time basis, install CCTV cameras connected to DVR devices at Panchayat Ghars and/or public schools and/or the office of the GSPCB and DMG to enable the DMG/GSPCB and/or Panchayat officials or other designated officials to monitor and observe the movement of trucks carrying such ore along the route.

47. The DMG and GSPCB shall as far as possible install pollution monitoring devices of the nature that may upload information/data to the server of the DMG and GSPCB in Real Time to enable the Departments to monitor the air quality along the designated routes in Real Time and to arrest the movement of trucks, if required to bring air pollution to within permissible norms.

2024:BHC-GOA:1036-

48. We reserve the liberty of the petitioners/any of the affected person or in public interest to approach this Court in case of difficulty in the implementation of the aforesaid measures, breach of any conditions or for any other genuine cause concerning the transport activity at any stage when necessary.

49. The PIL Writ Petition is disposed of in the above terms. No order as to costs.

VALMIKI MENEZES, J. **M. S. KARNIK, J.**

o/c

Date: 07.12.2024

To,

The Sub-Inspector of Police

Bicholim Police Station, Bicholim, Goa

Sub: Request for registering complaint and providing Police protection to transport Iron Ore from Bicholim Block I to Sarmanus Jetty

Respected Sir/Madam,

We, Vedanta Limited, write to bring to your attention an urgent matter regarding the transportation of ore from the Bicholim Block I, for which we were declared the successful bidder and later executed Mining Lease dated 22.03.2024 with the State of Goa. We have obtained all requisite statutory permissions, including Environmental Clearance (EC), and have complied with all applicable laws and regulations.

The EC specifically mentions the approved transport route for the transportation of ore which is the same route as used by the erstwhile lessee for more than last 4 decades. In line with this, we applied for and obtained a valid transit permit from the concerned authorities for the designated route. It is pertinent to highlight that this is the only route which has been in continuous, unobstructed and uninterrupted use for ore transportation for more than last 4 (four) decades from Bicholim mine to Sarmanus Jetty.

However, we regret to inform you that certain individuals are attempting to unlawfully block the aforementioned route passing through survey nos. 154, 164 & 184 at village Pilgao, Taluka Bicholim thereby hindering the transportation process. This unauthorized blockage shall disrupts our lawful operations and poses a significant risk of law and order issues in the area.

It is pertinent to note that the matter relating to transportation of ore through the subject matter route has been adjudicated and decided by Hon'ble High Court of Bombay at Goa in MCA No 1416/2024 of PILWP 6/2024 wherein Hon'ble High Court was pleased to allow transportation of

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T +91 0832 2460600 Website: www.sesagoaironore.com
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CIN: L13209MH1965PLC291394

Dt:-09-12-2024
13:28 h

RECEIVED
09/12/2024
Entry Clerk
Office of the Deputy Collector & SDO
Bicholim Taluka

mineral ore *inter alia* on the subject matter route. In the said proceeding before Hon'ble High Court, some person claiming the same proprietary right on the subject matter route had also filed Intervention Application. In such application, the Hon'ble High Court was pleased to direct such person to approach appropriate court of law.

In the present matter, certain individuals have chosen to take law in their own hands and are threatening to damage men, machinery and property of the Company instead of availing remedy before the appropriate court of law.

In view of the above, we humbly request your esteemed offices to register complaint against above individuals and provide necessary police protection to facilitate the smooth and lawful transportation of ore. Your intervention will ensure that no untoward incidents occur and that lawful activities are conducted without obstruction.

We remain committed to adhering to all legal and regulatory requirements and seek your support in ensuring the safe and efficient transportation of ore from the Bicholim Block I. We look forward to your immediate action in this regard. Should you require any further information or clarification, please feel free to contact us.

Thanking you,

Yours faithfully,

(Abhinav Gupta)
Dy. CFO & Chief Strategy Officer - Sesa Goa

CC:

1. Director, Department of Mines and Geology, Goa
2. Collector, North Goa, Office of the Collector, Panaji, Goa
3. Superintendent of Police, Office of Superintendent of Police, North Goa
4. Deputy Collector, Bicholim, Office of the Deputy Collector, Bicholim, Goa

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IN THE HIGH COURT OF BOMBAY AT GOA

WRIT PETITION NO.3139/2024 (F)

TRUCK OWNERS
ASSOCIATION OF SESA
MINING BICHOLIM
MINE,REP. BY ITS
PRESIDENT RAJARAM
GAONKAR AND ANR.
⋯ PETITIONERS

Versus

STATE OF GOA, THR.
CHIEF SECRETARY & 3 ORS.
⋯ RESPONDENTS

Mr Yogesh Nadkarni with Mr Nilay Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Mr Deep Shirodkar, AGA for Respondents No.1 to 4.

WITH
WRIT PETITION NO.3140/2024 (F)

M/S. VEDANTA LIMITED,
REP. BY AUTH. SIGNOTARY
KARNI SINGH RAJORA AND
ANR.
⋯ PETITIONERS

Versus

STATE OF GOA, THR. THE
CHIEF SECRETARY AND 5 ORS.
⋯ RESPONDENTS

Mr S. S. Kantak, Senior Advocate with Mr A. Gosavi, Ms Neha Kholkar, Mr G. Kerkar and Ms K. Naik, Advocates for the Petitioners.
Mr D. Pangam, AG with Ms Maria Correia, AGA for Resp. No.1 to 6.
Ms Norma Alvares, Senior Advocate with Mr Om D' Costa, Advocate for Respondent No.7.

CORAM: M. S. KARNIK &
NIVEDITA P. MEHTA, JJ.

DATE: 17th DECEMBER 2024

P.C.:

1. We have heard Mr S. S. Kantak, learned Senior Advocate and Mr Yogesh Nadkarni for the petitioners appearing in the connected Writ Petition. We have also heard learned Advocate General representing the State. Ms Norma Alvares, learned Senior Advocate appears for respondent no.7.

2. The grievance of the petitioners is that though they are duly authorised to transport the ore through the road which has been mentioned in the Environmental Clearance Order, some of the villagers are illegally obstructing the transportation of ore.

3. At this juncture, considering the rival claims set up in respect of the road in question, we find it appropriate to direct the respondents to look into and take a decision on the representation/communication dated 09.12.2024 which is at page 100 of Writ Petition No.3139/2024 (F) and the representation/ communication dated 07.12.2024 which is at page 153 of Writ Petition No.3140/2024 (F) in accordance with law expeditiously.

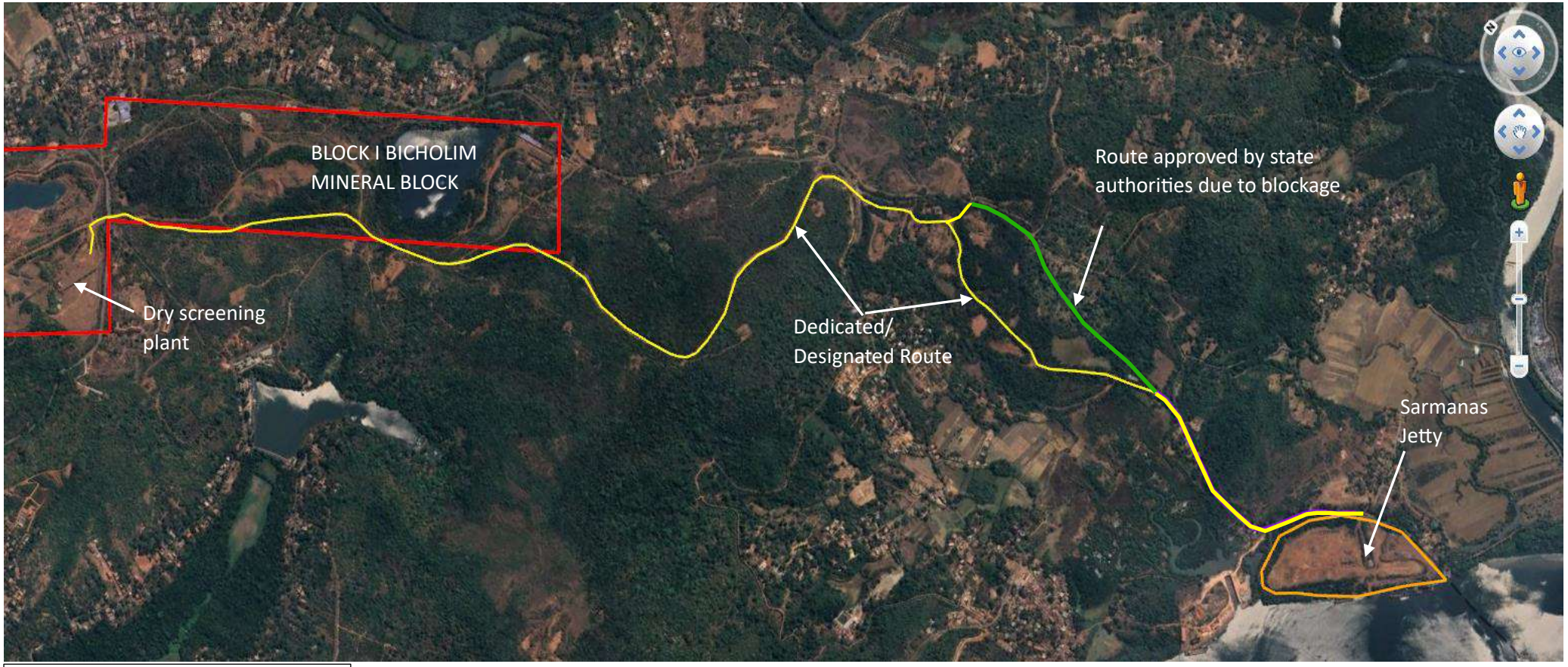
4. Keeping all contentions of all parties open, both the Writ Petitions are disposed of without any order for costs.

NIVEDITA P. MEHTA, J. **M. S. KARNIK, J.**

Signed by: SUCHITRA NANDAN SINGBAL
Designation: Personal Assistant
Date: 18/12/2024 16:06:11

Annexure A-12

GOOGLE MAP OF DEDICATED/DESIGNATED ROUTE AND ROUTE APPROVED BY AUTHORITIES DUE TO BLOCKAGE FROM BICHOLIM MINERAL BLOCK TO SARMANAS JETTY



INDEX	
	Dedicated/ Designated route
	Route approved by state authorities due to blockage

Sensitivity: Public (C4)

Subject: EC for Bicholim Mineral Block | Transportation of iron ore from E

Milind M Barve <Milind.Barve@vedanta.co.in>
to secy-moef@nic.in, Jagdish Desai, Dhirajkumar Jagdish, Ashis Dash, Navin Jaju, Vinod Kumar

Dear Madam,

Please see attached, scanned copy of the letter dated 13.12.2024 in the captioned matter.

This is for your kind information please.

Regards,

Milind Madhukar Barve
HEAD HSE DIP & CORPORATE AFFAIRS (GOA)
VEDANTA LIMITED | sesa goa
Mob : +91 9923794685
Website: www.vedantalimited.com

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Bicholim - EC 3 m..

Annexure A-13

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Date: 13.12.2024

The Secretary
Ministry of Environment, Forest & Climate Change
Jor Bagh, New Delhi

Sub.: Transportation of iron ore from Bicholim mine to Sarmanus Jetty

Ref: EC dated 23.02.2024 granted to Bicholim Mineral Block of M/s Vedanta Limited for mining of Iron Ore of 3.0 MTPA capacity in Bicholim Taluka, Goa (File No.: IA-J-11015/3/2023-IA-II(NCM)

Dear Sir,

Please refer environmental clearance for Bicholim Mineral Block I(Auction Block) of 3.0 MTPA dated 23.01.2024. A copy of the EC is enclosed herewith for your reference. The iron ore mined from Bicholim Block 1 is transported to Sarmanas Jetty *via* a transportation route having total distance of 5.48 kms.

Recently, a group of individuals have blocked/obstructed our transportation route and therefore as an interim measure, an application was made to the Director of Mines & Geology (DMG), Govt. of Goa to allow interim deviation /diversion from the existing transport route from mine to the jetty, whereafter it is an eco-friendly mode of transport via riverways. Accordingly, an Inter-Departmental Committee comprising of the following representatives was formed to examine the proposed route:

(i) Director of Mines & Geology, Goa
(ii) Goa State Pollution Control Board
(iii) Public Works Department (PWD) , Bicholim
(iv) Directorate of Transport, Bicholim
(v) Traffic Cell, Bicholim
(vi) State Police Department

Subsequent to joint-site visit and examination of the proposed mineral transportation route by the above Departments on 26.11.2024, in presence of local Panchayat and company representative, the Inter-Departmental Committee has recommended mineral transport on the proposed deviation route as an interim measure, along with additional environmental and safety measures.

Basis recommendation of the said Committee and letter from GSPCB, we have now received permission from the DMG, Govt. of Goa to start mineral transportation on the proposed deviation transportation route.

We are hereby submitting this correspondence for your kind information.

Thanking you,
Yours sincerely,

Jagdish Desai
Authorised Signatory

VEDANTA LIMITED
Sesa Goa Iron Ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

Annexure A-14

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Date: 30/05/2025

To
The Director
Ministry of Environment and Forest
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Submission of Half Yearly Compliance Report for the period of October 2024 to March 2025.

Ref. 1. Environment Clearance [File No.: IA-J-11015/3/2023-IA-II(NCM)] granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited.

Respected Sir,

This has reference to the captioned subject and cited Environmental Clearance. Kindly acknowledge the enclosed Six-monthly compliance report to Environment clearance [File No.: IA-J-11015/3/2023-IA-II(NCM)] dated 23/01/2024, for the period of October 2024 to March 2025.

Thanking you,

Yours faithfully

Dhirajkumar Jagdish
Dy. CEO – Iron Ore Goa
Authorised Signatory

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
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CIN: L13209MH1965PLC291394

Sensitivity: Internal (C3)

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Compliance report to conditions of environment clearance issued by Ministry of Environment, Forest and Climate Change for Bicholim Mineral Block- Block 1 (Auction Block) of Vedanta Limited File No.: IA-J-11015/3/2023-IA-II(NCM)

Specific EC Conditions for (Mining Of Minerals)

S.No	EC Conditions	Compliance Status
1.1	The instant Environmental Clearance (EC) is subject to the outcome of the WP 592 of 2022 (MSPL v. State of Goa and Ors.) regarding challenging the constitutionality of the tender documents of Phase I auction of Goa mines and PIL WP 2029/2023 (F) (Suresh Govind Gaonkar and Ors v. Directorate of Mines and Geology and Ors) regarding challenging the state's decision to go ahead with the auction of the mining block.	WP 592 of 2022 (MSPL v. State of Goa and Ors) has been dismissed and the validity of tender documents and LOI was upheld. PIL WP 2029/2023 (F) (Suresh Govind Gaonkar and Ors v. Directorate of Mines and Geology and Ors) is pending before the Hon'ble Bombay High Court at Goa
2.1	The Project Proponent shall monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village, crusher and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Regional Office.	Air quality (Ambient and Fugitive), noise level (core and buffer), water quality (surface water and ground water), water levels (from buffer villages) monitoring is carried out every month. No Drilling and Blasting is carried out. **Annexure – 1**
3.1	The budget of Rs 309.3 Lakhs to address the concerns raised by the public in the public consultation to be completed 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 the public hearing is different from the CSR activities.	Will be complied with, action plan to comply the CER in three years is prepared and accordingly acted upon. The progress details are maintained and recorded. It is ensured that CER is different from CSR. **Annexure - 2**
4.1	The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEFandCC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance report.	Various awareness programmes on the ban of Single Use Plastic conducted as follows: Nukkad natak/Skit performed on Ban on SUP, Plastic waste and environment protection. Awareness session among employees by conducting training sessions – 2 training sessions. Awareness and Promotion of Environment Protection as part of

		MEMC week celebration with Songs, slogans and quotes on Ban of single use plastics, environment protection, plantation, conservation of water, etc. in Bicholim public areas Posters displays at prominent places withing mine unit like admin building, canteen etc on ban of Single Use Plastic. A report, along with photographs, on the measures taken has been attached as **Annexure 3**
5.1	The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs 72 Cr. 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.	The Budgetary provision is mentioned as Rs 72 Cr. in the condition, which is a typo error. The budgetary provision committed and presented to EAC was Rs 72 Lakhs. The adoption of mitigation measures and monitoring of the same as proposed in the EMP is done under the supervision of the qualified environmental personnel. The implementation status of same is attached as **Annexure 4**.
5.2	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.	In house (at project site) environment laboratory for measurement of environment parameter is established. A dedicated team to oversee environment management is setup at site for monitoring of environment parameters. There was no non-compliance in this reporting period.
6.1	The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years.	Currently inducted 4 EV Wheel loaders in our mining operation in the reporting period. These Ev machines are under observation to study the performance in the mining condition. Going forward more EV HEMM's and dumpers will be included with the advent in technology and feasibility.

7.1	NoC from the Central Ground Water Authority (CGWA)/ Concerned Local authority, as the case may be, shall be obtained before drawing the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.	Obtained NOC for drawing the rainwater harvested/pit water from Goa State Water resource department dated 21/09/2023
8.1	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. The preference shall be given to the local people for the purpose of employment as committed before the EAC.	Vedanta Bicholim Mines registered under the Apprenticeship Program under the Directorate of Skill Development and engaged five apprentices as of date. Further, we have provided internship training to three students who are pursuing their graduation. The outcome of the training will be reviewed and analysed by the end of their apprenticeship and internship stints. Also, we are in the process of finalising the further candidates under a year-long apprenticeship program in the coming months.
9.1	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 on occupational health shall be carried out 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.	Periodic Health monitoring and surveillance records are maintained in soft as well as in physical form (register) for mine workers. Mobile Health Unit set for Pilgao, Mayem, Mulgao, Lamgao and Sirigao villages close to our operations with 3982 footfall for the reporting period. 5 specialized health camps for women, children and old age people conduced - 700 people benefited for the reporting period.
10.1	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 Regional Office.	Land restoration will be done as per Mine closure plan and it will be implemented scientifically.
11.1	The Hon'ble Supreme Court has imposed a capping on mining of iron ore to 20 MTPA for the entire State of Goa. Accordingly, the Project Proponent shall first obtain the necessary permission from the competent	Necessary permission obtained from the competent authority before starting mining operation.

	authority with regard to the amount of mineral they can mine per year, before starting its mining operation.	
12.1	The Project Proponent needs to obtain prior permission from the MoEFandCC for mining in common boundary as and when required.	Necessary permission will be obtained from the MoEFandCC for mining in common boundary when required.
13.1	As committed before the EAC, the Project Proponent needs to explore the feasibility for installing conveyor belt system for transportation.	The company has explored the feasibility for OLBC with capacity of 3 MTPA from dry mineral processing plant to Sarmanas Jetty covering a length of 5.772 km. Further detailed studies and rigorous assessments are recommended to identify the optimal system for implementation, considering specific mine conditions and livelihood of the local stakeholders along with long-term operational benefits.
14.1	The mined out pits will be converted into water reservoirs, pond with other ecotourism facilities like water sports, boating, fishing etc., Pisciculture in mine pits will be developed and also the local community will be involved for cage fishing to make it a commercially viable venture.	Reclamation activities will be carried out simultaneously with mining activities. The finalised areas will be taken up for reclamation / eco-restoration various projects like pisciculture, theme-based biodiversity garden will be implemented. The company will collaborate with various research institutes/consultants/subject matter experts/forest dept./ agriculture dept. as and when required.
14.2	The ecology restoration or mine reclamation activities shall be carried out concurrently with mining operations. The Project Proponent shall ensure that the restoration models demonstrated before the EAC shall be developed in association with research institutes like NEERI, Goa University etc.	
15.1	Regular monitoring and analysis of discharge water and at upstream and downstream of Bicholim and Asnora river needs to be carried out quarterly through NABL/MoEFandCC accredited laboratory.	Regular monitoring of mine discharge water and upstream and downstream of Bicholim and Assonora river is being carried out every month through NABL/MoEFandCC accredited laboratory.
16.1	Extensive native fruit bearing plantation shall be carried out in all safety zones with density of 2500 trees/ha.	Plantation exists in safety zone area. it will be further strengthened by gap filling with native species.

16.2	The Project Proponent needs to complete the entire peripheral plantation under green belt, safety barrier plantation and gap plantation within three years from the start of mining operations. The Project Proponent should plant quality sapling of appropriate height of native and fruit bearing species. In case of tall transplants (seedlings) the seedlings should have proper trained root stock with root biomass commensurate with seedling height to ensure good growth after out planting. Plantation shall be undertaken in consultation with the State Forest Department. 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 Regional Office.	The safety belt/ peripheral plantation will be completed within three years from start of operations. Aftercare will be provided to the saplings so as to achieve maximum survival rate.
17.1	The waste dump slopes shall be covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.	Approx. 2 ha of final waste dump has been covered with laterite material and geotextiles as to facilitate the growth of native species in the first year of operation. As part of monsoon preparation work final dump benches are being covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.
18.1	The Project Proponent needs to install the permanent water sprinklers along 3.40 km haul road within the ML area and 2.80 km length outside the ML area on either side of the road.	The company has explored the feasibility for permanent sprinklers considering mine operation. Further detailed studies and rigorous assessments are recommended to identify the optimal system for implementation, considering specific mine conditions.
18.2	As committed by the Project Proponent, existing trucks of 10.5 Tonnes shall be replaced with higher capacity trucks of 25 Tonnes in phased manner to reduce traffic load and emissions per tonne/km.	The mining activity was started in March24 and the transportation activity was started in July24 and is carried out by the locals by using 10.5T trucks. The company is engaging with the Truck owners association for phasing of 10.5T trucks and replacing with higher capacity trucks.
18.3	Fugitive dust monitoring during transportation shall be monitored regularly at all the sensitive receptors and report shall be submitted quarterly to the Regional Office of MoEFandCC. Regular sprinkling shall be done on roads to suppress the dust at the source.	Fugitive dust monitoring is done within mine area such as haul road, mine face, screening plant and dumping site. Reports are attached as **Annexure 1.** Regular sprinkling on haulage road is done to supress the dust.

18.4	The Project Proponent shall adhere to the pollution control measures suggested by the Central Pollution Control Board (CPCB) in the environmental guidelines for crushing/screening activity.	Will be complied with when the crushing/ screening plant will be installed.
19.1	The wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine.	The wheel washing facility/rumbler system (cattle trap) for the ore transport vehicles is provided at the exit point of the mine as per consent.
20.1	The Project Proponent needs to speed up the process of construction of underpass.	Under pass work will be executed by Public Works Department of State Government. The advance payment for the work is done.
21.1	The Project Proponent needs to strengthen the settling pond with proper stone pitching in line with the design of settling pond considering the annual rainfall, flow rate, catchment area and its discharge.	Settling ponds are provided considering rainfall and are regularly maintained. Desilting of settling ponds is carried out before onset of monsoon. Proper overflow arrangement provided.
21.2	The catch drains and siltation ponds needs to be regularly maintained to arrest silt and sediments flow from dumps.	The catch drains and siltation ponds are maintained and desilted before the onset of monsoon to arrest silt and sedimentation flow from dumps.
22.1	The Project Proponent needs to develop a nursery adjacent to the mineral block (Survey no 72/4 in Bicholim Village) for an area of about 1100 sq.m in consultation with State Forest Department. PP shall develop theme-based gardens like medicinal gardens, horticulture gardens, spice gardens etc.,	Nursery has been developed at the identified location. Native species of sapling collected and developed in consultation with forest department.
23.1	The Project Proponent needs to modify the crushing and screening units within 4 months from the date of issue of this EC.	The erection of crushing and screening pant was not completed yet. All the necessary maintenance, modification, safety and environment protective measures will be carried out before getting the plant into operation.
24.1	The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the vicinity of the mine lease area as well as in 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.	We have prepared and submitted Wildlife Conservation Plan to Forst Department including provision of funds for installation of camera. WLCP is under scrutiny and will be executed in consultation with Forest Department once approved.
24.2	The Project Proponent needs to explore the possibility of using advanced/ latest mining technologies available so as to minimize the ecological impacts.	Complied. Latest mining soft ware is used for mine planning. Advanced mining machinery is used for mining operations.
24.3	The Project Proponent should follow-up the status of implementation on Wildlife Conservation Plan from the Forest Officials and the same shall be submitted to	Wild Life Conservation Plan submitted to Forest Department. WLCP is under scrutiny and will be executed in

	the Ministry's Regional Office in the six monthly compliance report.	consultation with Forest Department once approved.
25.1	The Continuous Ambient Air Quality Monitoring Stations (CAAQMS) shall be installed and commissioned in consultation with CPCB. 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.	The Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed and commissioned in consultation with CPCB. The real time data so generated are displayed digitally at entry and exit gate of mine lease area for public display and is linked to server of Goa SPCB.

Standard EC Conditions for (Mining of minerals)

	Statutory Compliance	
1.1	This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.	Complied.
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 andOrs before commencing the mining operations.	This judgement pertains to mining operations in the state of Odisha and therefore is not applicable for us. We are however complying with all statutory provisions, approvals and consent requirements for our mining operations.
1.3	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining and 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 and Ors.	This judgement pertains to mining operations in the state of Odisha and therefore is not applicable for us. We are however complying with all statutory provisions, approvals and consent requirements for our mining operations.
1.4	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".	Mitigation measures are followed which are applicable and are under compliance and part of EC conditions
1.5	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.	Complied
1.6	State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional	In scope of GSPCB to comply.

	office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.	
1.7	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.	EC was widely publicized on Lokmat (vernacular language) and The Navhind times on 29th January 2024
1.8	The Project Proponent shall inform the MoEFandCC 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.	Will be ensured. Currently there is no change in ownership/transfer of EC.
2	**Air Quality Monitoring And Preservation**	
2.1	The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.	3 Nos. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed and commissioned in consultation with Goa SPCB. The real time data so generated are displayed digitally at entry and exit gate of mine lease area for public display and is linked to server of Goa SPCB The ambient air quality is monitored at prominent places like office building, canteen. Data is displayed on online display board and same shared to Goa State Pollution Control Board.
2.2	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards	Regular water sprinkling is carried out on haul road, loading unloading points to control Fugitive dust emissions. Trial run of Use of suitable water-soluble chemical dust suppressing agents was done. It will be further explored. Air pollution level conform to the standards prescribed by the

	prescribed by the MoEFCC/ Central Pollution Control Board.	MoEFCC/ Central Pollution Control Board.
3	**Water Quality Monitoring And Preservation**	
3.1	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro- geological study of the area.	Detailed hydrogeological study was carried out and submitted to the Water Resource department (WRD) for obtaining their NOC and MoEF andCc as part of EIA for obtaining EC NOC obtained from WRD, Goa government.
3.2	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.	Ground water level and quality in and around the mine lease is being carried out in Lamgao, Mulgao, Bicholim, Pilgao and Mayem village, every month. New piezo meter (2 nos) installation is under process and in consultation with Water Resource department.
3.3	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	There is no water bodies/course flowing in the lease. Bicholim river and Assonora river is flowing around the lease and regular monitoring of upstream and down stream is being carried out. Report attached in **Annexture 1** The storm water management is prepared, and surface runoff water is properly channelized into settling ponds, through trenches/garland drains Monitoring is carried out for the parameters as specified by GSPCB. Ensured that no obstruction and/ or alteration be made to water bodies during mining operations. There is not water courses/spring flowing within mine lease Trend analysis in **Annexture -6**

	Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.	
3.4	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.	The mine discharge water is being monitored for said parameters. The monitored data is uploaded in company website and on online display board near mine gate of the company.
3.5	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.	The rainwater is channelised through trenches, drains and settling pits and harvested in the mine pit. Majority of the water requirement of mines is met through the harvested rainwater. Reports in **annexture 6**
3.6	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.	Industrial waste water (workshop and waste water from the mine) is properly collected and treated after its initial passage through Oil and grease trap so as to conform to the notified standards prescribed through Consent to Operate (CTO) issued by Goa State Pollution Control Board (SPCB).
3.7	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 MoEFandCC and State Pollution Control Board/Committee.	Water Balance is prepared and submitted to Regional office MoEFandCC and Goa SPCB. Rainwater is harvested in mine pits and same water is used for dust suppression at mines and road washing.

4.1	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	There is no drilling and blasting involved in the project.
4.2	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.	Floodlights/ masks are oriented away from the villagers. All necessary measures taken to ensured that the noise levels is well within the prescribed limits for day /night hours.
4.3	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.	All the necessary measure (as per EIA) to control of noise levels below 85 dBA in the work environment are implemented. All employees are provided with necessary protective respiratory masks, ear plugs/muffs along with adequate training, awareness and information on safety and health aspects.
5.1	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 and dump management, O.Band 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.).	Mining is carried out as per approved mining plan
5.2	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.	Will be ensured. For the reporting period, ROM – 1881012 Tonnes Backfilling - 7767795Tonnes

6.1	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.	Dumping is carried out at earmarked sites within the mine as per approved Mining Plan and the guidelines/circulars issued by D.G.M.S Entire area proposed for mine working is broken up- no top soil.
6.2	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.	Use of geotextiles , grass and plantation with native species is done to stabilize the dump slopes and prevent slope failure. Inward slope are provided to each dump bench to channelize run off rain water properly into garland drains, filter beds and then to the settling ponds. Laterite boulder walls will be constructed at the toe of the dump.
6.3	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.	The runoff water is channelized properly in to garland drains and then to the settling ponds. Laterite boulder walls are constructed at the toe of the dump. The harvested rainwater is utilized for dust suppression, green belt development, plantation etc. the drains and settling ponds are de silted before the onset of the monsoon
6.4	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.	Check dams of appropriate size, gradient and length is constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies Adequate safety margin is kept considering maximum rainfall and 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.

		All drainages are connected to series of settling ponds
7.1	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].	Complied: Iron ore transportation road does not pass through any villages/habitation. Most of the road used for transportation is passing through mine lease and company owned land. The total travel distance upto Jetty is 8 kms (4.54 km dedicated road and 0.94 km MDR -20 Public Road). However transportation route mentioned in EC was blocked by certain individuals (mostly led by ex-workmen of the erstwhile mining leaseholder Sesa Mining Corporation Ltd.) over certain land parcels in November, 2024. On account of this blockade & obstruction, company approached Authorities seeking support and was allowed usage of the extended stretch of Major District Road-20 (MDR-20) upto an extent of 0.8 kms to carry out iron ore transportation from Bicholim mine to Sarmanus Jetty. Inter Department Committee (comprising of Dy. Collector, Officials from Directorate of Mines & Geology, Goa State Pollution Control Board, Public Works Department, Addnl. Director of Transport, Traffic Cell, Bicholim and Police Inspector, Bicholim) took cognizance of this blockade/ obstruction & conducted site visit. The Committee

Sensitivity: Public (C4)

		recommended extended usage of public road MDR-20 by 0.8 kms with certain conditions/ safeguards ex. avoiding congestion, deployment of traffic marshals etc. The transportation is not carried out on other transportation route rather company is using extended stretch of the same public road MDR-20 which has been appraised to the EAC and was part of the consultation process for grant of Environment Clearance for Bicholim Mineral Block. ' There is no habitation along the extended stretch of 0.8 kms allowed to be used by Vedanta Ltd. for iron ore transportation. Report of Inter department Committee attached in **Annexture -9**
7.2	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.	Permanent water sprinkling arrangement for dust suppression will be done in phased manner. Dedicated water tankers are deployed for dust suppression on the mines haulage roads. There is no fixed crushing plant at the mine. Goa Iron Ore is having inherent moisture content of approx. 12 % due to which there is no generation of dust while ore handling, however continuous dust suppression is carried out through water tankers Ore transportation is done through tippers, by road.

8.1	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.	Green belt development will be carried out as per approved mining plan, CPCB guidelines.
9.1	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 provision shall be made for protection and care of trees.	Plantation and afforestation in backfilled final dumps, reclaimed areas and other locations in mine lease with native species in consultation with State Forest Department. The company will collaborate with various research institutes/consultants/subject matter experts/forest dept./agriculture dept. as and when required. After care for the plantations are done and adequate budgetary provision are made.
9.2	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.	There are no grazing land within mine lease.
10.1	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.	Not applicable
11.1	The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within	Time bound action plan was submitted along with the

	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 MoEFandCC 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.	compliance report submitted in the month of May 24. Attaching the report for ready reference. - **Annexture 5**
12.1	The Project Proponent shall prepare digital map (land use and 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 MoEFandCC.	Complied
12.2	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Ensured
12.3	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC and its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	Will be complied with.
12.4	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFandCC.	A separate Environmental Management Cell is set up with suitable qualified manpower under Health Safety and Environment. Senior executive is reporting to Head of the Organization and EHS Head at corporate.
12.5	The concerned Regional Office of the MoEFandCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFandCC officer(s) by furnishing the requisite data / information / monitoring reports.	Agreed to comply.
12.6	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble 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.	Final mine closure plan will be scientifically implemented as approved by IBM.
12.7	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Noted
12.8	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	Noted

	and attract action under the provisions of Environment (Protection) Act, 1986.	
12.9	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and 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.	Noted
12.10	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.	Noted

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To

29/05/2025

The Director
Ministry of Environment Forest & Climate Change
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Compliance to Specific EC Conditions No. 2.1 and 18.3 - Block 1 Bicholim Mineral Block

Respected Sir,

Reference: a) EC File No. IA-J-11015/3/2023-IA-II(NCM) dated. 23/01/2024 granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore

With reference to Specific EC Condition No. 2.1 and 18.3, granted to Bicholim Mineral Block-Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore, we hereby submit Air quality (Ambient and Fugitive), noise level (core and buffer), water quality (surface water and ground water) water levels (from buffer villages) and fugitive Dust monitoring reports for the months October to December 2024.

Thanking you
Yours faithfully

For Vedanta Limited

Dhirajkumar Jagdish
Dy. Chief Executive Officer-Iron Ore Goa
Authorized Signatory

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

Annexture 1

1a. October 2024

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.10.2024	N/24/10/2-0199	7	9	44	28
08.10.2024	N/24/10/3-0021	8	11	53	27
16.10.2024	N/24/10/4-0104	9	9	40	22
17.10.2024	N/24/10/4-0142	10	14	33	26
23.10.2024	N/24/10/5-0103	6	19	54	28
24.10.2024	N/24/10/5-0137	7	10	47	25
30.10.2024	N/24/11/1-0091	8	11	51	27
31.10.2024	N/24/11/1-0117	7	9	40	22
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

ARSHIYA KOUSAR
Dy. T.M. - Chemical
Govt. Analyst / Authorised Signatory

948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.
Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in

Note : This report is subject to the terms and conditions mentioned overleaf.

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.10.2024	N/24/10/2-0200	9	11	51	27
08.10.2024	N/24/10/3-0022	10	10	46	24
16.10.2024	N/24/10/4-0105	9	12	35	18
17.10.2024	N/24/10/4-0143	10	13	45	24
23.10.2024	N/24/10/5-0104	10	12	37	19
24.10.2024	N/24/10/5-0138	12	14	44	25
30.10.2024	N/24/11/1-0092	10	11	53	28
31.10.2024	N/24/11/1-0118	10	12	48	26
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy. T.M. - Chemical
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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.10.2024	N/24/10/2-0201	7	9	46	26
08.10.2024	N/24/10/3-0023	11	14	39	18
16.10.2024	N/24/10/4-0106	9	11	40	22
17.10.2024	N/24/10/4-0144	6	10	46	22
23.10.2024	N/24/10/5-0105	10	13	44	24
24.10.2024	N/24/10/5-0139	8	11	47	26
30.10.2024	N/24/11/1-0093	11	12	45	24
31.10.2024	N/24/11/1-0119	9	11	52	27
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A4, Sirigao village
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.10.2024	N/24/10/2-0202	7	10	50	26
08.10.2024	N/24/10/3-0024	11	13	47	25
16.10.2024	N/24/10/4-0107	7	9	39	18
17.10.2024	N/24/10/4-0145	10	12	36	15
23.10.2024	N/24/10/5-0106	9	11	49	25
24.10.2024	N/24/10/5-0140	10	12	41	22
30.10.2024	N/24/11/1-0094	9	10	50	17
31.10.2024	N/24/11/1-0120	7	11	42	21
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

ARSHIYA KOUSAR
Dy. T.M. - Chemical
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Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.10.2024	N/24/10/2-0203	8	10	48	25
08.10.2024	N/24/10/3-0025	6	9	38	17
16.10.2024	N/24/10/4-0108	9	13	43	24
17.10.2024	N/24/10/4-0146	11	12	49	26
23.10.2024	N/24/10/5-0107	10	10	52	27
24.10.2024	N/24/10/5-0141	10	9	55	28
30.10.2024	N/24/11/1-0095	11	9	45	25
31.10.2024	N/24/11/1-0121	6	11	54	28
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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ENVIRONMENTAL LABORATORY

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A6, DBB office
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.10.2024	N/24/10/2-0075	9	12	47	23
05.10.2024	N/24/10/2-0149	7	11	51	26
09.10.2024	N/24/10/3-0089	5	10	53	28
10.10.2024	N/24/10/3-0141	9	11	50	29
18.10.2024	N/24/10/4-0178	10	12	54	28
19.10.2024	N/24/10/4-0242	4	9	41	24
25.10.2024	N/24/10/5-0164	7	11	46	23
26.10.2024	N/24/10/5-0206	11	13	39	20
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.10.2024	N/24/10/2-0076	9	13	33	19
05.10.2024	N/24/10/2-0150	7	9	45	26
09.10.2024	N/24/10/3-0090	7	12	42	28
10.10.2024	N/24/10/3-0142	8	10	47	24
18.10.2024	N/24/10/4-0179	12	11	45	22
19.10.2024	N/24/10/4-0243	10	10	52	28
25.10.2024	N/24/10/5-0165	7	9	51	27
26.10.2024	N/24/10/5-0207	11	13	50	27
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.10.2024	N/24/10/2-0077	9	14	44	23
05.10.2024	N/24/10/2-0151	11	12	54	28
09.10.2024	N/24/10/3-0091	7	9	47	24
10.10.2024	N/24/10/3-0143	8	10	40	22
18.10.2024	N/24/10/4-0180	9	12	53	27
19.10.2024	N/24/10/4-0244	10	12	48	25
25.10.2024	N/24/10/5-0166	7	9	30	21
26.10.2024	N/24/10/5-0208	9	10	53	29
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
04.10.2024	N/24/10/2-0078	158
05.10.2024	N/24/10/2-0152	163
09.10.2024	N/24/10/3-0092	220
10.10.2024	N/24/10/3-0144	237
18.10.2024	N/24/10/4-0181	368
19.10.2024	N/24/10/4-0245	345
25.10.2024	N/24/10/5-0167	394
26.10.2024	N/24/10/5-0209	422

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
04.10.2024	N/24/10/2-0079	335
05.10.2024	N/24/10/2-0153	226
09.10.2024	N/24/10/3-0093	210
10.10.2024	N/24/10/3-0145	230
18.10.2024	N/24/10/4-0182	378
19.10.2024	N/24/10/4-0246	277
25.10.2024	N/24/10/5-0168	285
26.10.2024	N/24/10/5-0210	340

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
04.10.2024	N/24/10/2-0080	358
05.10.2024	N/24/10/2-0154	396
09.10.2024	N/24/10/3-0094	296
10.10.2024	N/24/10/3-0146	245
18.10.2024	N/24/10/4-0183	375
19.10.2024	N/24/10/4-0247	324
25.10.2024	N/24/10/5-0169	381
26.10.2024	N/24/10/5-0211	388

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 04.11.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
04.10.2024	N/24/10/2-0081	368
05.10.2024	N/24/10/2-0155	288
09.10.2024	N/24/10/3-0095	322
10.10.2024	N/24/10/3-0147	366
18.10.2024	N/24/10/4-0184	422
19.10.2024	N/24/10/4-0248	226
25.10.2024	N/24/10/5-0170	412
26.10.2024	N/24/10/5-0212	297

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha),
EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling : 09.10.2024
Issue Date : 29.10.2024

Sl. No.	Sample Code / Lab Code / Parameters	EDW1 / N/24/10/3-0170	EDW2 / N/24/10/3-0171	EDW3 / N/24/10/3-0172	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
		Results				
1	Colour (Hazen Units),	5	5	5	--	IS:3025(P-4)2021
2	pH	6.93	5.40	5.70	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	18	34.0	22	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	70	46	38	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	38	26	20	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	20.0	36.0	24	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	12	11	9	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	18	10	10	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4.0	2.4	2.4	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.94	1	1	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	5	<1.0	<1.0	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	<1	<1	<1	--	IS:3025 (P-34) Sec 1 2023
13	BOD [3 days at 27°C] mg/l	1.8	1.22	1.1	30	IS 3025 (P-44) 2014
14	COD, mg/l	12	8	6	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.013	0.006	0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.5	5.6	5.6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Particular of Sample Collected : DW1 - Drinking Water Near DBB security

DW2 - Drinking Water DBB Office (HSE)

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Month : October, 2024

Date of sampling : 09.10.2024

Issue Date : 10.10.2024

Ref : IS:10500-2012 Norms (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	DW1 N/24/10/3-0182 Results	DW2 N/24/10/3-0183 Results	Desirable Limits	Permissible Limits	Method of Testing
1	pH	7.14	6.64	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
2	Turbidity NTU	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
3	Total Hardness (as $CaCO_3$),mg/l	22	20	200	600	IS:3025 (P-21) 2019 RA 2019
4	Total Colform	Not Detected	Not Detected	Shall Not be Detectable in any 100ml Samples		IS:15185:2016 , 1981

"END OF REPORT"

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)

Date of sample collection : 09.10.2024

Issue Date : 29.10.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW1 N/24/10/3-0177 Results	GW2 N/24/10/3-0178 Results	GW3 N/24/10/3-0179 Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	<1	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.92	6.70	5.10	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	5.5	2.1	4.5	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	150.0	60.0	66.0	--	--	IS 3026 (P-14)
5	Total Dissolved Solids,mg/l, Max	82.0	32.0	36.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	8.0	4.2	5.6	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	6.41	4.00	4.80	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	12.00	11.00	13.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	3.40	1.94	1.94	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	3.75	1.78	1.82	45	45	IS:3025 (P-34) Sec 1 2023
13	Sulphates (as SO_4),mg/l, Max	17.00	3.46	3.80	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	40.00	16.00	14.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	30.0	18.0	20.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	8.1	2.5	3.1	--		--

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village

Date of sample collection : 09.10.2024

Issue Date : 29.10.2024

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW4 / N/24/10/3-0180 / Results	GW5 / N/24/10/3-0181 / Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.80	5.50	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	1.8	2.5	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	48.0	50.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	26.0	28.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	4.0	18.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	1.60	1.60	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	10.00	10.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	1.45	1.45	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	<1.0	1.60	45	45	IS:3025 (P-34) Sec 1 2023
13	Sulphates (as SO_4),mg/l, Max	<1.0	<1.0	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	12.00	10.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	10.0	10.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	2.7	6.8	–		–

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Note : This report is subject to the terms and conditions mentioned overleaf.

Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling	: 09.10.2024
Issue Date	: 29.10.2024

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sample Code		SW1	SW2	Limits For Stream Water Standards	Method of Testing
Sl.No.	Lab Code	N/24/10/3-0173	N/24/10/3-0174		
	Parameters	Results			
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	6.56	6.40	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	20.0	18	–	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	50	56	–	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	28	30	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	22	20	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	10	8	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	12	10	–	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	3.2	1.6	–	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.0	1.45	–	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	2.2	3	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	<1.0	<1.0	50	IS:3025 (P-34) Sec 1 2023
13	BOD [3 days at 27°C] mg/l	1.22	1.45	-	IS 3025 (P-44) 2014
14	COD, mg/l	8	8	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.6	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW3 - Upstream Asnora River, SW4 - Downstream Asnora River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling	: 09.10.2024
Issue Date	: 29.10.2024

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW3 N/24/10/3-0175 Results	SW4 N/24/10/3-0176 Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units)	5	5	300	IS:3025(P-4)2021
2	pH	6.12	6.73	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	22	12	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	50	360	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	28	194	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	28	16	--	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	8	48	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	14	46	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	3.2	8.8	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.45	5.83	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3.6	18	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.1	7.4	50	IS:3025 (P-34) Sec 1 2023
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	--	IS 3025 (P-44) 2014
14	COD, mg/l	8	24	--	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	50	IS 3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	--	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.6	5.5	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Report No : ELMES482410

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services)**
Season	: **Post Monsoon Season, *2024***
Date of monitoring	: **25.10.2024**
Issue Date	: **04.11.2024**

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	36.3	44.4	51.2	34.0	37.2	41.5
N2	Mulgao village	37.0	46.5	53.8	33.0	37.8	42.8
N3	Piligao Village	37.5	45.5	51.7	34.8	39.2	43.7
N4	Shirgao village	35.0	44.2	52.0	34.0	38.8	42.9
N5	Anil Naik House Near Sarmanas Jetty	38.4	46.8	55.1	34.5	39.1	46.0
	Corezone						
N6	Mine Face- 5 top Common Boundary	39.4	49.1	56.4	35.0	40.3	48.0
N7	Dry Crushing and screening & Ore Stacking- NSP	40.1	55.6	65.0	34.7	46.9	56.4
N8	Haul road- at 4 Top	43.0	56.3	62.8	35.3	44.0	50.1
N9	Dumping- 5 Top	45.8	49.3	53.7	41.0	46.8	49.6

Permissible limits as per ILO Code of Practice
For Unprotected ear - 8 hrs working shift
Warning limit - 85 dB(A)
Danger limit - 90 dB(A)
Worker not to be exposed for more than 115 dB(A)
With ear protection -
130 dB(A) 'Impulse' or 120 dB(A) 'Fast'
No entry when noise level exceeds 140 dB(A)

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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Annexture 1

1.b November 2024

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.11.2024	N/24/11/3-0085	12	15	38	22
07.11.2024	N/24/11/3-0103	9	12	43	25
13.11.2024	N/24/11/4-0092	6	9	50	27
14.11.2024	N/24/11/4-0109	9	12	53	29
20.11.2024	N/24/11/5-0090	12	13	38	15
21.11.2024	N/24/11/5-0106	8	15	49	24
27.11.2024	N/24/11/6-0158	9	14	46	22
28.11.2024	N/24/11/6-0190	10	13	43	26
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.11.2024	N/24/11/3-0086	6	9	53	28
07.11.2024	N/24/11/3-0104	9	11	43	26
13.11.2024	N/24/11/4-0093	10	12	55	30
14.11.2024	N/24/11/4-0110	7	9	51	27
20.11.2024	N/24/11/5-0091	9	11	40	23
21.11.2024	N/24/11/5-0107	10	11	45	25
27.11.2024	N/24/11/5-0159	11	12	39	21
28.11.2024	N/24/11/5-0191	9	10	53	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.11.2024	N/24/11/3-0087	7	9	42	22
07.11.2024	N/24/11/3-0105	9	11	36	19
13.11.2024	N/24/11/4-0094	10	12	50	25
14.11.2024	N/24/11/4-0111	9	10	33	17
20.11.2024	N/24/11/5-0092	11	12	35	19
21.11.2024	N/24/11/5-0108	7	11	40	23
27.11.2024	N/24/11/5-0160	9	11	48	27
28.11.2024	N/24/11/5-0192	11	12	44	25
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A4, Sirigao village
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.11.2024	N/24/11/3-0088	8	9	50	26
07.11.2024	N/24/11/3-0106	9	12	52	26
13.11.2024	N/24/11/4-0095	10	11	45	23
14.11.2024	N/24/11/4-0112	9	10	47	25
20.11.2024	N/24/11/5-0093	12	17	37	19
21.11.2024	N/24/11/5-0109	7	9	40	23
27.11.2024	N/24/11/5-0161	11	13	39	20
28.11.2024	N/24/11/5-0193	9	13	33	22
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.11.2024	N/24/11/3-0167	7	10	54	32
09.11.2024	N/24/11/3-0243	9	11	50	28
15.11.2024	N/24/11/4-0156	7	10	47	28
16.11.2024	N/24/11/4-0220	11	12	44	23
22.11.2024	N/24/11/5-0135	10	11	51	27
23.11.2024	N/24/11/5-0206	7	9	40	23
29.11.2024	N/24/11/6-0202	9	11	47	26
30.11.2024	N/24/12/01-0004	6	9	37	20
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A6, DBB office
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.11.2024	N/24/11/3-0168	7	9	34	17
09.11.2024	N/24/11/3-0244	10	11	51	27
15.11.2024	N/24/11/4-0157	6	9	43	24
16.11.2024	N/24/11/4-0221	10	11	56	30
22.11.2024	N/24/11/5-0136	8	10	52	28
23.11.2024	N/24/11/5-0207	9	11	47	24
29.11.2024	N/24/11/6-0203	10	11	43	23
30.11.2024	N/24/12/01-0005	7	9	49	26
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.11.2024	N/24/11/3-0169	11	12	43	22
09.11.2024	N/24/11/3-0245	10	11	30	19
15.11.2024	N/24/11/4-0158	9	12	41	21
16.11.2024	N/24/11/4-0222	9	11	44	26
22.11.2024	N/24/11/5-0137	9	13	50	28
23.11.2024	N/24/11/5-0208	9	10	54	29
29.11.2024	N/24/11/6-0204	11	14	38	19
30.11.2024	N/24/12/01-0006	10	12	45	24
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.11.2024	N/24/11/3-0170	9	11	47	25
09.11.2024	N/24/11/3-0246	12	16	51	28
15.11.2024	N/24/11/4-0159	11	13	46	25
16.11.2024	N/24/11/4-0223	10	12	40	20
22.11.2024	N/24/11/5-0138	11	13	53	28
23.11.2024	N/24/11/5-0209	7	11	47	25
29.11.2024	N/24/11/6-0205	9	12	38	18
30.11.2024	N/24/12/01-0007	9	10	55	30
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
08.11.2024	N/24/11/3-0171	356
09.11.2024	N/24/11/3-0247	287
15.11.2024	N/24/11/4-0160	345
16.11.2024	N/24/11/4-0224	322
22.11.2024	N/24/11/5-0139	295
23.11.2024	N/24/11/5-0210	254
29.11.2024	N/24/11/6-0206	412
30.11.2024	N/24/12/01-0008	365

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
08.11.2024	N/24/11/3-0172	275
09.11.2024	N/24/11/3-0248	267
15.11.2024	N/24/11/4-0161	358
16.11.2024	N/24/11/4-0225	268
22.11.2024	N/24/11/5-0140	327
23.11.2024	N/24/11/5-0211	299
29.11.2024	N/24/11/6-0207	254
30.11.2024	N/24/12/01-0009	284

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
08.11.2024	N/24/11/3-0173	422
09.11.2024	N/24/11/3-0249	387
15.11.2024	N/24/11/4-0162	413
16.11.2024	N/24/11/4-0226	365
22.11.2024	N/24/11/5-0141	327
23.11.2024	N/24/11/5-0212	358
29.11.2024	N/24/11/6-0208	287
30.11.2024	N/24/12/01-0010	254

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 04.12.2024
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
08.11.2024	N/24/11/3-0174	367
09.11.2024	N/24/11/3-0250	374
15.11.2024	N/24/11/4-0163	365
16.11.2024	N/24/11/4-0227	325
22.11.2024	N/24/11/5-0142	387
23.11.2024	N/24/11/5-0213	369
29.11.2024	N/24/11/6-0209	354
30.11.2024	N/24/12/01-0011	378

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Date of sampling : 09.11.2024

Issue Date : 25.11.2024

Sample Code		EDW1	EDW2	EDW3	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
Sl. No.	Lab Code	ED/24/11/3-0118	ED/24/11/3-0119	ED/24/11/3-0120		
	Parameters	Results				
1	Colour (Hazen Units),	5	5	5	--	IS:3025(P-4)2021
2	pH	6.88	6.04	5.69	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	5.2	3.4	1.8	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	117	75	51	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	84	42	28	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	32.0	24.0	18	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	18	15.2	11.9	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	22	18	10	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4.8	4.8	<2.0	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.43	1.45	1.4	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	6.4	<1.0	<1.0	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.2	0.45	0.2	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	16	10	8	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.05	0.03	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.2	5.5	5.4	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected : SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling : 09.11.2024
Issue Date : 25.11.2024
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW1 / ED/24/11/3-0121 / Results	SW2 / ED/24/11/3-0122 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	10	10	300	IS:3025(P-4)2021
2	pH	6.77	6.80	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	7.4	3.0	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	135	123	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	70	65	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	12	10	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	11.25	16.14	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	40	40	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	8.01	8.01	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	4.86	4.86	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	4.76	2.74	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	0.68	0.41	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	18	12	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.129	0.115	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	0.007	0.006	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.7	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW3 - Upstream Asnora River, SW4 - Downstream Asnora River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling	: 09.11.2024
Issue Date	: 25.11.2024

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sample Code		SW3	SW4	Limits For Stream Water Standards	Method of Testing
Sl.No.	Lab Code	ED/24/11/3-0123	ED/24/11/3-0124		
	Parameters	Results			
1	Colour (Hazen Units),	10	20	300	IS:3025(P-4)2021
2	pH	6.76	7.11	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	3.6	2.5	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	92	144	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	54	87	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	18	32	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	6.35	21.03	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	30	40	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	8.01	8.01	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.43	4.86	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	1.66	2.5	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	0.33	0.35	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	10	28	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.114	0.114	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	0.006	0.006	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.4	5.6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 09.11.2024
Issue Date : 25.11.2024
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW1 / ED/24/11/3-0125 / Results	GW2 / ED/24/11/3-0126 / Results	GW3 / ED/24/11/3-0127 / Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	1	<1.0	<1.0	5	15	IS:3025 (P-4) 2021
2	pH Value	6.15	6.88	6.55	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	3.5	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	268.0	108.0	95.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	160.0	70.0	58.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	6.2	<5.0	<5.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	12.02	8.01	8.01	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	25.92	16.14	16.14	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	0.022	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	7.29	7.29	2.43	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	0.002	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	4.08	0.57	0.89	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	7.66	5.36	4.41	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	20.70	15.52	10.00	200	600	IS:3025 (P-23):1988 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	60.0	50.0	30.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	8.0	3.2	4.6	–		–

BINU MANI
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Note : This report is subject to the terms and conditions mentioned overleaf.

Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 09.11.2024
Issue Date : 25.11.2024
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW4 / ED/24/11/3-0128 / Results	GW5 / ED/24/11/3-0129 / Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	<1.0	<1.0	5	15	IS:3025 (P-4) 2021
2	pH Value	6.55	6.59	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	66.0	71.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	40.0	52.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	<5.0	<5.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	4.00	<2.0	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	11.25	11.25	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	0.007	0.017	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	2.43	1.45	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	0.002	0.004	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	1.54	3.33	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	10.35	10.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	20.0	10.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	3.3	7.8	–		–

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1.3 December 2024

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.12.2024	N/24/12/3-0048	10	13	40	20
05.12.2024	N/24/12/3-0067	6	9	54	26
11.12.2024	N/24/12/4-0128	12	16	45	24
12.12.2024	N/24/12/4-0152	9	11	48	26
18.12.2024	N/24/12/5-0085	10	13	53	28
19.12.2024	N/24/12/5-0098	11	17	45	24
25.12.2024	N/24/12/6-0165	10	12	51	27
26.12.2024	N/24/12/6-0192	12	18	36	20
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.12.2024	N/24/12/3-0049	13	16	43	23
05.12.2024	N/24/12/3-0068	10	14	39	21
11.12.2024	N/24/12/4-0129	9	12	49	25
12.12.2024	N/24/12/4-0153	10	15	53	27
18.12.2024	N/24/12/5-0086	10	12	56	32
19.12.2024	N/24/12/5-0099	11	14	41	23
25.12.2024	N/24/12/6-0166	7	13	52	23
26.12.2024	N/24/12/6-0193	11	14	48	25
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.12.2024	N/24/12/3-0050	9	11	38	18
05.12.2024	N/24/12/3-0069	14	18	47	26
11.12.2024	N/24/12/4-0130	7	13	44	23
12.12.2024	N/24/12/4-0154	9	11	54	30
18.12.2024	N/24/12/5-0087	12	14	50	28
19.12.2024	N/24/12/5-0100	10	11	45	24
25.12.2024	N/24/12/6-0167	9	10	41	21
26.12.2024	N/24/12/6-0194	10	12	45	26
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : **M/s. Vedanta Ltd.,**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services)**
Station at & Code : **A4, Sirigao village**
Duration : **24 Hrs**
Issue date : **03.01.2025**
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.12.2024	N/24/12/3-0051	6	9	39	21
05.12.2024	N/24/12/3-0070	9	10	55	27
11.12.2024	N/24/12/4-0131	10	13	35	17
12.12.2024	N/24/12/4-0155	8	10	45	24
18.12.2024	N/24/12/5-0088	12	14	53	28
19.12.2024	N/24/12/5-0101	11	13	47	28
25.12.2024	N/24/12/6-0168	9	10	41	19
26.12.2024	N/24/12/6-0195	8	12	50	27
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.12.2024	N/24/12/3-0125	12	16	44	21
07.12.2024	N/24/12/3-0217	10	14	50	26
13.12.2024	N/24/12/4-0193	9	11	41	23
14.12.2024	N/24/12/4-0246	8	10	51	28
20.12.2024	N/24/12/5-0168	12	18	38	20
21.12.2024	N/24/12/5-0257	12	13	48	25
27.12.2024	N/24/12/6-0219	8	11	53	27
28.12.2024	N/24/12/6-0256	10	15	45	25
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A6, DBB office
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.12.2024	N/24/12/3-0126	9	10	38	17
07.12.2024	N/24/12/3-0218	11	13	40	22
13.12.2024	N/24/12/4-0194	7	9	43	23
14.12.2024	N/24/12/4-0247	9	11	53	28
20.12.2024	N/24/12/5-0169	12	14	49	25
21.12.2024	N/24/12/5-0258	11	16	54	27
27.12.2024	N/24/12/6-0220	9	13	48	25
28.12.2024	N/24/12/6-0257	13	18	51	25
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.12.2024	N/24/12/3-0127	10	14	50	25
07.12.2024	N/24/12/3-0219	7	9	54	27
13.12.2024	N/24/12/4-0195	9	11	36	21
14.12.2024	N/24/12/4-0248	12	18	51	28
20.12.2024	N/24/12/5-0170	11	15	48	25
21.12.2024	N/24/12/5-0259	7	14	51	28
27.12.2024	N/24/12/6-0221	11	12	40	22
28.12.2024	N/24/12/6-0258	9	13	38	21
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.12.2024	N/24/12/3-0128	8	9	46	24
07.12.2024	N/24/12/3-0220	10	12	55	28
13.12.2024	N/24/12/4-0196	9	14	38	18
14.12.2024	N/24/12/4-0249	11	13	49	26
20.12.2024	N/24/12/5-0171	7	9	37	17
21.12.2024	N/24/12/5-0260	12	14	50	25
27.12.2024	N/24/12/6-0222	11	12	53	27
28.12.2024	N/24/12/6-0259	7	11	48	23
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
06.12.2024	N/24/12/3-0129	325
07.12.2024	N/24/12/3-0221	256
13.12.2024	N/24/12/4-0197	312
14.12.2024	N/24/12/4-0250	285
20.12.2024	N/24/12/5-0172	165
21.12.2024	N/24/12/5-0261	284
27.12.2024	N/24/12/6-0223	365
28.12.2024	N/24/12/6-0260	412

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
06.12.2024	N/24/12/3-0130	358
07.12.2024	N/24/12/3-0222	286
13.12.2024	N/24/12/4-0198	254
14.12.2024	N/24/12/4-0251	312
20.12.2024	N/24/12/5-0173	245
21.12.2024	N/24/12/5-0262	362
27.12.2024	N/24/12/6-0224	285
28.12.2024	N/24/12/6-0261	321

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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Note : This report is subject to the terms and conditions mentioned overleaf.

Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
06.12.2024	N/24/12/3-0131	254
07.12.2024	N/24/12/3-0223	356
13.12.2024	N/24/12/4-0199	245
14.12.2024	N/24/12/4-0252	263
20.12.2024	N/24/12/5-0174	328
21.12.2024	N/24/12/5-0263	245
27.12.2024	N/24/12/6-0225	312
28.12.2024	N/24/12/6-0262	352

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 03.01.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
06.12.2024	N/24/12/3-0132	328
07.12.2024	N/24/12/3-0224	265
13.12.2024	N/24/12/4-0200	375
14.12.2024	N/24/12/4-0253	386
20.12.2024	N/24/12/5-0175	325
21.12.2024	N/24/12/5-0264	275
27.12.2024	N/24/12/6-0226	325
28.12.2024	N/24/12/6-0263	333

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha),
EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling : 17.12.2024
Issue Date : 31.12.2024

Sl. No.	Sample Code / Lab Code / Parameters	EDW1 / N/24/12/4-0294 / Results	EDW2 / N/24/12/4-0295 / Results	EDW3 / N/24/12/4-0296 / Results	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
1	Colour (Hazen Units),	5	5	5	--	IS:3025(P-4)2021
2	pH	6.67	5.58	5.69	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	5.4	8.6	9.2	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	90	46	40	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	50	24	22	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	12.0	18.0	22	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	14	12	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	22	10	6	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	5.4	<2	<2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.45	<2	1.5	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	4	<1.0	<1.0	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.5	1.4	0.8	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	16	8	8	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.07	0.03	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.4	5.7	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Particular of Sample Collected : SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Date of sampling : 17.12.2024

Issue Date : 31.12.2024

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW1 / N/24/12/4-0297 / Results	SW2 / N/24/12/4-0298 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	6.71	6.88	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	8.5	6.2	--	IS.3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	86	90	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	48	50	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	16	14	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	14	18	600	IS:3025(Part-32) :1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	24	22	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4.81	4	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.91	2.94	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3.5	2.1	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	0.8	0.51	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	8	16	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.212	0.22	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.8	5.6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TC-6172

TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW3 - Upstream Asnora River, SW4 - Downstream Asnora River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling	: 17.12.2024
Issue Date	: 31.12.2024

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW3 / N/24/12/4-0299 / Results	SW4 / N/24/12/4-0300 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	6	8	300	IS:3025(P-4)2021
2	pH	6.62	6.90	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	9.4	22	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	60	1070	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	34	560	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	22	48	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	10	300	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	10	120	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	2.4	20.00	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1	17	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	1.2	60	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	0.54	7.5	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	8	64	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.154	0.185	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.7	5.3	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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ENVIRONMENTAL LABORATORY

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 17.12.2024
Issue Date : 31.12.2024
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW1 N/24/12/4-0301	GW2 N/24/12/4-0302	GW3 N/24/12/4-0303	Desirable Limits	Permissible Limits	Method of Testing
		Results					
1	Colour (Hazen Units)	5	<1.0	<1.0	5	15	IS:3025 (P-4) 2021
2	pH Value	5.51	5.70	4.72	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	46.0	2.0	4.5	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductivity (µmhos/cm)	130.0	72.0	66.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	70.0	40.0	36.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	60.0	8.0	6.5	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	8.00	4.80	3.20	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	20.00	16.00	14.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	0.015	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	2.91	1.94	1.94	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	3.60	1.62	1.50	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	12.00	4.80	3.80	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	20.00	16.00	16.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	32.0	20.0	16.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.9	8.8	4.5	–		–

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 17.12.2024
Issue Date : 31.12.2024
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW4 / N/24/12/4-0304	GW5 / N/24/12/4-0305	Desirable Limits	Permissible Limits	Method of Testing
		Results				
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.60	5.75	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductivity (µmhos/cm)	42.0	44.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	24.0	26.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	<5.0	<5.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	<1.0	1.60	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	10.00	12.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	0.006	0.008	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	<1	<1	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	4.00	6.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	8.0	8.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	4.0	7.9	–		–

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services)**
Season	: **Winter Season, *2024-25***
Date of monitoring	: **20.12.2024**
Issue Date	: **03.01.2025**

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	37.9	47.9	53.5	34.0	37.6	42.6
N2	Mulgao village	38.3	46.7	54.1	34.8	38.3	44.2
N3	Piligao Village	37.5	47.3	52.8	34.0	39.0	43.4
N4	Shirgao village	35.0	44.5	52.4	34.0	39.8	43.5
N5	Anil Naik House Near Sarmanas Jetty	36.0	45.5	53.0	34.5	38.4	44.5
	Corezone						
N6	Mine Face- 5 top Common Boundary	40.0	51.5	58.0	35.0	43.1	52.0
N7	Dry Crushing and screening & Ore Stacking- NSP	42.0	56.8	66.3	34.7	48.4	58.0
N8	Haul road- at 4 Top	41.0	53.9	60.2	35.0	46.1	54.2
N9	Dumping- 5 Top	44.0	54.1	63.0	41.0	47.5	52.3

Permissible limits as per ILO Code of Practice

For Unprotected ear - 8 hrs working shift
Warning limit - 85 dB(A)
Danger limit - 90 dB(A)
Worker not to be exposed for more than 115 dB(A)
With ear protection -
130 dB(A) 'Impulse' or 120 dB(A) 'Fast'
No entry when noise level exceeds 140 dB(A)

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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Note : This report is subject to the terms and conditions mentioned overleaf.

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To

29/05/2025

The Director
Ministry of Environment Forest & Climate Change
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Compliance to Specific EC Conditions No. 2.1 and 18.3 - Block 1 Bicholim Mineral Block

Respected Sir,

Reference: a) EC File No. IA-J-11015/3/2023-IA-II(NCM) dated. 23/01/2024 granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore

With reference to Specific EC Condition No. 2.1 and 18.3, granted to Bicholim Mineral Block-Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore, we hereby submit Air quality (Ambient and Fugitive), noise level (core and buffer), water quality (surface water and ground water) water levels (from buffer villages) and fugitive Dust monitoring reports for the months January to March 2025.

Thanking you
Yours faithfully

For Vedanta Limited

Dhirajkumar Jagdish
Dy. Chief Executive Officer-Iron Ore Goa
Authorized Signatory

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India
CIN: L13209MH1965PLC291394

Annexture 1

1.a January 2025

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEF'CC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
08.01.2025	N/25/01/03-0084	11	15	56	30
09.01.2025	N/25/01/03-0116	7	13	54	27
15.01.2025	N/25/01/03-0542	10	17	52	27
16.01.2025	N/25/01/03-0580	7	11	50	27
22.01.2025	N/25/01/04-0170	12	15	54	29
23.01.2025	N/25/01/04-0207	10	18	36	19
29.01.2025	N/25/02/1-0001	11	13	49	26
30.01.2025	N/25/02/1-0051	12	15	57	33
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.
Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.01.2025	N/25/01/03-0085	9	13	52	24
09.01.2025	N/25/01/03-0117	7	11	55	30
15.01.2025	N/25/01/03-0543	11	18	56	30
16.01.2025	N/25/01/03-0581	10	16	48	28
22.01.2025	N/25/01/04-0171	9	11	54	29
23.01.2025	N/25/01/04-0208	14	18	59	33
29.01.2025	N/25/02/1-0002	11	15	50	27
30.01.2025	N/25/02/1-0052	9	14	46	25
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

M.SACHIN RAJU
T.M. - Chemical
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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.01.2025	N/25/01/03-0086	10	12	55	27
09.01.2025	N/25/01/03-0118	10	11	48	24
15.01.2025	N/25/01/03-0544	9	11	53	26
16.01.2025	N/25/01/03-0582	11	12	40	23
22.01.2025	N/25/01/04-0172	9	15	56	28
23.01.2025	N/25/01/04-0209	7	9	44	22
29.01.2025	N/25/02/1-0003	9	18	47	24
30.01.2025	N/25/02/1-0053	11	15	53	27
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A4, Sirigao village
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
08.01.2025	N/25/01/03-0087	10	13	44	24
09.01.2025	N/25/01/03-0119	7	12	52	18
15.01.2025	N/25/01/03-0545	6	9	50	27
16.01.2025	N/25/01/03-0583	8	10	53	29
22.01.2025	N/25/01/04-0173	9	9	50	27
23.01.2025	N/25/01/04-0210	10	12	40	22
29.01.2025	N/25/02/1-0004	11	15	38	20
30.01.2025	N/25/02/1-0054	9	18	55	28
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

M.SACHIN RAJU
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Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
10.01.2025	N/25/01/03-0193	13	19	54	32
11.01.2025	N/25/01/03-0267	14	15	50	28
17.01.2025	N/25/01/03-0626	7	13	58	33
18.01.2025	N/25/01/04-0032	10	17	51	28
24.01.2025	N/25/01/05-0036	13	15	54	29
25.01.2025	N/25/01/05-0095	8	11	48	22
30.01.2025	N/25/02/1-0055	9	13	57	33
31.01.2025	N/25/02/1-0088	10	14	45	24
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

M.SACHIN RAJU
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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : **M/s. Vedanta Ltd.,**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services)**
Station at & Code : **A6, DBB office**
Duration : **24 Hrs**
Issue date : **04.02.2025**
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
10.01.2025	N/25/01/03-0194	11	16	59	30
11.01.2025	N/25/01/03-0268	8	10	51	29
17.01.2025	N/25/01/03-0627	12	15	47	27
18.01.2025	N/25/01/04-0033	10	13	55	30
24.01.2025	N/25/01/05-0037	8	10	48	25
25.01.2025	N/25/01/05-0096	9	12	56	33
30.01.2025	N/25/02/1-0056	10	15	59	32
31.01.2025	N/25/02/1-0089	12	14	53	26
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

M.SACHIN RAJU
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Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
10.01.2025	N/25/01/03-0195	11	12	56	29
11.01.2025	N/25/01/03-0269	8	11	38	19
17.01.2025	N/25/01/03-0628	9	13	42	20
18.01.2025	N/25/01/04-0034	10	15	50	27
24.01.2025	N/25/01/05-0038	8	11	52	19
25.01.2025	N/25/01/05-0097	9	17	36	18
30.01.2025	N/25/02/1-0057	10	19	54	28
31.01.2025	N/25/02/1-0090	8	10	47	28
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

M.SACHIN RAJU
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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
10.01.2025	N/25/01/03-0196	10	13	48	27
11.01.2025	N/25/01/03-0270	9	15	40	23
17.01.2025	N/25/01/03-0629	10	11	59	34
18.01.2025	N/25/01/04-0035	9	12	55	29
24.01.2025	N/25/01/05-0039	11	19	45	25
25.01.2025	N/25/01/05-0098	12	14	57	27
30.01.2025	N/25/02/1-0058	8	15	52	30
31.01.2025	N/25/02/1-0091	10	13	50	29
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
10.01.2025	N/25/01/03-0197	352
11.01.2025	N/25/01/03-0271	265
17.01.2025	N/25/01/03-0630	425
18.01.2025	N/25/01/04-0036	288
24.01.2025	N/25/01/05-0040	364
25.01.2025	N/25/01/05-0099	418
30.01.2025	N/25/02/1-0059	357
31.01.2025	N/25/02/1-0092	268

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
10.01.2025	N/25/01/03-0198	255
11.01.2025	N/25/01/03-0272	364
17.01.2025	N/25/01/03-0631	412
18.01.2025	N/25/01/04-0037	455
24.01.2025	N/25/01/05-0041	385
25.01.2025	N/25/01/05-0100	275
30.01.2025	N/25/02/1-0060	368
31.01.2025	N/25/02/1-0093	275

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
10.01.2025	N/25/01/03-0199	345
11.01.2025	N/25/01/03-0273	487
17.01.2025	N/25/01/03-0632	358
18.01.2025	N/25/01/04-0038	398
24.01.2025	N/25/01/05-0042	268
25.01.2025	N/25/01/05-0101	255
30.01.2025	N/25/02/1-0061	458
31.01.2025	N/25/02/1-0094	368

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 04.02.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
10.01.2025	N/25/01/03-0200	425
11.01.2025	N/25/01/03-0274	375
17.01.2025	N/25/01/03-0633	268
18.01.2025	N/25/01/04-0039	412
24.01.2025	N/25/01/05-0043	387
25.01.2025	N/25/01/05-0102	169
30.01.2025	N/25/02/1-0062	275
31.01.2025	N/25/02/1-0095	375

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

M.SACHIN RAJU
T.M. - Chemical
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Note : This report is subject to the terms and conditions mentioned overleaf.

Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling : 11.01.2025
Issue Date : 25.01.2025

Sl. No.	Sample Code / Lab Code / Parameters	EDW1 / N/25/01/03-0349 / Results	EDW2 / N/25/01/03-0350 / Results	EDW3 / N/25/01/03-0351 / Results	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
1	Colour (Hazen Units),	1	1	1	--	IS:3025(P-4)2021
2	pH	6.57	5.45	5.68	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	7.6	5.3	3.5	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	88	48	38	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	48	26	20	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	15.0	12.0	10	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	17	10	8	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	24	12	8	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	5.6	3.2	<2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.43	1	1	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	5.1	<1.0	<1.0	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.2	<1	<1	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	12	9	8	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.09	<0.005	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.5	5.6	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 11.01.2025
Issue Date : 25.01.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code	GW1	GW2	GW3	Desirable Limits	Permissible Limits	Method of Testing
	Lab Code	N/25/01/03-0356	N/25/01/03-0357	N/25/01/03-0358			
	Parameters	Results					
1	Colour (Hazen Units)	1	<1.0	<1.0	5	15	IS:3025 (P-4) 2021
2	pH Value	5.65	5.58	5.62	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	5.7	4.7	5.2	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	132.0	94.0	80.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	72.0	51.0	44.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	38.0	10.0	12.2	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	7.21	4.80	3.20	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	17.00	18.00	16.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	4.40	3.40	2.91	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	2.60	1.40	1.80	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	16.00	3.00	1.70	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	26.00	20.00	18.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	36.0	26.0	20.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.2	4.3	4.6	–		–

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 11.01.2025
Issue Date : 26.01.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW4 / N/25/01/03-0359 / Results	GW5 / N/25/01/03-0360 / Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.90	5.86	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	29.0	3.6	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	44.0	52.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	24.0	28.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	<5.0	<5.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	<1.0	1.60	75	200	IS:3025 (P-40) 1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	13.00	12.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	<1	1.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	6.00	8.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	8.0	10.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	4.0	7.9	–		–

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected : SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Date of sampling : 11.01.2025
Issue Date : 25.01.2025
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW1 / N/25/01/03-0352 / Results	SW2 / N/25/01/03-0353 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	1	1	300	IS:3025(P-4)2021
2	pH	6.76	6.85	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	7.5	10.3	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	120	122	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	65	66	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	20	22	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	16	14	600	IS:3025(Part 32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	30	32	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	6.41	7.21	--	IS.3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	3.40	2.4	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	7	6.8	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.3	1.18	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	10	14	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.155	0.025	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.6	5.5	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block

Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Particular of Sample Collected : SW3 - Upstream Asnora River, SW4 - Downstream Asnora River

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Date of sampling : 11.01.2025

Issue Date : 25.01.2025

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW3 / N/25/01/03-0354 / Results	SW4 / N/25/01/03-0355 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	3	3	300	IS:3025(P-4)2021
2	pH	6.50	6.81	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	14.7	48	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	56	1480	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	30	830	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	18	55	--	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	9	380	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	8	160	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	<2	28.0	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.45	21.9	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	1.8	71.2	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	<1	11.2	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	--	IS 3025 (P-44) 2014
14	COD, mg/l	11	32	--	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.017	0.196	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	--	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.6	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES0332501

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block**
	Bicholim, Bordem, Lamgao, Mulgao, Mayem &
	Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: **Environmental Laboratory**
	(Unit of Mineral Engineering Services)
Season	: **Winter Season, *2024-25***
Date of monitoring	: **24.01.2025**
Issue Date	: **04.02.2025**

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	38.0	48.9	54.7	34.0	38.7	43.2
N2	Mulgao village	38.3	47.0	54.7	35.3	41.3	44.8
N3	Piligao Village	37.0	47.5	53.4	34.0	39.0	43.4
N4	Shirgao village	36.0	46.1	54.6	34.0	39.8	43.8
N5	Anil Naik House Near Sarmanas Jetty	36.0	48.0	54.8	35.0	41.1	45.2
	Corezone						
N6	Mine Face- 5 top Common Boundary	40.0	52.5	60.0	35.0	48.5	57.0
N7	Dry Crushing and screening & Ore Stacking- NSP	42.0	58.3	68.0	35.0	50.6	57.5
N8	Haul road- at 4 Top	43.0	57.3	66.0	36.0	49.1	56.2
N9	Dumping- 5 Top	40.5	56.2	65.6	41.0	49.0	54.8

Permissible limits as per ILO Code of Practice

For Unprotected ear - 8 hrs working shift

Warning limit - 85 dB(A)

Danger limit - 90 dB(A)

Worker not to be exposed for more than 115 dB(A)

With ear protection -

130 dB(A) 'Impulse' or 120 dB(A) 'Fast'

No entry when noise level exceeds 140 dB(A)

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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TEST REPORT

Name of the Client : M/s. Vedanta Limited

Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa

Particular of Sample Collected : DW1 - Drinking water Near DBB office
DW1 - Drinking water Near DBB Canteen
DW3 - Drinking Water Near DBB security
DW4 - Drinking Water DBB Office (HSE)
DW5 - Drinking water Near 4 Top office

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)

Month : January, 2025

Date of sampling : 11.01.2025

Issue Date : 25.01.2025

Ref : IS:10500-2012 Norms (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	DW1 / N/25/01/03-0361 / Results	DW2 / N/25/01/03-0362	DW3 / N/25/01/03-0363	DW4 / N/25/01/03-0364	DW5 / N/25/01/03-0365	Desirable Limits	Permissible Limits	Method of Testing
1	pH	7.21	7.15	7.28	6.05	5.40	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
2	Turbidity,NTU	1	<0.1	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
3	Total Hardness (as $CaCO_3$),mg/l	16	16	22	10	8	200	600	IS:3025 (P-21) 2019 RA 2019
4	Total Coliform	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Shall Not be Detectable in any 100ml Samples		IS:15185:2016 : 1981

""END OF REPORT""

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Annexture 1

1.b February 2025

Format No. : 10

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.02.2025	N/25/02/1-0211	7	10	47	26
06.02.2025	N/25/02/1-0238	9	11	56	32
12.02.2025	N/25/02/3-0152	11	13	49	24
13.02.2025	N/25/02/3-0177	12	15	53	29
19.02.2025	N/25/02/5-0098	11	13	55	30
20.02.2025	N/25/02/5-0130	9	11	50	28
26.02.2025	N/25/03/1-0011	12	14	43	23
27.02.2025	N/25/03/1-0038	10	16	49	24
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.02.2025	N/25/02/1-0212	11	15	52	27
06.02.2025	N/25/02/1-0239	10	13	44	23
12.02.2025	N/25/02/3-0153	11	14	54	27
13.02.2025	N/25/02/3-0178	7	10	47	25
19.02.2025	N/25/02/5-0099	9	11	53	29
20.02.2025	N/25/02/5-0131	10	14	53	27
26.02.2025	N/25/03/1-0012	9	12	48	26
27.02.2025	N/25/03/1-0039	11	16	58	28
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

M.SACHIN RAJU
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Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.02.2025	N/25/02/1-0213	10	13	50	26
06.02.2025	N/25/02/1-0240	11	13	46	29
12.02.2025	N/25/02/3-0154	10	15	55	32
13.02.2025	N/25/02/3-0179	11	13	43	23
19.02.2025	N/25/02/5-0100	9	11	56	32
20.02.2025	N/25/02/5-0132	11	18	58	33
26.02.2025	N/25/03/1-0013	14	13	48	25
27.02.2025	N/25/03/1-0040	8	13	50	28
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

M.SACHIN RAJU
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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A4, Sirigao village
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.02.2025	N/25/02/1-0214	9	13	51	28
06.02.2025	N/25/02/1-0241	10	9	56	31
12.02.2025	N/25/02/3-0155	8	13	48	25
13.02.2025	N/25/02/3-0180	9	17	42	19
19.02.2025	N/25/02/5-0101	11	13	44	23
20.02.2025	N/25/02/5-0133	8	12	47	25
26.02.2025	N/25/03/1-0014	12	13	45	27
27.02.2025	N/25/03/1-0041	8	12	52	28
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

M.SACHIN RAJU
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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.02.2025	N/25/02/1-0276	11	14	57	35
08.02.2025	N/25/02/1-0336	9	11	53	24
14.02.2025	N/25/02/3-0215	8	19	48	25
15.02.2025	N/25/02/3-0267	13	15	50	27
21.02.2025	N/25/02/5-0194	12	16	55	29
22.02.2025	N/25/02/5-0277	8	14	48	26
28.02.2025	N/25/03/1-0055	11	17	60	33
01.03.2025	N/25/03/1-0063	11	14	54	28
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

M.SACHIN RAJU
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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A6, DBB office
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.02.2025	N/25/02/1-0277	10	18	48	29
08.02.2025	N/25/02/1-0337	7	12	45	25
14.02.2025	N/25/02/3-0216	9	13	54	28
15.02.2025	N/25/02/3-0268	10	15	58	33
21.02.2025	N/25/02/5-0195	11	14	55	29
22.02.2025	N/25/02/5-0278	10	13	52	27
28.02.2025	N/25/03/1-0056	9	10	45	25
01.03.2025	N/25/03/1-0064	9	12	43	22
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.02.2025	N/25/02/1-0278	6	9	40	26
08.02.2025	N/25/02/1-0338	9	12	43	28
14.02.2025	N/25/02/3-0217	12	13	38	15
15.02.2025	N/25/02/3-0269	8	15	49	18
21.02.2025	N/25/02/5-0196	9	14	46	17
22.02.2025	N/25/02/5-0279	10	13	43	26
28.02.2025	N/25/03/1-0057	12	16	40	24
01.03.2025	N/25/03/1-0065	8	13	38	22
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Lab Code	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.02.2025	N/25/02/1-0279	10	15	52	22
08.02.2025	N/25/02/1-0339	6	12	50	25
14.02.2025	N/25/02/3-0218	7	10	45	19
15.02.2025	N/25/02/3-0270	12	17	43	19
21.02.2025	N/25/02/5-0197	9	11	53	28
22.02.2025	N/25/02/5-0280	12	17	51	31
28.02.2025	N/25/03/1-0058	9	12	58	35
01.03.2025	N/25/03/1-0066	9	12	54	27
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
07.02.2025	N/25/02/1-0280	425
08.02.2025	N/25/02/1-0340	358
14.02.2025	N/25/02/3-0219	421
15.02.2025	N/25/02/3-0271	368
21.02.2025	N/25/02/5-0198	254
22.02.2025	N/25/02/5-0281	475
28.02.2025	N/25/03/1-0059	455
01.03.2025	N/25/03/1-0067	421

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	**1200 $\mu g/m^3$**

M.SACHIN RAJU
T.M. - Chemical
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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
07.02.2025	N/25/02/1-0281	398
08.02.2025	N/25/02/1-0341	368
14.02.2025	N/25/02/3-0220	275
15.02.2025	N/25/02/3-0272	345
21.02.2025	N/25/02/5-0199	412
22.02.2025	N/25/02/5-0282	354
28.02.2025	N/25/03/1-0060	298
01.03.2025	N/25/03/1-0068	355

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

M.SACHIN RAJU
T.M. - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater (µg/m^3)
07.02.2025	N/25/02/1-0282	389
08.02.2025	N/25/02/1-0342	421
14.02.2025	N/25/02/3-0221	454
15.02.2025	N/25/02/3-0273	368
21.02.2025	N/25/02/5-0200	355
22.02.2025	N/25/02/5-0283	432
28.02.2025	N/25/03/1-0061	452
01.03.2025	N/25/03/1-0069	385

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

M.SACHIN RAJU
T.M. - Chemical
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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 04.03.2025
Reference IS 5182 & Lab SOP

Date of sample	Lab Code	Particulate mater ($\mu g/m^3$)
07.02.2025	N/25/02/1-0283	395
08.02.2025	N/25/02/1-0343	412
14.02.2025	N/25/02/3-0222	458
15.02.2025	N/25/02/3-0274	387
21.02.2025	N/25/02/5-0201	365
22.02.2025	N/25/02/5-0284	412
28.02.2025	N/25/03/1-0062	375
01.03.2025	N/25/03/1-0070	322

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	**1200 $\mu g/m^3$**

M.SACHIN RAJU
T.M. - Chemical
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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sampling : 14.02.2025
Issue Date : 25.02.2025

Sl. No.	Sample Code / Parameters	EDW1	EDW2	EDW3	General Standards For Effluent Discharge of Environmental Pollutants	Method of Testing
	Lab Code	N/25/02/4-0022	N/25/02/4-0023	N/25/02/4-0024		
	Parameters	Results				
1	Colour (Hazen Units),	1	1	1	–	IS:3025(P-4)2021
2	pH	7.4.	6.36	6.75	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	9.2	6.5	9.3	–	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	100	50	52	–	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	54	27	28	–	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	20.0	18.0	14.6	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	22	12	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	28	12	10	–	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	6.4	2.4	2.4	–	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.91	1.45	<1	–	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	6.2	1.1	1.2	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	2.5	<1	<1	–	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	12	11	14	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.6	5.7	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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Note : This report is subject to the terms and conditions mentioned overleaf.

Annexture 1

Format No.: 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory

Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sampling	: 12.02.2025
Issue Date	: 25.02.2025

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW1 / N/25/02/3-0418 / Results	SW2 / N/25/02/3-0419 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	1	1	300	IS:3025(P-4)2021
2	pH	7.70	8.11	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	7.0	10.1	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	60	1500	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	34	840	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	22	24.2	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	9	400	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	16	150	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4	36	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.45	14.6	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	2.8	110	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.1	20.5	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	12	18	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.163	0.022	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.8	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW3 - Upstream Asnora River, SW4 - Downstream Asnora River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sampling	: 12.02.2025
Issue Date	: 25.02.2025

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Sample Code / Lab Code / Parameters	SW3 / N/25/02/3-0420 / Results	SW4 / N/25/02/3-0421 / Results	Limits For Stream Water Standards	Method of Testing
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	7.61	7.98	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	13	28.5	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	110	1000	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	60	560	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	22	36	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	13	270	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	32	130	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	7.21	28.0	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	3.4	14.5	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	5.6	70	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	2.6	28.5	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	13	36	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.011	0.0165	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l, Max	5.2	5.3	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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ENVIRONMENTAL LABORATORY

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 12.02.2025
Issue Date : 25.02.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW1 N/25/02/3-0422	GW2 N/25/02/3-0423	GW3 N/25/02/3-0424	Desirable Limits	Permissible Limits	Method of Testing
		Results					
1	Colour (Hazen Units)	3	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	6.80	6.30	6.28	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	30.8	3.4	1.8	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductivity (µmhos/cm)	160.0	86.0	95.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	88.0	46.0	52.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	42.0	8.0	9.6	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	8.00	4.00	6.41	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	22.00	14.00	20.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	5.30	2.43	1.94	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	4.10	1.80	2.20	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	13.00	2.10	2.50	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	34.00	28.00	22.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	42.0	20.0	24.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	8.2	3.9	5.7	–		–

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 12.02.2025
Issue Date : 25.02.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Sample Code / Lab Code / Parameters	GW4 N/25/02/3-0425 Results	GW5 N/25/02/3-0426 Results	Desirable Limts	Permissible Limts	Method of Testing
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.92	7.10	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU, Max	16.2	5.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	45.0	50.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l, Max	26.0	27.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	6.0	8.6	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l, Max	1.60	2.40	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l, Max	10.00	13.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l, Max	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l, Max	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l, Max	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l, Max	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l, Max	<1	1.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l, Max	8.00	10.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l,Max	10.0	12.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	3.2	14.6	–		–

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES232502

Name of the Client : **M/s. Vedanta Limited**

Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem &
Sirigao villages, Bicholim Taluka, North Goa

Sample Collected by : **Environmental Laboratory**
(Unit of Mineral Engineering Services LLP)

Season : **Winter Season, *2024-25***

Date of monitoring : **24.02.2025**

Issue Date : **04.03.2025**

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	37.6	49.2	56.3	34.0	38.5	42.6
N2	Mulgao village	36.0	46.0	53.2	35.3	41.3	45.0
N3	Piligao Village	36.5	49.1	54.2	34.0	39.2	44.1
N4	Shirgao village	36.0	44.6	52.3	34.0	39.5	42.9
N5	Anil Naik House Near Sarmanas Jetty	38.0	49.7	55.0	35.0	41.4	46.3
	Corezone						
N6	Mine Face- 5 top Common Boundary	41.0	48.6	56.4	35.0	48.0	56.3
N7	Dry Crushing and screening & Ore Stacking- NSP	42.0	56.7	66.2	35.0	47.2	54.2
N8	Haul road- at 4 Top	45.0	58.9	68.0	36.0	50.1	58.0
N9	Dumping- 5 Top	45.8	56.3	65.6	38.2	49.4	56.0

Permissible limits as per ILO Code of Practice
For Unprotected ear - 8 hrs working shift
Warning limit - 85 dB(A)
Danger limit - 90 dB(A)
Worker not to be exposed for more than 115 dB(A)
With ear protection -
130 dB(A) 'Impulse' or 120 dB(A) 'Fast'
No entry when noise level exceeds 140 dB(A)

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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Annexture 1

1.c March 2025

Format No. : 10

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A1, Lamgao village
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
05.03.2025	N011425033	12	14	40	21
06.03.2025	N013125033	9	10	52	27
12.03.2025	P016925033	7	11	54	32
13.03.2025	P019425033	6	9	51	28
19.03.2025	P045125033	10	12	46	25
20.03.2025	P048425033	9	10	44	23
26.03.2025	P021025035	13	14	40	20
27.03.2025	P024025035	9	16	56	31
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A2, Mulgao village
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.03.2025	N011525033	12	13	57	33
06.03.2025	N013225033	9	13	41	23
12.03.2025	P017025033	12	13	36	20
13.03.2025	P019525033	11	14	50	28
19.03.2025	P045225033	14	16	45	23
20.03.2025	P048525033	11	13	55	34
26.03.2025	P021125035	7	13	53	26
27.03.2025	P024125035	11	16	47	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A3, Pilgao village
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.03.2025	N011625033	8	11	50	28
06.03.2025	N013325033	11	16	56	27
12.03.2025	P017125033	10	12	41	22
13.03.2025	P019625033	12	15	55	33
19.03.2025	P045325033	9	10	49	26
20.03.2025	P048625033	12	17	52	27
26.03.2025	P021225035	9	12	48	25
27.03.2025	P024225035	8	15	44	22
Limits for Industrial , Residential, Rural and other Areas		**80** 24 Hrs	**80** 24 Hrs	**100** 24 Hrs	**60** 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A4, Sirigao village
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.03.2025	N011725033	13	18	54	30
06.03.2025	N013425033	6	9	52	25
12.03.2025	P017225033	10	15	45	28
13.03.2025	P019725033	13	17	58	33
19.03.2025	P045425033	11	18	53	25
20.03.2025	P048725033	10	11	43	27
26.03.2025	P021325035	7	9	49	24
27.03.2025	P024325035	12	15	51	28
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
07.03.2025	N010425033	12	21	53	29
08.03.2025	N025725033	8	13	56	32
14.03.2025	P023425033	6	9	50	27
15.03.2025	P028625033	10	18	60	33
21.03.2025	P002925034	11	10	52	27
22.03.2025	P011025034	8	9	45	25
28.03.2025	P026425035	8	11	49	29
29.03.2025	P028425035	13	15	44	23
Limits for Industrial, Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A6, DBB office
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m³	Nitrogen Dioxide (NO_2), µg/m³	Particulate Matter	
				PM_{10}, (µg/m³)	$PM_{2.5}$, (µg/m³)
07.03.2025	N018525033	11	13	48	27
08.03.2025	N025825033	12	18	55	30
14.03.2025	P023525033	10	11	52	28
15.03.2025	P028725033	10	16	50	26
21.03.2025	P003025034	7	10	49	28
22.03.2025	P011125034	11	15	58	34
28.03.2025	P026525035	9	12	55	29
29.03.2025	P028525035	11	18	48	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A7, NSP office
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.03.2025	N018625033	10	12	44	24
08.03.2025	N025925033	10	11	35	18
14.03.2025	P023625033	11	14	40	24
15.03.2025	P028825033	13	15	47	22
21.03.2025	P003125034	12	15	53	27
22.03.2025	P011225034	11	14	50	31
28.03.2025	P026625035	11	12	44	22
29.03.2025	P028625035	9	12	48	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : A8, 4 Top office
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.03.2025	N018725033	12	15	39	22
08.03.2025	N026025033	12	18	52	28
14.03.2025	P023725033	9	13	55	30
15.03.2025	P028925033	8	15	53	27
21.03.2025	P003225034	10	11	47	24
22.03.2025	P011325034	9	11	42	24
28.03.2025	P026725035	12	18	50	29
29.03.2025	P028725035	11	10	58	33
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA1, Crushing and screening & Ore Stacking- NSP
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
07.03.2025	N018825033	455
08.03.2025	N026125033	386
14.03.2025	P023825033	425
15.03.2025	P029025033	365
21.03.2025	P003325034	245
22.03.2025	P011425034	475

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA2, Mine Face- 5 top Common Boundary
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
07.03.2025	N018925033	388
08.03.2025	N026225033	454
14.03.2025	P023925033	265
15.03.2025	P029125033	317
21.03.2025	P003425034	355
22.03.2025	P011525034	421
28.03.2025	P026925035	287
29.03.2025	P028925035	263

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA3, Dumping- 5 Top
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m³)
07.03.2025	N019025033	456
08.03.2025	N026325033	357
14.03.2025	P024025033	412
15.03.2025	P029225033	365
21.03.2025	P003525034	412
22.03.2025	P011625034	287
28.03.2025	P027025035	335
29.03.2025	P029025035	458

Ref Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m³)
Permissible limits for Fugitive Emissions	**1200 µg/m³**

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Station at & Code : FA4, Haul road- at 4 Top
Duration : 24 Hrs
Issue date : 03.04.2025
Reference IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m³)
07.03.2025	N019125033	432
08.03.2025	N026425033	358
14.03.2025	P024125033	445
15.03.2025	P029325033	487
21.03.2025	P003625034	365
22.03.2025	P011725034	396
28.03.2025	P027125035	452
29.03.2025	P029125035	354

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m³)
Permissible limits for Fugitive Emissions	**1200 µg/m³**

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collecte : EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sampling : 15.03.2025
Issue Date : 25.03.2025

	Report No	N/000325034	N/000425034	N/000425034	General Standards For Effluent Discharge of Environmental Pollutants	Test Method
Sl. No.	Sample Code	EDW1	EDW2	EDW3		
	Parameters	Results				
1	Colour (Hazen Units).	1	1	3	--	IS:3025(P-4)2021
2	pH	7.12	6.86	6.25	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	7.4	2.3	5.2	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	110	48	54	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	60	26	30	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	20.0	16.0	18	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	18	10	12	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	26	12	10	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	5.6	2.43	1.6	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	3	1.45	<2	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	7	2.1	1.5	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	3.2	<1	<1	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	14	13	18	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.023	0.042	0.051	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.6	5.8	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block**
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services)
Particular of Sample Collected	: SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of sampling	: 14.03.2025
Issue Date	: 25.03.2025

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Report No / Sample Code / Parameters	N037625033 SW1 Results	N037725033 SW2 Results	Limits	Test Method
1	Colour (Hazen Units),	1	1	300	IS:3025(P-4)2021
2	pH	7.16	7.58	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	3.6	2.8	–	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	190	5700	–	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	102	3420	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	16	20	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	20	1350	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	70	600	–	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	14.4	104.2	–	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	8.26	82.6	–	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	12	720	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	2.5	32.7	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	16	22	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.012	0.013	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block**
	Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services)**
Particular of Sample Collected	: **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling	: **15.03.2025**
Issue Date	: **25.03.2025**

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Report No / Sample Code / Parameters	N000125034 SW3 Results	N000225034 SW4 Results	Limits	Test Method
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	6.45	6.85	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	2.4	7.8	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	55	1300	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	30	728	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	10	28	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	10	330	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	14	100	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	3.2	24.0	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	1.45	9.72	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	2	110	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.1	12.5	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	18	40	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.013	0.02	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.6	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

BINU MANI
T.M. - Microbiology
Govt. Analyst / Authorised Signatory

ARSHIYA KOUSAR
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Note : This report is subject to the terms and conditions mentioned overleaf

Annexture 1

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 recognition valid upto 23.05.2025

TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari), GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 14.03.2025
Issue Date : 25.03.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	N037825033 GW1 Results	N037925033 GW2 Results	N038025033 GW3 Results	Desirable Limits	Permissible Limits	Test Method
1	Colour (Hazen Units)	1	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.85	5.68	5.63	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	4.5	3.8	3.6	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	110.0	102.0	98.0	–	–	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	60.0	56.0	52.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids	22.0	36.0	14.0	–	–	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	6.41	5.61	4.00	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	18.00	18.00	18.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	4.86	2.43	2.92	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	3.74	2.96	1.85	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	6.50	4.50	3.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	26.00	24.00	10.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	36.0	24.0	22.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	8.0	3.7	6.9	–		–

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 14.03.2025
Issue Date : 25.03.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	N038125033	N038225033	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW4	GW5			
	Parameters	Results				
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.75	5.89	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	1.5	1.2	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	40.0	52.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	22.0	28.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	4.0	6.0	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	1.60	2.40	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	8.00	12.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1	1.20	200	400	IS:3025 (P-24) Sec:1 2022
14	Alkalinity (as $CaCO_3$) mg/l	8.00	10.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	8.0	10.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels of well from surface (m)	4.6	7.9	--		--

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TEST REPORT

NOISE LEVEL DATA

Report No : ELME2092503

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of monitoring	: 21.03.2025
Issue Date	: 03.04.2025

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	36.0	46.6	53.0	33.8	37.9	42.3
N2	Mulgao village	35.0	46.6	54.3	35.3	40.8	43.5
N3	Piligao Village	36.4	49.9	55.0	34.0	39.3	44.5
N4	Shirgao village	35.0	45.8	54.2	33.5	38.9	43.2
N5	Anil Naik House Near Sarmanas Jetty	39.0	50.7	54.8	34.6	40.0	45.2
	Corezone						
N6	Mine Face- 5 top Common Boundary	41.0	71.6	78.0	36.0	63.1	70.0
N7	Dry Crushing and screening & Ore Stacking- NSP	45.8	70.0	78.0	34.5	62.7	68.0
N8	Haul road- at 4 Top	43.2	65.1	72.5	36.0	60.4	66.0
N9	Dumping- 5 Top	43.2	68.7	78.0	36.7	60.1	65.0

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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ANNEXTURE - 2

Vedanta Limited – Block I Bicholim Mineral Block

CER Implementation progress FY 2024-2025				
Sr. No.	**Activities**	**1st Year budget (in lakhs)**	**Outreach - 1st year**	**For reporting period (2024-25)**
I	**Agriculture Development**			
1	Support for agriculture rejuvenation by providing necessary inputs like Seeds, Fertilizer, ploughing, Fencing support etc. in Mayem, Mulgao, Piligao, Bicholim villages to benefit farmers. Farmers awareness and motivational workshop by involving Agriculture department and other experts.	10	100 farmers	Completed, benefited 102 farmers(20 hactor, Sarmans - Piligao). We shd take a letter from agril dept or farmers grp etc as a back up doc.
2	Supplying water for irrigation of horticulture garden (Orchards of coconut, arecanut plantation) in Mulgao village during non monsoon season.	0.6	20 farmers of Mulgao apprx. Area 7000m2	Completed – Provided water for horticulture garden
II	**Education**			
3	Educative wall Paintings in Govt. Primary Schools in Mulgao, Piligao, Sirigao, Mayem and Lamgao villages.	5	5 primary schools (170 students)	Under process
4	Teaching learning kits and Sports kits to Government Primary Schools in Mulgao, Sirigao, Mayem, Lamgao,	3.5	6 primary schools	Under process

Sensitivity: Internal (C3)

ANNEXTURE - 2

	Bordem, Dabdaba and Piligao villages			
6	Construction/Repair of Anganwadi building at Lamgao village	20	approx.20 children	Under process
7	Computer Labs in 4 high Schools in the buffer zone	10.9	4 computer labs in 4 high schools	Lab established in 4 high schools Benefiting 750 students. (Our lady of grace highs school, Ideal high school Piligao, Mahamaya high school Mayem, Sirigao school.
8	Construction of 2 classrooms in Vijayanand High school, Tikhajan-Mayem	20	500 students	Under process
III	**Health Care Facilities**			
9	Mobile Health Van (MHU) catering to Mulgao, Mayem, Piligao, Lamgao and Sirigao villages providing basic medical care services at doorstep. Additionally 10 specialized health camps for women, children and elderly.	30	Covering 5 villages	Completed (Details attached as report
IV	**Skill Development**			
10	Start 2 computer skilling /vocational training centers in Mayem Panchayat and Bicholim Municipal Council offering courses Like DCA, Tally & GST, Web designing, Advance excel and DTP.	10	240 youth per year	2 computer skilling /vocational training centres in Mayem Panchayat and Bicholim Municipal Council Completed

Sensitivity: Internal (C3)

ANNEXTURE - 2

11	10 Skill training workshops covering around 300 women self help group members on rural enterprise development. Creating 10 women enterprises	6	250 SHG members	6 Skill training workshop Mulgao, Mayem, Piligao & Bicholim covered of 200 participants. Completed
	Total	**116**		

Sensitivity: Internal (C3)

ANNEXTURE - 2

Vedanta Limited – Bicholim Mine
CER Highlights

A. Health

1. Mobile Health Unit :-

The objective of the project is to provide quality health care access to the community across our areas of operation, also to improve overall health status of the community by catering to their day-to- day basic health needs. We are covering five villages close to our operations. (Pilgao, Mayem, Mulgao, Lamgao & Sirigao). Till March around 6,523 footfalls. Also we conducted 10 specialized camps for women, children & old age people 1207 people benefited.





B. LIVELIHOOD

1. Agriculture support :-

Under our Back to Farming Project we are helping the farmers to rejuvenate fallow paddy fields and continue in ongoing fields. Our assistance is mainly in the form of farm inputs like fertilizers & seeds. We provided seeds & fertilizers to around 82 farmers.





ANNEXTURE - 2

C. Education :-

1. Computer lab set up in high schools :-

We set up a fully equipped computer lab in 4 high schools is benefit more than 2000 students of present batch and will continue to support upcoming batches of students as well. The objective of this initiative is to promote digital learning and provide computer education for the students.





Skilling :-

1.Computer skilling /vocational training centers :- To provide Computer training to unemployed youths from our operational area for enhancing their employment capability and secure livelihood, we started village computer training centers in collaboration of Vedanta Foundation. Currently we are running computer training centres at Bicholim & Mayem village.





Sensitivity: Internal (C3)

ANNEXTURE - 2

2. Skill training workshops for SHG :- This project aims at the enhance technical capacity, entrepreneurship, and business skills of women through workshop vocational training program in different areas. The project has been aligned to the needs of the target beneficiaries as identified through the community mobilization, and in consideration of working towards strengthening of existing SHG.





Sensitivity: Internal (C3)

ANNEXURE 3

4.1 The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEF&CC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six-monthly compliance report.

a. Poster Making, Slogan Writing and Drawing Competition with them on Environment protection and plastic pollution – 18/11/2024



b. Drama and Skit by Bicholim Govt High School Students on Swachha Bharat Abiyan, Plastic pollution- Ban on Single use plastic and waste management in Bicholim mines – 20/11/2024



Sensitivity: Public (C4)

ANNEXURE 3

c. Awareness and Promotion of Environment Protection as part of MEMC week celebration with Songs, slogans and quotes on Ban of single use plastics, environment protection, plantation, conservation of water, etc. in Bicholim public areas – 20/11/2024



d. Posters displays at prominent places withing mine unit like admin building, canteen etc on ban of Single Use Plastic.





Sensitivity: Public (C4)

ANNEXURE 3

e. Awareness session and interaction to all Supervisors and Workmen on Plastic pollution and Ban of single use plastic - 26/12/2024



f. Awareness session and interaction to all Supervisors and Workmen on Plastic pollution and Ban of single use plastic - 20/11/2024



Sensitivity: Public (C4)

ANNEXTURE - 4

Specific Condition 5.1 The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs 72 Cr. 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.

EMP Expenditure			
Description	**Cost in Rs**		
	Revenue	**Capex**	**Details**
GEN EXPENDITURE - ENVIRONMENT	15,07,549	2,61,00,000	Environment Monitoring Air, Water, Noise, Awareness and training. Capex: Hot mixing of road
MINE RECLAMATION	5,28,972	-	Procurement of native and fruit bearing species of saplings and plantation and after care.
EROSION CONTROL	1,26,17,600	-	Laying of silpaulin on waste dumps, De silting of settling ponds (210000m3) , digging of trenches (7km), garland drains. Laying of geotextile final waste dumps of 2Ha.
WATER TREATMENT	1,26,600	-	Water treatment by lime(7 tons) magnasol(0.7 tons) and manpower
DUST SUPPRESSION	45,53,845	-	Hiring of tankers and road sweeping machine.
STATUTORY	49,72,600	-	CTE/CTO/membership fees for Hazardous wate disposal facility
HEALTH and SAFETY	18,72,194	-	Premedical test, Occupational health centre on mines
TOTAL	**2,61,79,360**	**2,61,00,000**	
		5,22,79,360	

Sensitivity: Internal (C3)

ANNEXTURE 5

Action plan for CER

Proposed physical targets for addressing issues raised in Public hearing as per MoEF&CC, MOM dated 11/08/2023					
					figures in INR Lakhs
Sr. No.	**Activities**	**3 Years Budget (Rs. In Lakhs)**	**Yearwise Physical targets & Budget**		
			Year1	**Year2**	**Year3**
I	**Agriculture Development**				
1	Support for agriculture rejuvenation by providing necessary inputs like Seeds, Fertiliser, ploughing, Fencing support etc in Mayem, Mulgao, Piligao, Bicholim villages to benefit over 300 farmers. Farmers awareness and motivational workshop by involving Agriculture department and other experts.	45.00	100 farmers beneficiary 10 lakh	100 farmers beneficiary 15lakh	100 farmers beneficiary 20 lakh
2	Supplying water for irrigation of horticulture garden (Orchards of coconut, arecanut plantation) in Mulgao village during non monsoon season.	1.80	20 farmers of Mulgao, apprx. Area 7000m2 0.6Lakh	20 farmers of Mulgao apprx. Area 7000m2 0.6Lakh	20 farmers of Mulgao apprx. Area 7000m2 0.6Lakh
II	**Education**				
3	Educative wall Paintings in 16 Govt. Primary Schools in Mulgao, Piligao, Sirigao, Mayem and Lamgao villages.	17.00	Benefit Govt.Primary School-Piligao, Govt.Primary School-Sirigao, Govt.Primary School-Lamgao, Govt.Primary School- Bordem & Govt.Primary School-Kantar Dabdaba villages. (170 students) 5lakh	Benefit Govt.Primary School-Bagwada, Mulgao Govt.Primary School-Manasbag Mulgao, Govt.Primary School- Shirodwadi Mulgao and Govt.Primary School-Bagwada, Piligao and Govt.Primary	Benefit Govt.Primary School-Bhavkai, Govt.Primary School-Kelbaiwada ,Govt.Primary School-Haturli, Govt.Primary School-Gaonkarwada, Govt.Primary School-Haldanwadi,

ANNEXTURE 5

				School-Mathwada Piligao (80 students) 5lakh.	and Govt.Primary School-Sikerim in Mayem-Vaiguinim Panchayat. (100 students) 7 lakh
4	Teaching learning kits and Sports kits to 16 Government Primary Schools in Mulgao, Sirigao, Mayem, Lamgao, Bordem, Dabdaba and Piligao villages	8.50	Benefit Govt.Primary School-Bhavkai, Govt.Primary School-Kelbaiwada ,Govt.Primary School-Haturli, Govt.Primary School-Gaonkarwada, Govt.Primary School-Haldanwadi, and Govt.Primary School-Sikerim in Mayem-Vaiguinim Panchayat. 3.5lakh	Benefit Govt.Primary School-Bagwada, Mulgao Govt.Primary School-Manasbag Mulgao, Govt.Primary School- Shirodwadi Mulgao and Govt.Primary School-Bagwada, Piligao and Govt.Primary School-Mathwada Piligao. (80 students) 2.5lakh	Benefit Govt.Primary School-Piligao, Govt.Primary School-Sirigao, Govt.Primary School-Lamgao, Govt.Primary School- Bordem & Govt.Primary School-Kantar Dabdaba villages. (170 students) 2.5lakh
5	Outdoor play equipments in Govt. Primary School Manasbag Mulgao.	1.00	-	Govt. Primary School Manasbag, Mulgao. (12 students) 1Lakh	-
6	Construction/Repair of Anganwadi building at Lamgao village	20.00	Construct/repair new building for anganwadi at Lamgao village.(approx.20 children) 20Lakh	-	-

ANNEXTURE 5

7	Computer Labs in 4 high Schools in the buffer zone	14.00	Each computer Lab will be provided with 10, computers, tables & chairs. Benefit 4 High Schools (~2800 students) namely- 1.Our lady of Grace High school-Bicholim, 2.Radhakrishana Vidyalaya - Bicholim,3.Ideal High school, Piligao and 4 Govt. High School Mulgao. 10.9lakh	Continue operation of all 4 computer labs in year 2. (benefitting ~2800 students) 1.5lakh	Continue operation of all 4 computer labs in year 3. (benefitting ~2800 students) 1.6Lakh
8	Construction of 2 classrooms in Vijayanand High school, Tikhajan-Mayem	20.00	Construct 2 classrooms in Vijayanand High School, Mayem. 20 Lakh	-	-
III	**Health Care Facilities**				
9	Mobile Health Van (MHU) catering to Mulgao, Mayem, Piligao, Lamgao and Sirigao villages providing basic medical care services at doorstep. Additionally 10 specialised health camps per year for women, children and elderly.	102.00	Weekly two MHU visits to each targetted village (5nos). 2 specialised health camps in each targetted village (5nos.) 30Lakh	Weekly two MHU visits to each targetted village (5nos). 2 specialised health camps in each targetted village (5nos.) 34Lakh	Weekly two MHU visits to each targetted village (5nos). 2 specialised health camps in each targetted village (5nos.) 38 Lakh
IV	**Skill Development**				
10	Start 2 computer skilling /vocational training centres in Mayem Panchayat and Bicholim Municipal Council offering courses Like DCA, Tally & GST, Web designing, Advance excel and DTP.	23.00	Centre will be equiped with 10 computers, chairs , tables, internet facility and trainer. Training 240 local youths. 10lakh	Operation of 2 computer skilling centres in year 2. Training 240 local youths. 6lakh	Operation of 2 computer skilling centres in year 3. Training 240 local youths. 7Lakhs

ANNEXTURE 5

11	10 Skill training workshops covering around 300 women self help group members on rural enterprise development. Creating 10 women enterprises	35.00	2 training workshops in each village namely Piligao, Mulgao, Mayem, Sirigao and Bicholim. 6Lakh	2 training workshops in each village namely Piligao, Mulgao, Mayem, Sirigao and Bicholim. Support 3 groups/individual for micro enterprises 12lakh	10 women enterprises from Piligao, Mulgao, Mayem, Piligao and Bicholim villages. 17lakh
V	**Infrastructure Development**				
12	Retaining wall to agriculture field of Satyavan Chodankar, Mulgao village	22.00	-	Retaining wall of 40m x5m area. 22lakhs	-
	Total	**309.30**	**116**	**99.6**	**93.7**

Compliance with respect to Standard Condition -

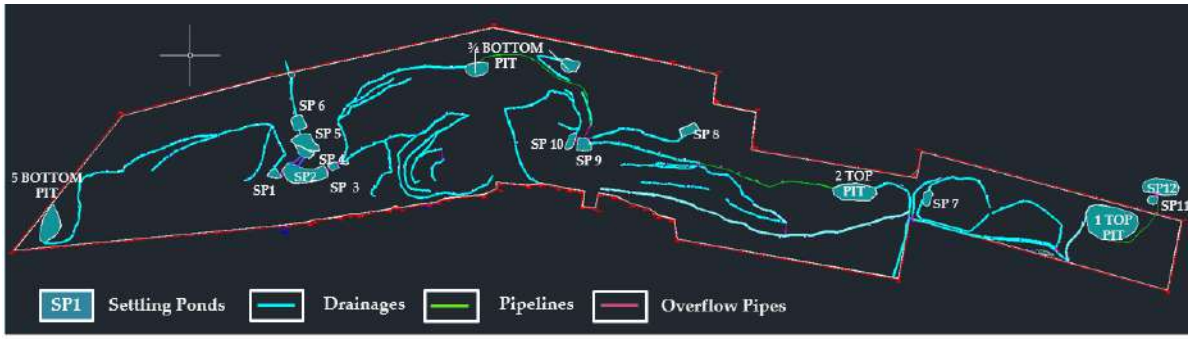
1. Standard EC Conditions 3.3 -The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease including upstream and downstream. Sufficient number of gullies shall be provided at appropriate 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.

2. Standard EC Conditions 3.5 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.

Compliance

The detailed study of the mine site area has been conducted. Remote sensing based data of Digital elevation model has been used for topographic study, which has been cross verified by ground truthing in field survey. As this mine has garland drains, settling ponds with check dams are present at different locations in the mine site. Based on the topographical study in the field and through elevation map, it has been observed that all the runoff generated from the rainfall will be collected through these drains and will eventually flow through the series of settling ponds. The gradient of the garland drains is properly maintained and regular cleaning of the drain is done to avoid blockages. The garland drains are made such that from upstream to the downstream where the drains are meeting the settling ponds will show decrease in elevation, to maintain a free flowing gradient of rainfall runoff. The dimension of the drains is maintained at about 2m in width and 1.5m in depth. A proper height has been maintained in the form of bund on the sides of the garland drain so that there is no spillage of storm water from the drains.



ANNEXTURE - 6

The entire monsoon runoff is channelized into mine pits and supernatant water flows into series of settling ponds through drains. The clear water is allowed to naturally overflow by Header arrangements or through check dams.

Area of Mineral block = 4785206 m^2

Total yearly rainfall for the period April 24 to March 25 = 5.294 m

Total surface runoff generated through lease area = Area of Mineral block * Total yearly rainfall* Runoff Coefficient

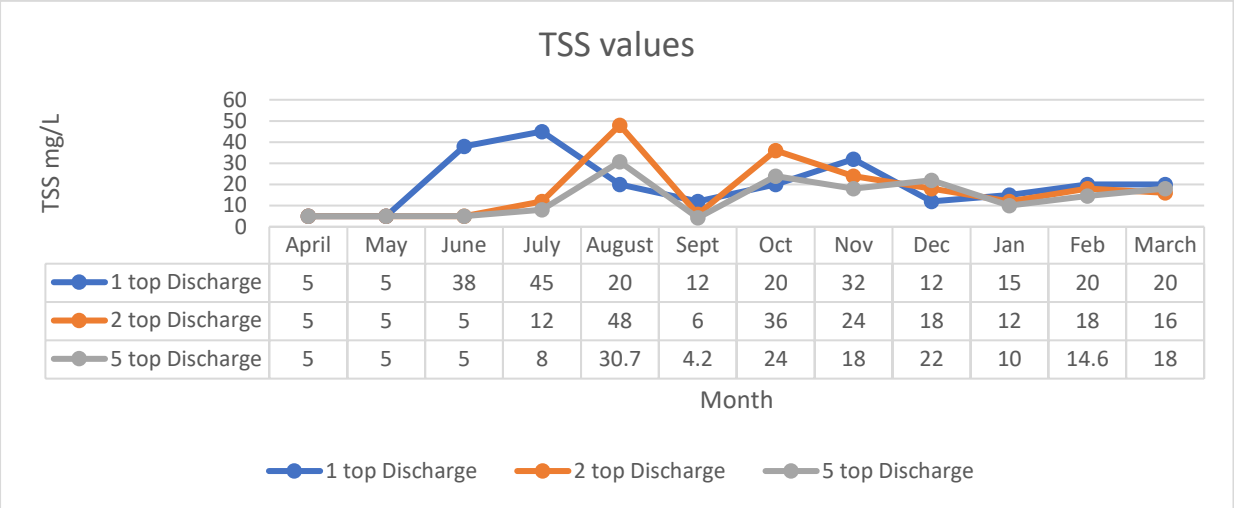
Total surface runoff generated through lease area = 4785206 m^2* 5.294 m * 0.15

= 37,99,932 m^3

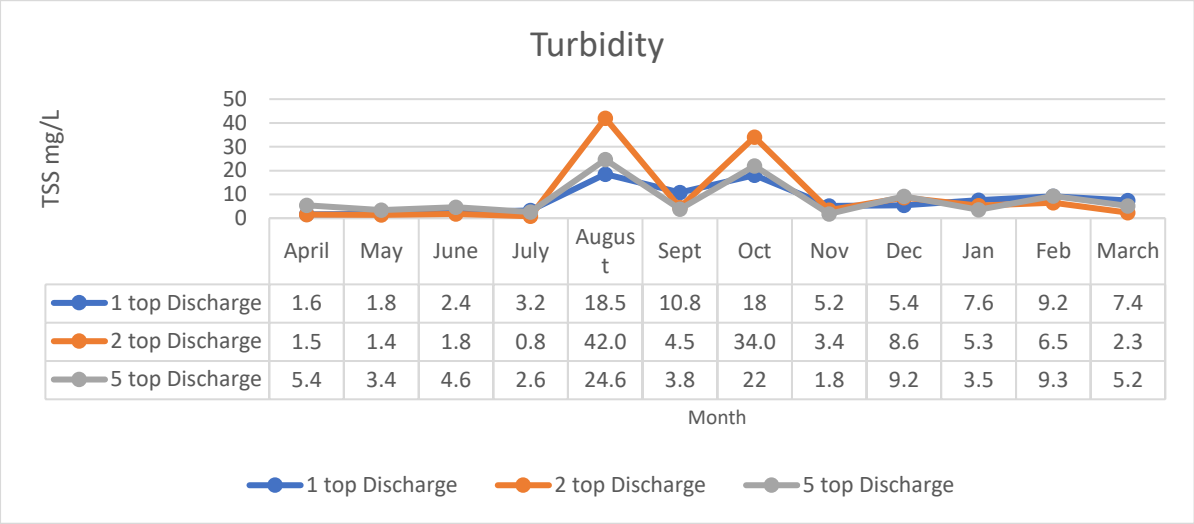
Sensitivity: Internal (C3)

ANNEXTURE - 6

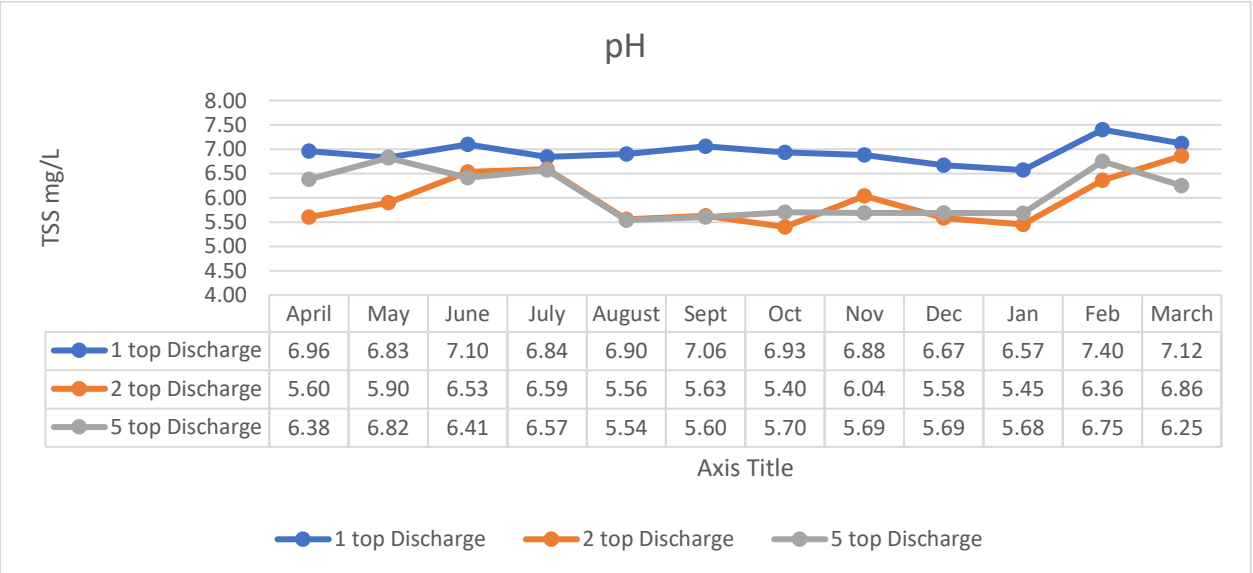
Trend analysis



	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
1 top Discharge	5	5	38	45	20	12	20	32	12	15	20	20
2 top Discharge	5	5	5	12	48	6	36	24	18	12	18	16
5 top Discharge	5	5	5	8	30.7	4.2	24	18	22	10	14.6	18



	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
1 top Discharge	1.6	1.8	2.4	3.2	18.5	10.8	18	5.2	5.4	7.6	9.2	7.4
2 top Discharge	1.5	1.4	1.8	0.8	42.0	4.5	34.0	3.4	8.6	5.3	6.5	2.3
5 top Discharge	5.4	3.4	4.6	2.6	24.6	3.8	22	1.8	9.2	3.5	9.3	5.2



	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March
1 top Discharge	6.96	6.83	7.10	6.84	6.90	7.06	6.93	6.88	6.67	6.57	7.40	7.12
2 top Discharge	5.60	5.90	6.53	6.59	5.56	5.63	5.40	6.04	5.58	5.45	6.36	6.86
5 top Discharge	6.38	6.82	6.41	6.57	5.54	5.60	5.70	5.69	5.69	5.68	6.75	6.25

Sensitivity: Internal (C3)

OFFICE OF THE DEPUTY COLLECTOR & SUB DIVISIONAL OFFICER & SUB DIVISIONAL MAGISTRATE SUB-DIVISIONBICHOLIM, GOA.

Phone No: 0832-2362058 **Email:sdmbicholim.goa@nic.in**

No. DCB/BICH/Mining/2024/3193 Dated: - 27/11/2024

To,
The Director of Mines and Geology &
Chairman of Inter Departmental Committee,
Directorate of Mines and Geology.
Panaji –Goa.

Sub: Report on Site Visit to the transportation route proposed for deviation of mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty,
Ref. 1. Order No.: 03/24/2023/Major/Mines/1934 dt. 07/10/2024.
2. No: DCB/BICH/Police Protection/2024/3167 dt. 22/11/2024.

Sir,

With reference to the above cited subject, as directed by the Director of Mines and Geology / Chairman of Inter Departmental Committee a meeting was held in the chamber of the Deputy Collector & SDM Bicholim on 25/11/2024 at 03:30 pm. The following members of the constituted Committee (Inter Departmental Committee) were present.

1. Rohan Kaskar, Dy. Collector & SDO, Bicholim
2. Sanford Mascarenhas , Geologist Directorate of Mines and Geology
3. Rohan R. Nagvekar, AEE, GSPCB
4. Gajanan Desai , EE PWD(R), Bicholim
5. Kamlakant B. Karapurkar, ADT, Bicholim
6. Punaji Gaonkar, Traffic Cell, Bicholim
7. Dinesh Gadekar, PI, PS, Bicholim

The letter dated 22/11/2024 made by the Vedanta Ltd., addressed to the Director of Mines and Geology, Panaji and copy endorsed to this office requesting approval for the proposed deviation transportation route for mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty as their approved transportation route has been obstructed by villagers was placed before committee members. The members decided to conduct site inspection of the proposed deviation transportation route for mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty on 26/11/2024 at 10.30 a.m.

Accordingly, a joint inspection was carried out on 26/11/2024 at 10.30 a.m. by members of the committee formed by Director of Mines and Geology which was attended by Mr. Rohan Kaskar (Deputy collector Bicholim), Mr. Sanford Mascarehnas, Geologist DMG, Mr. Rohan R. Nagvekar, AEE GSPCB, Mr. Kundan Shet, JEE GSPCB, Mr. Waman R. Chari, SA, Mr. Gajanan R Desai, EE PWD Bicholim , Mr.Dinesh Gadekar, PI, PS Bicholim, Mr. Kamlakant B. Karapaurkar ADT Bicholim, Mr. Vishnu Gawas, ASI Traffic, Mr. Sunil Vaignakar Local Panch Member Piligao., Mr. Dhirajkumar Jagdish Vedanta Ltd., Mr. Benico Menezes, Vedanta Ltd., Mr. Milind Barve, Vedanta Ltd.

Following were the observations and recommendations of the committee.

1. Traditional route of mineral transportation was blocked by some of the land owners/farmers having land dispute with the company. Deputy collector and Dy. Director DMG attempted to mediate and resolve the issue in a joint meeting dated 21st November 2024, however no consensus was reached.

1096

2. In the meeting one of the demand of the farmers was that company should take the transport from public road and allow farmers to cultivate the traditional fields. Accordingly company has submitted new alignment of the road bypassing these fields through small deviation in the last used road between NBP Junction and mathwada Junction section of the route
3. Committee visited the site and observed that although the new alignment increases public road usage by around 0.8 KMs. There is no habitation in this additional distance neither there is any increase in traffic load.
4. Committee concluded that as an interim measure the deviation may be considered with following conditions
    a. Separate entry and exit should be maintained at the NBP area to avoid traffic congestion and minimize use of public road.
    b. Additional ambient air quality monitoring and dust monitoring stations may be installed on the deviated route if required in consultation with GSPCB.
    c. Traffic marshal be stationed at B and C gate and traffic blinkers to be installed at the at the gates for traffic safety
    d. Company to clear vegetation grown along the road from B gate to Mathwada Junction to improve visibility.
    e. The unit M/s. Vedanta Ltd is required to provide wheel wash & rumbler facility for the ore transport vehicles at the exit point of mine prior to entering Major District road (MDR 20) and should obtain prior permission from all the concerned authorities to carry out ore transportation.
    f. Vedanta Ltd. to comply with the various authorities as stipulated in their orders/ guideline/ directions.

Transportation Route Map is enclosed herewith

1097

Yours faithfully,

Vishnu Gawas
ASI on behalf of PI Traffic Bicholim

Dinesh Gadekar
PI, PS Bicholim

Gajanan Desai
Assistant Engineer, PWD
Bicholim-Goa

K. B. Karapurkar
Assistant Director of Transport
Bicholim-Goa

Sanford Mascarehnas,
Geologist, Director of Mines & Geology ,
Panaji-Goa

Rohan Nagvekar
AEE, GSPCB

Rohan J. Kaskar
Deputy Collector & SDO,
Bicholim Sub Division
Bicholim – Goa

CERTIFIED COPY
Date on which Copy applied For 13/12/24
Date On Which Application Complited 10/1/25
Date Given for Taking Delivery 10/1/25
Date On Which Copy was Ready 10/1/25
Date On Which Copy Delivered
Copying & Comparing is Rs. 67/-
Credited to Govt. Treasury Bank At
By Challan No. 2025-0025396.
10/01/2025
Xerox COPY
Com...

Deputy Collector &
Sub Divisional Officer
Bicholim Sub Divisi...
Bicholim

Annexure A-15

vedanta
transforming for good

sesa goa iron ore

To

Date: 08/10/2025

The Director
Ministry of Environment and Forest
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Submission of Half Yearly EC Compliance Report for the period of April 2025 to September 2025.

Ref. 1. Environment Clearance [File No.: IA-J-11015/3/2023-IA-II(NCM)] granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited.

Respected Sir,

This has reference to the captioned subject and cited Environmental Clearance. Kindly acknowledge the enclosed Six-monthly compliance report to Environment clearance [File No.: IA-J-11015/3/2023-IA-II(NCM)] dated 23/01/2024, for the period of April 2025 to September 2025.

Thanking you,

Yours faithfully

Dhirajkumar Jagdish
Dy. CEO – Iron Ore Goa
Authorized Signatory

vedanta transforming for good | sesa goa

Compliance report to conditions of environment clearance

for Bicholim Mineral Block- Block 1 (Auction Block) of Vedanta Limited
File No.: IA-J-11015/3/2023-IA-II(NCM)

Specific EC Conditions for (Mining Of Minerals)

S.No	EC Conditions	Compliance Status
1.1	The instant Environmental Clearance (EC) is subject to the outcome of the WP 592 of 2022 (MSPL v. State of Goa and Ors.) regarding challenging the constitutionality of the tender documents of Phase I auction of Goa mines and PIL WP 2029/2023 (F) (Suresh Govind Gaonkar and Ors v. Directorate of Mines and Geology and Ors) regarding challenging the state's decision to go ahead with the auction of the mining block.	PP agreed upon: WP 592 of 2022 (MSPL v. State of Goa and Ors) has been dismissed and the validity of tender documents and LOI was upheld. **Order attached** PIL WP 2029/2023 (F) (Suresh Govind Gaonkar and Ors v. Directorate of Mines and Geology and Ors) is pending before the Hon'ble Bombay High Court at Goa. **Order attached**
2.1	The Project Proponent shall monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village, crusher and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Regional Office.	Complied Air quality – Ambient air (5 buffer, 3 core and 4 Fugitive), noise level (4 core and 5 buffer), water quality (7 surface water and 5 ground water), water levels (from buffer villages) monitoring is carried out every month. No Drilling and Blasting is carried out. **Annexure – 1**
3.1	The budget of Rs 309.3 Lakhs to address the concerns raised by the public in the public consultation to be completed 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 the public hearing is different from the CSR activities.	Complying with. Action plan to comply the CER in three years is prepared and accordingly acted upon. The progress details are maintained and recorded. It is ensured that CER is different from CSR. **Annexure - 2**
4.1	The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEFandCC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance report.	Complied: Various awareness programmes on the ban of Single Use Plastic conducted as follows: Nukkad natak/Skit performed on Ban on SUP, Plastic waste and environment protection.

		Awareness session among employees by conducting training sessions – 2 training sessions. Awareness and Promotion of Environment Protection as part of MEMC week celebration with Songs, slogans and quotes on Ban of single use plastics, environment protection, plantation, conservation of water, etc. in Bicholim public areas Posters displays at prominent places withing mine unit like admin building, canteen etc on ban of Single Use Plastic. Plantation drive in Mine on the occasion of Environment day on the Theme: Beat Plastic pollution. Walkathon - Ek Din, Ek Ghanta, Ek Saath Campaign celebrating Swachhata hi seva in Mine office area. Poster making and Waste to Art and Awareness session on Swatch Bharat and Ban of Single use plastic in Govt. High Bicholim and Radha Krishna School Bicholim. Beneficiaries: 80 children Safai Mitra Abhiyan and Cleanliness drive and plastic waste collection drive in Sarmanas Ferry and Hanuman Temple Sarmanas Rally on awareness on Ban of Utilization of single use plastic and Cleanliness drive in Bicholim Market, Ground and bus stand. Participants/Beneficiaries: 85 people participation along with 10 Vedanta staff, Govt. High Bicholim and Shantadurga High School Bicholim and Goa Mineral Foundation team. A report, along with photographs along with number of beneficiaries , on the measures taken has been attached as **Annexure 3**

5.1	The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs 72 Cr. 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.	Complying with; The Budgetary provision is mentioned as Rs 72 Cr. in the condition, which is a typo error. The budgetary provision committed and presented to EAC was Rs 72 Lakhs. Reference to our final EIA the EMP cost was proposed as 72 lakhs The adoption of mitigation measures and monitoring of the same as proposed in the EMP is done under the supervision of the qualified environmental personnel. The implementation status of same is attached as **Annexure 4**. Expenditure for FY2025-26 will be shared in the next 6 monthly compliance report.
5.2	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.	Complying with: In house environment laboratory has been established. Online water monitoring stations are installed at all discharge points. A dedicated team to oversee environment management is setup at site for monitoring of environment parameters. (Photo attached in **Annexure-18)**
6.1	The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years.	Complying with: Currently inducted 4 EV Wheel loaders in our mining operation in the reporting period. These Ev machines are under observation to study the performance in the mining condition. Going forward more EV HEMM's and dumpers will be included with the advent in technology and feasibility.
7.1	NoC from the Central Ground Water Authority (CGWA)/ Concerned Local authority, as the case may be, shall be obtained before drawing the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention	Complied: Obtained NOC for drawing the rainwater harvested/pit water from Goa State Water resource department dated 21/09/2023, valid till 20/09/2025. The same was renewed till 20/09/2026.

	and Control of Pollution) Act till the project proponent shall obtain such permission.	
8.1	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. The preference shall be given to the local people for the purpose of employment as committed before the EAC.	Complying with: Vedanta Bicholim Mines registered under the Apprenticeship Program under the Directorate of Skill Development and engaged 4 apprentices as of date. Further, we have provided internship training to three students who are pursuing their graduation. The outcome of the training will be reviewed and analysed by the end of their apprenticeship and internship stints. Also, we are in the process of finalising the further candidates under a year-long apprenticeship program in the coming months. Details in **Annexure - 5**
9.1	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 on occupational health shall be carried out 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.	Complying with: Periodic Health monitoring and surveillance records are maintained in soft as well as in physical form (register) for mine workers. Mobile Health Unit set for Pilgao, Mayem, Mulgao, Lamgao and Sirigao villages close to our operations with 3982 footfall for the reporting period. 5 specialized health camps for women, children and old age people conduced - 700 people benefited for the reporting period. Details in Annexure **2**
10.1	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 Regional Office.	PP agreed upon. Scientific mine reclamation will be undertaken . the finalised areas on dump are immediately covered with geotextiles and taken up for plantation of native species.

11.1	The Hon'ble Supreme Court has imposed a capping on mining of iron ore to 20 MTPA for the entire State of Goa. Accordingly, the Project Proponent shall first obtain the necessary permission from the competent authority with regard to the amount of mineral they can mine per year, before starting its mining operation.	Complied: Block I Bicholim mineral block is the first mine to start mining operation in state of Goa Necessary permission obtained from the competent authority for carrying out mining operation within the permissible capacity
12.1	The Project Proponent needs to obtain prior permission from the MoEFandCC for mining in common boundary as and when required.	PP agreed upon: Necessary permission will be obtained from the MoEF&CC for mining in common boundary when required.
13.1	As committed before the EAC, the Project Proponent needs to explore the feasibility for installing conveyor belt system for transportation.	Complied: The company has explored the feasibility for OLBC with capacity of 3 MTPA from dry mineral processing plant to Sarmanas Jetty covering a length of 5.772 km. The feasibility study conducted on the introduction of conveyor systems, specifically evaluating OLBC and pipe conveyor installations, alongside traditional road transport, presents a comprehensive view of potential advancements in ore transportation. The local stakeholders were engaged in transportation which is their only livelihood. Across Goa state, transportation of ore from mines to plants/ jetty's is carried out by using 10.5 T trucks of local stakeholders which takes care of their livelihood. Along with the transportation business there are many other local businesses which are interdependent like garages, spare retailers, hotels, shops, etc. Though the installation of conveyor system would be environmentally friendly, it will affect livelihood of the local villagers. Details of study attached in **Annexure 6**
14.1	The mined out pits will be converted into water reservoirs, pond with other ecotourism facilities like water sports, boating, fishing etc., Pisciculture in mine pits will be developed and also the local community will be involved for cage fishing to make it a commercially viable venture.	PP agreed upon: Bicholim mines have recently started. Some of the mined-out pits will partially backfilled and retained as water bodies/reservoirs. Mine reclamation activities will be scientifically conducted with support of expert agencies .
14.2	The ecology restoration or mine reclamation activities shall be carried out concurrently with mining operations. The Project Proponent shall	PP agreed upon :

	ensure that the restoration models demonstrated before the EAC shall be developed in association with research institutes like NEERI, Goa University etc.	Bicholim mines have recently started. Reclamation activities will be carried out simultaneously with mining activities and progressive mine closure plan. The company will collaborate with various research institutes/consultants/subject matter experts/forest dept./ agriculture dept. as and when required.
15.1	Regular monitoring and analysis of discharge water and at upstream and downstream of Bicholim and Asnora river needs to be carried out quarterly through NABL/MoEFandCC accredited laboratory.	Complying with: Regular monitoring of mine discharge water and upstream and downstream of Bicholim and Assonora river is being carried out every month through NABL/MoEFandCC accredited laboratory. Assonora river touching lease boundary in the NE direction at one point. Bicholim river is at a arial distance of 0.23km SE from mine lease.
16.1	Extensive native fruit bearing plantation shall be carried out in all safety zones with density of 2500 trees/ha.	Complying with: Plantation exists in most of the safety zone area. Extensive plantation with native fruit bearing plants has been carried out in this monsoon. Details attached in **Annexure - 7**
16.2	The Project Proponent needs to complete the entire peripheral plantation under green belt, safety barrier plantation and gap plantation within three years from the start of mining operations. The Project Proponent should plant quality sapling of appropriate height of native and fruit bearing species. In case of tall transplants (seedlings) the seedlings should have proper trained root stock with root biomass commensurate with seedling height to ensure good growth after out planting. Plantation shall be undertaken in consultation with the State Forest Department. 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 Regional Office.	Complying with: List of plant saplings planted has been attached. The safety belt/ peripheral plantation will be completed within three years from start of operations. Aftercare will be provided to the saplings so as to achieve maximum survival rate. Actual count on the saplings planted and its survival rate will be monitored. Details attached in **Annexure - 7**
17.1	The waste dump slopes shall be covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.	Complying with: As part of monsoon preparation work final dump benches are being covered with laterite material and then with biodegradable geotextile mats to prevent the soil erosion of the dump slopes so as to facilitate the growth of native species.

		Approx. 2 ha of final waste dump has been covered with geotextile in the year 2024 Approx. 3 ha of final waste dump has been covered with geotextile in the year 2025. Plantation details in **Annexure - 7**
18.1	The Project Proponent needs to install the permanent water sprinklers along 3.40 km haul road within the ML area and 2.80 km length outside the ML area on either side of the road.	Compliance is in progress: Dust suppression on mines is done through water tankers and this activity is carried out by local stake holders. The local stake holder are opposing this initiative as it will impact their livelihood. However company has explored the feasibility for permanent sprinklers and implementation of the same on a pilot scale will be started post monsoon for Approx. 2.8km outside ML and 0.5km inside ML. Plan in **Annexure - 8**
18.2	As committed by the Project Proponent, existing trucks of 10.5 Tonnes shall be replaced with higher capacity trucks of 25 Tonnes in phased manner to reduce traffic load and emissions per tonne/km.	Compliance is in progress. Truck Owner Association(TOA) is not ready to replace the existing 10.5 tonner with higher capacity for the further period of 5 years being the six wheelers vehicles have been maintained by the truck owners in a very difficult period of mining ban in the State of Goa. MOM of TOA Meeting attached in **Annexure - 10**
18.3	Fugitive dust monitoring during transportation shall be monitored regularly at all the sensitive receptors and report shall be submitted quarterly to the Regional Office of MoEFandCC. Regular sprinkling shall be done on roads to suppress the dust at the source.	Complying with: Fugitive dust monitoring is done within mine area such as haul road, mine face, screening plant and dumping site. Reports are attached as **Annexure 1.** Regular sprinkling on haulage road is done to supress the dust.
18.4	The Project Proponent shall adhere to the pollution control measures suggested by the Central Pollution Control Board (CPCB) in the environmental guidelines for crushing/screening activity.	PP has agreed to comply with once dry screening plant is established
19.1	The wheel washing facility for the ore transport vehicles shall be provided at the exit point of the mine.	Complied The wheel washing facility/rumbler system (cattle trap) for the ore transport

		vehicles is provided at the exit point of the mine as per consent.
20.1	The Project Proponent needs to speed up the process of construction of underpass.	Compliance is in progress: Under pass work will be executed by Public Works Department of State Government. The advance payment for the work is done and job will be executed by PWD after obtaining necessary NOCs/permissions (Supporting document attached **Annexure-12**)
21.1	The Project Proponent needs to strengthen the settling pond with proper stone pitching in line with the design of settling pond considering the annual rainfall, flow rate, catchment area and its discharge.	Complying with: Settlings ponds desilted before start of monsoon. Strengthening of settling pond (approx. 714 m2) carried out by Stone picthing at ¾ bottom and strengthening of retaining bund at 5 top with geotextile before onset of monsoon (Photo attached in **Annexure-18)**
21.2	The catch drains and siltation ponds needs to be regularly maintained to arrest silt and sediments flow from dumps.	Complied The catch drains and siltation ponds are maintained and desilted before the onset of monsoon to arrest silt and sedimentation flow from dumps.
22.1	The Project Proponent needs to develop a nursery adjacent to the mineral block (Survey no 72/4 in Bicholim Village) for an area of about 1100 sq.m in consultation with State Forest Department. PP shall develop theme-based gardens like medicinal gardens, horticulture gardens, spice gardens etc.,	Complied. Nursery has been developed at the adjacent to the mineral block (Survey no 72/4 in Bicholim Village). Native and fruit bearing species of sapling collected and developed in consultation with forest department.
23.1	The Project Proponent needs to modify the crushing and screening units within 4 months from the date of issue of this EC.	Compliance is in progress: Dry crushing and screening pant establishment is in progress.
24.1	The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the vicinity of the mine lease area as well as in 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.	Compliance is in progress: PP had prepared and submitted Wildlife Conservation Plan to Forest Department for approval, including provision of funds for installation of camera as a part of EIA. However, the said WLCP is under revision as per the new guidelines issued by The Forest Department. **Annexure 11**

24.2	The Project Proponent needs to explore the possibility of using advanced/ latest mining technologies available so as to minimize the ecological impacts.	Complied. Latest mining software Surpac is used for mine planning. Advanced mining machinery is used for mining operations.
24.3	The Project Proponent should follow-up the status of implementation on Wildlife Conservation Plan from the Forest Officials and the same shall be submitted to the Ministry's Regional Office in the six monthly compliance report.	Compliance is in progress: PP had prepared and submitted Wildlife Conservation Plan to Forest Department for approval as a part of EIA studies However the said WLCP is under revision as per the new guidelines for preparation of the plan issued by forest department in August 2025.
25.1	The Continuous Ambient Air Quality Monitoring Stations (CAAQMS) shall be installed and commissioned in consultation with CPCB. 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.	Complied: PP has installed and commissioned 3 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in consultation with SPCB. The real time data so generated are displayed digitally at entry and exit gate of mine lease area for public display and is linked to server of Goa SPCB.

Standard EC Conditions for (Mining of minerals)

	Statutory Compliance	
1.1	This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.	PP agreed upon
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 andOrs before commencing the mining operations.	This judgement pertains to mining operations in the state of Odisha and therefore is not applicable for us. We are however complying with all statutory provisions, approvals and consent requirements for our mining operations.

1.3	The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining and 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 and Ors.	This judgement pertains to mining operations in the state of Odisha and therefore is not applicable for us. We are however complying with all statutory provisions, approvals and consent requirements for our mining operations.
1.4	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".	Complied PP is following up the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014 wherever applicable. Part of Mulgao and lamgao villages falls in the mining lease. Safety buffer/green belt of 50m will be maintained towards habitation
1.5	A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.	Complied. (Acknowledgment copy attached **Annexure -13**)
1.6	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.	In scope of GSPCB to comply.
1.7	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.	Complied: EC was widely publicized on Tharun Bharath (vernacular language) in Pg.No. 7 on 29th January 2024and The Navhind times in Pg.No.8 on 28th January 2024
1.8	The Project Proponent shall inform the MoEFandCC 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.	PP agreed upon: Currently there is no change in ownership/transfer of EC.
2	**Air Quality Monitoring And Preservation**	
2.1	The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based	Complied: PP has installed and commissioned 3 Nos. of

	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.	Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in consultation with Goa SPCB. The real time data so generated are displayed digitally at entry and exit gate of mine lease area for public display and is linked to server of Goa SPCB The ambient air quality is monitored at prominent places like office building, canteen. Data is displayed on online display board and same shared to Goa State Pollution Control Board.
2.2	Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.	Complying with: Regular water sprinkling is carried out on haul road, loading unloading points to control Fugitive dust emissions. Trial run of use of suitable water-soluble chemical dust suppressing agents was done in March 2025. It will be further explored. Air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.
3	**Water Quality Monitoring And Preservation**	
3.1	In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro- geological study of the area.	Complied: PP has done a detailed hydrogeological study. Permission obtained from Ground water cell of Water Resource Department
3.2	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	Compliance in progress. Regular Ground water level and quality monitoring, in and around the mine lease is being carried out in Lamgao, Mulgao, Bicholim, Pilgao and Mayem village, every month. Piezo meter installation is under

	the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.	process Reports are maintained and submitted along with six monthly EC compliance report
3.3	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.	Complying with: There is no water bodies/course flowing in the lease. Assonora river touching lease boundary in the NE direction at one point. Bicholim river is at a arial distance of 0.23km SE from mine lease. Regular monitoring of upstream and down stream is being carried out. Report attached in **Annexure 1** The storm water management plan is prepared, and surface runoff water is properly channelized into settling ponds, through trenches/garland drains Monitoring is carried out for the parameters as specified by GSPCB. There is no water courses/spring flowing within mine lease
3.4	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	Complying with. The mine discharge water is being monitored for said parameters.

	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.	The monitored data is uploaded in company website and on online display board near mine gate of the company. Company website – https://sesagoaironore.com/sustainability/hse/environment-reports/
3.5	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.	Complying with; The rainwater is channelised through trenches, drains and harvested in to the mine pit. This helps in rain water harvesting and ground water recharging. Most of the water requirement on mines is met through the harvested rainwater. Reports in **Annexure- 9**
3.6	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.	Complying with: Oil and grease trap is provided for treatment of Waste water generated from vehicle washing, clear water is then recirculated and reused. Surface run off water from mines is diverted to the settling ponds through garland drains, treated with lime and magnasol and clear water is discharged, conforming to the notified standards prescribed in the CTO.
3.7	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 MoEFandCC and State Pollution Control Board/Committee.	Complied: Water Balance is prepared and submitted to Regional office MoEF & CC and Goa SPCB. Rainwater harvested in mine pits are used for dust suppression and road washing. PWD and bore well water is used for domestic purpose. Details attached in **Annexure-14**

4.1	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	Not applicable; There is no drilling and blasting involved in the project.
4.2	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.	Complying with: No drilling and blasting is carried out The floodlights/ masks are oriented away from the villages and the noise levels are kept well within the prescribed limits for day /night hours. Thick vegetation is maintained towards habitation. More than 50m safety zone green belt is kept all along the habitation. Green belt developed acts as an acoustic barrier.
4.3	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.	Complying with: All the necessary measure (as per EIA) to control of noise levels below 85 dBA in the work environment are implemented. No drilling and Blasting. Development greenbelt along mine boundary, Screening plant area and along the haulage road. Safety buffer / green belt of around 50m are maintained towards habitation. Imposing Speed limit and proper maintenance of roads and machineries. All the HEMM are provided with air conditioned and noise proof cabins. Acoustic enclosures are provided to noise making equipment like DG sets. Possibility of using Polyurathane liners for feed chutes of primary and secondary crusher. All employees are provided with necessary protective respiratory masks, ear plugs/muffs along with adequate training, awareness and information on safety and health aspects.

		Regular monitoring of noise levels will be carried out in core and buffer zone. PP agreed upon
5.1	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 and dump management, O.Band 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.).	Complying with: Mining is carried out as per approved mining plan.
5.2	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.	Complying with . land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life is 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 is being governed as per approved mining plan. Aftercare will be provided to the saplings so as to achieve maximum survival rate
6.1	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.	Overburden stacking is carried out at earmarked sites within the mine lease area as per the approved Mining Plan and the guidelines/circulars issued by D.G.M.S. Details attached in **Annexure - 15** The finalized dumps are covered with laterite and then with

		geotextile mat, applied grass seeds and afforestation is done with native fruit bearing saplings, to maintain the slope stability prevent erosion and surface run off. Entire area proposed for mine working is broken up. no top soil is available
6.2	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.	Complying with: slope of finalized dumps are levelled and covered with laterite material, and then covered with Geotextile sprinkled with grass seeds to stabilize the dump slopes and prevent slope failure. Plantation is carried out with native and fruit bearing species, on the geotextile laid dump The gullies formed on slopes are adequately taken care of as it impacts the overall stability of dumps PP agreed upon
6.3	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.	Complying with: Catch drains, settling tanks and siltation ponds of appropriate size has been constructed around the mine .The runoff water is channelized properly in to garland drains and then to the settling ponds. The harvested rainwater is utilized for dust suppression, green belt development, plantation etc. The drains and settling ponds are de silted every year before the onset of the monsoon.

6.4	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.	Complying with: The water from the settling pits is passed through a series of filter beds where finer particles get arrested such that storm run-off and sediment flow into adjoining water bodies. Adequate safety margin is kept considering maximum rainfall and 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. All drainages are connected to series of settling ponds
7.1	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].	Complied: Iron ore transportation road does not pass through any villages/habitation. Most of the road used for transportation is passing through mine lease and company owned land. The total travel distance upto Jetty is 8 kms (4.54 km dedicated road and 0.94 km MDR -20 Public Road). However transportation route mentioned in EC was blocked by certain individuals (mostly led by ex-workmen of the erstwhile mining leaseholder Sesa Mining Corporation Ltd.) over certain land parcels in November, 2024. On account of this blockade & obstruction, company approached Authorities seeking support and was allowed usage of the extended stretch of Major District Road-20 (MDR-20) upto an extent of 0.93 kms to

		carry out iron ore transportation from Bicholim mine to Sarmanus Jetty. Inter Department Committee (comprising of Dy. Collector, Officials from Directorate of Mines & Geology, Goa State Pollution Control Board, Public Works Department, Addnl. Director of Transport, Traffic Cell, Bicholim and Police Inspector, Bicholim) took cognizance of this blockade/ obstruction & conducted site visit. The Committee recommended extended usage of public road MDR-20 by 0.93 kms with certain conditions/ safeguards ex. avoiding congestion, deployment of traffic marshals etc. The transportation is not carried out on other transportation route rather company is using extended stretch of the same public road MDR-20 which has been appraised to the EAC and was part of the consultation process for grant of Environment Clearance for Bicholim Mineral Block. ' There is no habitation along the extended stretch of 0.93 kms allowed to be used by Vedanta Ltd. for iron ore transportation. Map with Transportation route in **Annexure - 16** Report of Inter department Committee attached in **Annexure -17**

7.2	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.	Compliance is in progress: Dust suppression on mines is done through water tankers and this activity is carried out by local stake holders. The local stake holder are restricting this initiative as it will impact their livelihood. However company has explored the feasibility for permanent sprinklers Designing of Permanent water sprinkling arrangement is in progress. Other roads within the mine lease are wetted regularly with tanker-mounted water sprinkling system. There is no fixed crushing plant at the mine. Goa Iron Ore is having inherent moisture content of approx. 12 % due to which there is no generation of dust while ore handling, however continuous dust suppression is carried out through water tankers Ore transportation is done through tippers, by road.
8.1	The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the	Compliance is in progress: There already exist a 7.5 green belt in the mine lease, The same

	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.	are being strengthened and maintained.
9.1	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 provision shall be made for protection and care of trees.	Compliance is in progress: Plantation is being carried out in backfilled final dumps and safety belt with native species in consultation with State Forest Department. Plantation details in **Annexure-7** After care for the plantations will be done and adequate budgetary provision are made.
9.2	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.	There are no grazing land within mine lease.
10.1	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.	Not applicable
11.1	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 MoEFandCC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be	Complying with: PP has prepared and submitted the Time bound action plan along with the compliance report in the month of May 24.

	implemented within three years of commencement of the project.	Status on implementation of the action plan has been Attached. - **Annexure 2**
12.1	The Project Proponent shall prepare digital map (land use and 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 MoEFandCC.	Complying with.
12.2	The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	PP agreed upon
12.3	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC and its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	Complying with
12.4	A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFandCC.	Complying with: A dedicated environment management cell is available at Bicholim mine which is headed by Mr. Kameshwara Sriharsha(Head HSE, Mining Engineer), and team members include Ms. Sneha Sawant (Assistant Manager-Environment), Mr. Sukumar P (Assistant Manager-Environment), Dr. Sunny Sarkar (Resident Doctor), Mr. Mukilan K (Safety Officer). The Environment team reports to Mr. Dhirajkumar Jagdish (Business Head – Goa Mining) and functionally reports to Mr. Jagdish Desai (Head ESG – Sesa Goa Iron Ore Business)
12.5	The concerned Regional Office of the MoEFandCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFandCC officer(s) by furnishing the requisite data / information / monitoring reports.	PP agreed upon
12.6	In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble 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	PP agreed upon

	activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.	
12.7	The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	PP Agreed upon
12.8	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.	PP Agreed upon
12.9	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and 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.	PP agreed upon
12.10	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.	Noted

Annexure 1 - Monitoring reports

Sensitivity: Public (C4)

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To

09/09/2025

The Director
Ministry of Environment Forest & Climate Change
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Compliance to Specific EC Conditions No. 2.1 and 18.3 - Block 1 Bicholim Mineral Block

Respected Sir,

Reference: a) EC File No. IA-J-11015/3/2023-IA-II(NCM) dated. 23/01/2024 granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore

With reference to Specific EC Condition No. 2.1 and 18.3, granted to Bicholim Mineral Block-Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore, we hereby submit Air quality (Ambient and Fugitive), noise level (core and buffer), water quality (surface water and ground water) water levels (from buffer villages) and fugitive Dust monitoring reports for the months April to June 2025.

Thanking you

Yours faithfully

For Vedanta Limited

Authorized Signatory

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Accredited by NABL (TC-6172), Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A1, Lamgao village
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
02.04.2025	N001425041	10	14	54	33
03.04.2025	N005025041	10	12	49	27
09.04.2025	N025825042	11	12	57	30
10.04.2025	N028025042	9	12	55	31
16.04.2025	N016325043	11	13	47	26
17.04.2025	N018325043	10	16	50	28
21.04.2025	N011625044	12	13	57	30
22.04.2025	N021025044	10	11	49	22
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy. T.M. - Chemical
Govt. Analyst / Authorised Signatory

948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.
Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in

Note : This report is subject to the terms and conditions mentioned overleaf.

Format No. : 10

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 03.05.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
02.04.2025	N001525041	11	13	58	33
03.04.2025	N005125041	12	14	55	30
09.04.2025	N025925042	9	10	48	28
10.04.2025	N028125042	9	15	57	31
16.04.2025	N016425043	7	10	53	27
17.04.2025	N018425043	10	14	50	28
21.04.2025	N011725044	9	10	48	24
22.04.2025	N021125044	10	12	55	30
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy. T.M. - Chemical
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Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A3, Pilgao village
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
02.04.2025	N001625041	10	11	43	27
03.04.2025	N005225041	9	10	53	28
09.04.2025	N026025042	10	11	51	35
10.04.2025	N028225042	9	12	55	30
16.04.2025	N016525043	13	16	52	28
17.04.2025	N018525043	11	15	49	27
21.04.2025	N011825044	9	11	38	22
22.04.2025	N021225044	10	12	47	26
Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

ARSHIYA KOUSAR
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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A4, Sirigao village
Duration	: 24 Hrs
Issue date	: 03.05.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
02.04.2025	N001725041	9	15	53	27
03.04.2025	N005325041	11	14	47	25
09.04.2025	N026125042	8	10	44	24
10.04.2025	N028325042	12	15	56	30
16.04.2025	N016625043	9	14	54	33
17.04.2025	N018625043	10	13	35	19
21.04.2025	N011925044	10	12	44	26
22.04.2025	N021325044	11	14	54	28
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.04.2025	N012125041	8	13	57	33
05.04.2025	N004525042	10	14	55	30
11.04.2025	N032325042	9	13	47	25
12.04.2025	N002925043	10	14	53	28
18.04.2025	N022925043	11	16	56	30
19.04.2025	N003125044	9	13	48	27
25.04.2025	N033225044	11	15	41	28
26.04.2025	N002025045	7	11	54	29
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A6, DBB office
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.04.2025	N012225041	9	12	53	29
05.04.2025	N004625042	11	14	59	34
11.04.2025	N032425042	11	12	54	28
12.04.2025	N003025043	10	11	48	26
18.04.2025	N023025043	14	16	44	25
19.04.2025	N003225044	10	12	53	29
25.04.2025	N033325044	9	11	47	30
26.04.2025	N002125045	11	12	54	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A7, NSP office
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.04.2025	N012325041	10	13	58	33
05.04.2025	N004725042	8	12	47	26
11.04.2025	N032525042	9	14	55	30
12.04.2025	N003125043	11	16	46	26
18.04.2025	N023125043	15	17	51	29
19.04.2025	N003325044	9	10	53	26
25.04.2025	N033425044	11	13	40	24
26.04.2025	N002225045	14	15	44	26
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A8, 4 Top office
Duration : 24 Hrs
Issue date : 03.05.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.04.2025	N012425041	12	14	50	28
05.04.2025	N004825042	10	16	53	29
11.04.2025	N032625042	14	15	41	24
12.04.2025	N003225043	10	12	49	25
18.04.2025	N023225043	9	14	54	29
19.04.2025	N003425044	12	14	39	21
25.04.2025	N033525044	9	10	50	29
26.04.2025	N002325045	12	12	45	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: FA1, Crushing and screening & Ore Stacking-NSP**
Duration	**: 24 Hrs**
Issue date	**: 03.05.2025**
Reference	**IS 5182 & Lab SOP**

Date of sample	Report No	Particulate mater (µg/m^3)
04.04.2025	N012525041	485
05.04.2025	N004925042	264
11.04.2025	N032725042	463
12.04.2025	N003325043	358
18.04.2025	N023325043	366
19.04.2025	N003525044	475
25.04.2025	N033625044	521
26.04.2025	N002425045	386

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: FA2, Mine Face- 5 top Common Boundary**
Duration	**: 24 Hrs**
Issue date	**: 03.05.2025**
Reference	**IS 5182 & Lab SOP**

Date of sample	Report No	Particulate mater (µg/m^3)
04.04.2025	N012625041	475
05.04.2025	N005025042	254
11.04.2025	N032825042	368
12.04.2025	N003425043	457
18.04.2025	N023425043	521
19.04.2025	N003625044	368
25.04.2025	N033725044	475
26.04.2025	N002525045	455

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA3, Dumping- 5 Top
Duration	: 24 Hrs
Issue date	: 03.05.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
04.04.2025	N012725041	421
05.04.2025	N005125042	231
11.04.2025	N032925042	451
12.04.2025	N003525043	354
18.04.2025	N023525043	462
19.04.2025	N003725044	412
25.04.2025	N033825044	354
26.04.2025	N002625045	475

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: FA4, Haul road- at 4 Top**
Duration	**: 24 Hrs**
Issue date	**: 03.05.2025**
Reference	**IS 5182 & Lab SOP**

Date of sample	Report No	Particulate mater (µg/m^3)
04.04.2025	N012825041	321
05.04.2025	N005225042	321
11.04.2025	N033025042	458
12.04.2025	N003625043	389
18.04.2025	N023625043	496
19.04.2025	N003825044	511
25.04.2025	N033925044	375
26.04.2025	N002725045	245

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Name of the Client	**: M/s. Vedanta Limited**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)**
Date of sampling	**: 23.04.2025**
Issue Date	**: 03.05.2025**

	Report No	M005325043	M005425043	M005525043	General Standards For Effluent Discharge of Environmental Pollutants	Test Method
Sl. No.	Sample Code	EDW1	EDW2	EDW3		
	Parameters					
1	Colour (Hazen Units),	1	1	3	--	IS:3025(P-4)2021
2	pH	7.07	6.68	6.07	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	2.8	3.9	8	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	100	50	45	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	54	28	26	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	6.0	8.0	20	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	18	12	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	32	10	12	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	5.6	1.6	2.4	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	4.4	<2	<2	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3.5	1.1	<1	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	3	<1	<1	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	16	15	20	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.028	0.048	0.058	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.4	5.6	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW1 - Well water Bicholim (Anand Mulgaudi),
GW2 - Well water Lamgao village (Santosh dewari),
GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : 09.04.2025
Issue Date : 25.04.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	M006125042	M006225042	M006325042	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	<1	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.18	5.15	5.60	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	<0.1	1.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	140.0	106.0	104.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	76.0	58.0	56.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids	6.0	12.0	4.0	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	4.80	4.00	4.00	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	24.00	22.00	23.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	3.40	2.91	2.00	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	4.60	3.50	2.70	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	14.00	3.80	4.60	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	16.00	18.00	8.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	26.0	22.0	18.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	8.0	3.2	4.6	--		--

BINU MANI
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Note : This report is subject to the terms and conditions mentioned overleaf.

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2025

TEST REPORT

Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa

Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)

Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village

Date of sample collection : 09.04.2025

Issue Date : 25.04.2025

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M006425042 / GW4	M006525042 / GW5	Desirable Limits	Permissible Limits	Test Method
		Results				
1	Colour (Hazen Units)	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.84	5.37	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	2.8	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	45.0	50.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	24.0	30.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	6.0	4.0	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	1.60	2.40	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	12.00	13.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1	1.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	6.00	8.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	8.0	12.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	3.3	7.8	--		--

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TEST REPORT

Table No 13

NOISE LEVEL DATA

Report No : ELMES242504

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of monitoring : 09.04.2025
Issue Date : 03.05.2025

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	38.0	48.6	56.2	33.8	38.6	44.5
N2	Mulgao village	35.0	52.2	58.0	34.2	42.3	48.0
N3	Piligao Village	36.0	49.6	56.7	34.0	40.3	45.2
N4	Shirgao village	37.2	51.2	56.8	34.0	39.7	44.9
N5	Anil Naik House Near Sarmanas Jetty	39.0	52.3	57.2	34.0	41.4	46.5
	Corezone						
N6	Mine Face- 5 top Common Boundary	38.0	71.5	80.0	36.0	61.4	65.0
N7	Dry Crushing and screening & Ore Stacking- NSP	44.0	69.3	77.0	37.0	60.9	65.0
N8	Haul road- at 4 Top	41.0	71.5	81.0	36.0	60.4	66.0
N9	Dumping- 5 Top	43.2	72.1	79.2	36.7	60.1	65.0

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	: **SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River**
Date of sampling	: **09.04.2025**
Issue Date	: **25.04.2025**

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

	Report No	M005725042	M005825042		
Sl.No.	Sample Code	SW1	SW2	Limits	Test Method
	Parameters	Results			
1	Colour (Hazen Units),	1	1	300	IS:3025(P-4)2021
2	pH	6.80	7.15	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	2.1	6.2	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	125	2500	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	68	1450	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	10	14	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	17	660	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	34	300	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	7.21	64.1	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	3.90	24	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	10	240	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	3.0	29.6	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	22	25	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.052	0.064	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.8	5	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	: **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling	: **09.04.2025**
Issue Date	: **25.04.2025**

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

	Report No	M005925042	M006025042		
Sl.No.	**Sample Code**	**SW3**	**SW4**	**Limits**	**Test Method**
	Parameters	**Results**			
1	Colour (Hazen Units),	1	1	300	IS:3025(P-4)2021
2	pH	6.54	7.03	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	6.2	12.6	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	56	1900	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	30	1080	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	16	40	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	11	600	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	18	220	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	3.2	48.1	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.43	24.3	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3	90	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.2	16.2	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	20	34	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.015	0.022	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A1, Lamgao village
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.05.2025	N007025052	10	11	57	29
08.05.2025	N010625052	9	13	54	27
14.05.2025	N021425053	12	13	46	25
15.05.2025	N024925053	10	15	60	33
21.05.2025	N015825054	11	13	53	26
22.05.2025	N020425054	7	11	48	22
28.05.2025	N024225055	6	9	43	22
29.05.2025	N030125055	9	11	45	28
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.05.2025	N007125052	11	15	54	30
08.05.2025	N010725052	10	14	57	29
14.05.2025	N021525053	9	11	47	26
15.05.2025	N025025053	12	13	50	27
21.05.2025	N015925054	13	15	47	25
22.05.2025	N020525054	10	14	50	28
28.05.2025	N024325055	11	13	55	29
29.05.2025	N030225055	9	11	36	19
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A3, Pilgao village
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.05.2025	N007225052	10	15	58	30
08.05.2025	N010825052	11	19	53	26
14.05.2025	N021625053	12	14	57	29
15.05.2025	N025125053	14	16	50	27
21.05.2025	N016025054	12	15	48	25
22.05.2025	N020625054	10	19	36	21
28.05.2025	N024425055	12	15	55	30
29.05.2025	N030325055	11	12	40	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client	:	M/s. Vedanta Ltd.,
Name of the Project	:	Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	:	Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	:	A4, Sirigao village
Duration	:	24 Hrs
Issue date	:	04.06.2025
Reference		IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
07.05.2025	N007325052	10	13	43	24
08.05.2025	N010925052	11	15	53	28
14.05.2025	N021725053	6	10	50	27
15.05.2025	N025225053	10	11	44	25
21.05.2025	N016125054	10	14	60	32
22.05.2025	N020725054	11	13	47	28
28.05.2025	N024525055	9	13	47	28
29.05.2025	N030425055	12	11	50	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.05.2025	N018325052	11	16	50	29
10.05.2025	N003025053	10	18	63	33
16.05.2025	N029325053	7	15	54	26
17.05.2025	N003525054	10	14	56	30
23.05.2025	N025725054	9	11	48	26
24.05.2025	N003125055	11	13	51	28
30.05.2025	N034025055	12	15	44	24
31.05.2025	N035125055	10	17	58	30
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A6, DBB office
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.05.2025	N018425052	7	14	50	26
10.05.2025	N003125053	12	16	55	30
16.05.2025	N029425053	9	11	48	24
17.05.2025	N003625054	7	9	53	24
23.05.2025	N025825054	9	12	43	22
24.05.2025	N003225055	7	11	56	35
30.05.2025	N034125055	10	13	46	26
31.05.2025	N035225055	7	15	55	29
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
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(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A7, NSP office
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.05.2025	N018525052	11	14	51	28
10.05.2025	N003225053	12	16	48	26
16.05.2025	N029525053	11	18	53	27
17.05.2025	N003725054	13	15	61	31
23.05.2025	N025925054	10	13	58	29
24.05.2025	N003325055	9	11	54	28
30.05.2025	N034225055	7	10	52	29
31.05.2025	N035325055	11	15	49	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A8, 4 Top office
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.05.2025	N018625052	10	11	50	26
10.05.2025	N003325053	11	12	53	22
16.05.2025	N029625053	9	10	42	28
17.05.2025	N003825054	13	14	59	22
23.05.2025	N026025054	9	16	61	33
24.05.2025	N003425055	11	14	55	30
30.05.2025	N034325055	10	11	44	24
31.05.2025	N035425055	10	9	40	21
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA1, Crushing and screening & Ore Stacking-NSP
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
09.05.2025	N018725052	358
10.05.2025	N003425053	454
16.05.2025	N029725053	521
17.05.2025	N003925054	475
23.05.2025	N026125054	365
24.05.2025	N003525055	385
30.05.2025	N034425055	357
31.05.2025	N035525055	245

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA2, Mine Face- 5 top Common Boundary
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
09.05.2025	N018825052	354
10.05.2025	N003525053	452
16.05.2025	N029825053	268
17.05.2025	N004025054	245
23.05.2025	N026225054	286
24.05.2025	N003625055	354
30.05.2025	N034525055	233
31.05.2025	N035625055	315

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA3, Dumping- 5 Top
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater ($\mu g/m^3$)
09.05.2025	N018925052	365
10.05.2025	N003625053	457
16.05.2025	N029925053	512
17.05.2025	N004125054	475
23.05.2025	N026325054	345
24.05.2025	N003725055	389
30.05.2025	N034625055	349
31.05.2025	N035725055	285

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater ($\mu g/m^3$)
Permissible limits for Fugitive Emissions	1200 $\mu g/m^3$

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA4, Haul road- at 4 Top
Duration	: 24 Hrs
Issue date	: 04.06.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
09.05.2025	N019025052	487
10.05.2025	N003725053	496
16.05.2025	N030025053	521
17.05.2025	N004225054	457
23.05.2025	N026425054	468
24.05.2025	N003825055	435
30.05.2025	N034725055	363
31.05.2025	N035825055	322

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : EDW1 - 1 Top Discharge (Bicholim Dhabdabha),
EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Date of sampling : 24.05.2025
Issue Date : 02.06.2025

Report No		M000525055	M000625055	M000725055	General Standards For Effluent Discharge of Environmental Pollutants	Test Method
Sl. No.	Sample Code	EDW1	EDW2	EDW3		
	Parameters					
1	Colour (Hazen Units),	1	3	5	--	IS:3025(P-4)2021
2	pH	6.92	6.50	5.80	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	8	30.0	42	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	94	116	30	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	52	64	18	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	10.0	35.0	18	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	20	17	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	28	28	8	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4.8	6.41	2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	6	2.91	<2	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	6	12	<1	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.7	2.8	<1	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	13	14	18	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.6	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected : **GW1 - Well water Bicholim (Anand Mulgaudi),**
GW2 - Well water Lamgao village (Santosh dewari),
GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : **15.05.2025**
Issue Date : **26.05.2025**
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	M003025053	M003125053	M003225053	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	3	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.70	5.60	5.92	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	2.4	2.8	3.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	175.0	125.0	104.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	96.0	68.0	56.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids	4.0	6.2	7.2	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	8.81	7.20	4.80	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	28.00	22.00	24.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	4.40	4.00	2.00	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	8.00	5.70	4.60	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	20.00	6.80	5.50	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	16.00	20.00	8.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	40.0	34.0	20.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.6	5.4	6.2	--		--

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected : **GW4 - Well water Pilgao village, (Gajanand Chari)**
GW5 - Well water Mayem village
Date of sample collection : **15.05.2025**
Issue Date : **26.05.2025**
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M003325053 / GW4	M003425053 / GW5	Desirable Limits	Permissible Limits	Test Method
		Results				
1	Colour (Hazen Units)	<1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.56	5.47	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	<0.1	0.7	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	36.0	50.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	20.0	28.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	2.0	3.6	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	2.00	2.40	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	10.00	10.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1	1.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	2.00	8.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	10.0	14.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	4.6	7.8	--		

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected : **SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River**
Date of sampling : **24.05.2025**
Issue Date : **02.06.2025**
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Report No / Sample Code / Parameters	M000125055 SW1 Results	M000225055 SW2 Results	Limits	Test Method
1	Colour (Hazen Units),	10	10	300	IS:3025(P-4)2021
2	pH	5.60	6.35	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	65.0	50.0	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	50	100	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	28	54	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	70	65	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	10	18	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	8	20	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	2	4	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	<2	2.43	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3	8.4	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	<1	2.5	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	18	21	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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Note : This report is subject to the terms and conditions mentioned overleaf.

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(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 30.05.2028

TEST REPORT

Name of the Client	**: M/s. Vedanta Limited**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling	**: 24.05.2025**
Issue Date	**: 02.06.2025**

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

	Report No	M000325055	M000425055		
Sl.No.	**Sample Code**	**SW3**	**SW4**	**Limits**	**Test Method**
	Parameters	**Results**			
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	6.36	6.58	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	18	6.5	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	58	95	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	32	52	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	24	10	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	9	19	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	12	20	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	2.4	3.2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.0	2.91	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	3.0	4.8	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	1.0	2.8	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	16	26	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES102505

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem &
Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory**
(Unit of Mineral Engineering Services LLP)
Date of monitoring : **16.05.2025**
Issue Date : **04.06.2025**

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	37.8	49.3	57.4	34.0	38.9	45.2
N2	Mulgao village	38.0	51.5	57.8	35.0	42.1	47.5
N3	Piligao Village	36.0	49.8	57.2	34.8	41.1	46.8
N4	Shirgao village	38.0	51.0	56.1	34.2	39.4	46.2
N5	Anil Naik House Near Sarmanas Jetty	40.0	51.9	58.3	34.6	41.8	47.2
	Corezone						
N6	Mine Face- 5 top Common Boundary	41.0	69.1	76.0	37.0	59.6	63.2
N7	Dry Crushing and screening & Ore Stacking- NSP	44.0	69.9	78.0	38.0	58.7	64.5
N8	Haul road- at 4 Top	40.0	72.2	82.1	39.0	60.8	66.2
N9	Dumping- 5 Top	42.0	73.0	80.0	36.0	61.2	67.0

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A1, Lamgao village
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.06.2025	N005525062	9	11	51	28
05.06.2025	N010325062	6	13	56	31
11.06.2025	N022425063	8	15	45	28
12.06.2025	N024925063	7	12	41	22
18.06.2025	N011025064	10	14	39	21
19.06.2025	N012525064	8	12	44	20
25.06.2025	N022425065	11	17	40	17
26.06.2025	N027025065	12	13	39	19
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.06.2025	N005625062	7	9	34	19
05.06.2025	N010425062	9	11	42	23
11.06.2025	N022525063	10	19	47	25
12.06.2025	N025025063	8	10	38	18
18.06.2025	N011125064	11	14	44	19
19.06.2025	N012625064	10	15	51	27
25.06.2025	N022525065	8	13	47	24
26.06.2025	N027125065	10	15	53	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A3, Pilgao village
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.06.2025	N005725062	12	16	43	25
05.06.2025	N010525062	8	14	37	17
11.06.2025	N022625063	7	16	49	21
12.06.2025	N025125063	8	12	47	26
18.06.2025	N011225064	8	14	50	26
19.06.2025	N012725064	12	11	47	25
25.06.2025	N022625065	11	12	44	26
26.06.2025	N027225065	10	11	46	22
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Particular of Sample Collected : A4, Sirigao village
Duration : 24 Hrs
Issue date : 07.07.2025
Reference IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.06.2025	N005825062	11	14	51	28
05.06.2025	N010625062	10	12	47	25
11.06.2025	N022725063	8	13	40	23
12.06.2025	N025225063	10	11	35	18
18.06.2025	N011325064	7	9	40	28
19.06.2025	N012825064	11	12	45	24
25.06.2025	N022725065	12	16	54	28
26.06.2025	N027325065	11	14	35	20
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.06.2025	N017425062	7	13	57	33
07.06.2025	N007425063	10	11	52	29
13.06.2025	N029625063	11	15	49	21
14.06.2025	N035925063	12	13	46	26
20.06.2025	N016925064	10	14	38	20
21.06.2025	N003725065	8	10	33	18
27.06.2025	N029825065	10	12	53	20
28.06.2025	N032225065	7	11	48	19
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A6, DBB office
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.06.2025	N017525062	11	15	50	15
07.06.2025	N007525063	9	10	54	30
13.06.2025	N029725063	11	14	35	19
14.06.2025	N036025063	8	12	40	21
20.06.2025	N017025064	12	13	35	22
21.06.2025	N003825065	8	12	48	22
27.06.2025	N029925065	11	14	41	20
28.06.2025	N032325065	8	12	55	28
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A7, NSP office
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), $\mu g/m^3$	Nitrogen Dioxide (NO_2), $\mu g/m^3$	Particulate Matter	
				PM_{10}, ($\mu g/m^3$)	$PM_{2.5}$, ($\mu g/m^3$)
06.06.2025	N017625062	11	13	52	26
07.06.2025	N007625063	7	10	58	32
13.06.2025	N029825063	12	14	50	28
14.06.2025	N036125063	10	15	48	22
20.06.2025	N017125064	8	10	38	23
21.06.2025	N003925065	12	13	47	22
27.06.2025	N030025065	7	10	40	20
28.06.2025	N032425065	7	13	35	18
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A8, 4 Top office
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.06.2025	N017725062	12	10	55	29
07.06.2025	N007725063	10	12	53	27
13.06.2025	N029925063	12	11	49	33
14.06.2025	N036225063	11	12	38	21
20.06.2025	N017225064	10	12	44	23
21.06.2025	N004025065	7	9	33	18
27.06.2025	N030125065	11	12	40	22
28.06.2025	N032525065	7	13	45	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA1, Crushing and screening & Ore Stacking- NSP
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
06.06.2025	N017825062	385
07.06.2025	N007825063	421
13.06.2025	N030025063	268
14.06.2025	N036325063	321
20.06.2025	N017325064	245
21.06.2025	N004125065	357
27.06.2025	N030225065	266
28.06.2025	N032625065	275

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA2, Mine Face- 5 top Common Boundary
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
06.06.2025	N017925062	368
07.06.2025	N007925063	375
13.06.2025	N030125063	265
14.06.2025	N036425063	231
20.06.2025	N017425064	325
21.06.2025	N004225065	245
27.06.2025	N030325065	268
28.06.2025	N032725065	356

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

ARSHIYA KOUSAR
Dy T.M. - Chemical
Govt. Analyst / Authorised Signatory

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Note : This report is subject to the terms and conditions mentioned overleaf.

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA3, Dumping- 5 Top
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
06.06.2025	N018025062	423
07.06.2025	N008025063	388
13.06.2025	N030225063	265
14.06.2025	N036525063	264
20.06.2025	N017525064	254
21.06.2025	N004325065	296
27.06.2025	N030425065	314
28.06.2025	N032825065	300

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA4, Haul road- at 4 Top
Duration	: 24 Hrs
Issue date	: 07.07.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
06.06.2025	N018125062	279
07.06.2025	N008125063	263
13.06.2025	N030325063	245
14.06.2025	N036625063	345
20.06.2025	N017625064	332
21.06.2025	N004425065	285
27.06.2025	N030525065	268
28.06.2025	N032925065	245

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected : **GW1 - Well water Bicholim (Anand Mulgaudi),**
GW2 - Well water Lamgao village (Santosh dewari),
GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : **12.06.2025**
Issue Date : **07.07.2025**
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	M002125063	M002225063	M002325063	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	1	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.70	5.85	5.75	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	1.2	<0.1	2.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	160.0	70.0	75.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	86.0	38.0	40.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids	2.2	2.0	4.0	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	6.41	3.20	4.00	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	21.00	14.00	15.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	4.86	1.94	1.94	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	6.00	3.10	4.50	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	24.00	4.70	5.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	14.00	8.00	6.00	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	36.0	16.0	18.00	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.6	4.3	5.4	--		--

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of sample collected : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 12.06.2025
Issue Date : 07.07.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M002425063 / GW4	M002525063 / GW5	Desirable Limits	Permissible Limits	Test Method
		Results				
1	Colour (Hazen Units)	<1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	4.90	5.68	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
3	Turbidity,NTU	2.1	2.6	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	44.0	45.0	--	--	IS 3025 (P-14)
5	Total Dissolved Solids,mg/l	24.0	26.0	500	2000	IS:3025 (P-16)1984 RA2017
6	Total Suspended Solids, mg/l	4.0	5.2	--	--	IS 3025 (P-17) 2022
7	Calcium (as Ca),mg/l	1.60	2.40	75	200	IS:3025 (P-40)1991 RA 2019
8	Chloride as Cl (mg/l),mg/l	11.00	10.00	250	1000	IS:3025 (P-32) 1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS:3025 (Part-2) 2019
10	Magnesium (as Mg)mg/l	<2	<2	30	100	IS:3025 (P-46)1994 RA 2019
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS:3025 (P-2) 2019
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1	1.20	200	400	IS:3025 (P-24) Sec 1 2022
14	Alkalinity (as $CaCO_3$) mg/l	4.00	4.0	200	600	IS:3025 (P-23):1986 RA 2019
15	Total Hardness (as $CaCO_3$),mg/l	10.0	12.0	200	600	IS:3025 (P-21):2009 RA 2019
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	4.1	7.8	--		--

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Testing for safer Environment

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES0152506

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of monitoring	: 19.06.2025
Issue Date	: 07.07.2025

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	36.0	47.8	54.8	34.0	38.1	43.0
N2	Mulgao village	38.0	50.6	56.2	34.5	41.4	46.1
N3	Piligao Village	37.0	46.9	52.0	34.0	38.8	44.2
N4	Shirgao village	38.0	50.3	54.2	33.5	37.7	42.5
N5	Anil Naik House Near Sarmanas Jetty	37.3	51.1	56.2	34.6	40.5	45.2
	Corezone						
N6	Mine Face- 5 top Common Boundary	40.0	56.0	63.0	37.0	53.9	58.0
N7	Dry Crushing and screening & Ore Stacking- NSP	42.0	64.9	72.0	38.0	54.5	60.0
N8	Haul road- at 4 Top	37.0	55.0	63.0	39.0	56.6	63.0
N9	Dumping- 5 Top	40.0	54.2	59.0	36.0	47.0	55.0

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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TEST REPORT

Name of the Client	**: M/s. Vedanta Limited**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	**: EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)**
Date of sampling	**: 25.06.2025**
Issue Date	**: 07.07.2025**

	Report No	M000125065	M000225065	M000325065	General Standards For Effluent Discharge of Environmental Pollutants	Test Method
Sl. No.	Sample Code	EDW1	EDW2	EDW3		
	Parameters					
1	Colour (Hazen Units),	3	1	<1	--	IS:3025(P-4)2021
2	pH	6.65	5.90	6.22	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	30	12.0	40	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	75	50	35	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	42	28	20	--	IS 3025(P- 16)02022
6	Total Suspended Solids, mg/l	40.0	20.0	20	Non Rainy Day 50, Rainy Day 100	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	18	14	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	22	16	12	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4.8	3.2	2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.43	2	<2	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	6	2	<1	1000	IS 3025 (P-24) Sec 1 2022
12	Nitrates (as NO_3),mg/l	2.5	1.5	<1	--	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2014
14	COD, mg/l	18	16	16	250	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	<0.005	<0.005	<0.005	3	IS 3025 (P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.6	5.8	5.2	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<1.0	<1.0	<1.0	10	IS 3025 (P-39) 2021

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected : **SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River**
Date of sampling : **14.06.2025**
Issue Date : **07.07.2025**
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Report No / Sample Code / Parameters	M001925064 SW1 Results	M002025064 SW2 Results	Limits	Test Method
1	Colour (Hazen Units),	10	10	300	IS:3025(P-4)2021
2	pH	6.24	6.32	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	38.0	60.0	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	50	60	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	28	34	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	40	60	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	10	11	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	14	18	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	3.2	4	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	<2	2	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	1	2.4	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	2.6	3	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	19	24	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.009	0.015	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected : **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling : **14.06.2025**
Issue Date : **07.07.2025**
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

	Report No	M002125064	M002225064		
Sl.No.	Sample Code	SW3	SW4	Limits	Test Method
	Parameters	Results			
1	Colour (Hazen Units),	10	10	300	IS:3025(P-4)2021
2	pH	6.48	7.40	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	70	100	--	IS:3025 (P-10) 1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	70	110	--	IS 3025 (P-14)
5	Total Dissolved Solids (TDS) mg/l	38	60	1500	IS:3025(Part-16)2023
6	Total Suspended Solids, mg/l	80	100	-	IS 3025 (P-17) 2022
7	Chlorides (as Cl), mg/l	11	13	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	20	40	--	IS:3025 (P-21) 2009 RA 2019
9	Calcium (as Ca),mg/l,	4	7.2	--	IS:3025 (P-40)1991 RA 2019
10	Magnesium (as Mg) mg/l,	2.4	5.34	--	IS 3025 (P-2) 2019
11	Sulphates (as SO_4) mg/l	4.0	7	400	IS:3025(P-24)Sec 1 2022
12	Nitrates (as NO_3),mg/l	5.6	6.8	50	APHA 23rd Edition 4500B
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (P-44) 2014
14	COD, mg/l	20	515	-	IS 3025 (P-58) 2006 RA 2022
15	Iron (as Fe), mg/l	0.006	.0.013	50	IS:3025(P-2) 2019
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (P-2) 2019
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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To

08/10/2025

The Director
Ministry of Environment Forest & Climate Change
Regional Office (Southern Zone)
Kendriya Sadan, 4th Floor, 17th Main Road, II Block, Koramangala
Bangaluru – 560 034.

Subject: Compliance to Specific EC Conditions No. 2.1 and 18.3 - Block 1 Bicholim Mineral Block

Respected Sir,

Reference: a) EC File No. IA-J-11015/3/2023-IA-II(NCM) dated. 23/01/2024 granted to Bicholim Mineral Block- Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore

With reference to Specific EC Condition No. 2.1 and 18.3, granted to Bicholim Mineral Block-Block 1 (Auction Block) of M/s Vedanta Limited for mining of Iron Ore, we hereby submit Air quality (Ambient and Fugitive), noise level (core and buffer), water quality (surface water and ground water) water levels (from buffer villages) and fugitive Dust monitoring reports for the months July to Sept 2025.

Thanking you

Yours faithfully

For Vedanta Limited

Authorized Signatory

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

Sensitivity: Public [C4]

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A1, Lamgao village
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.07.2025	N020125072	8	9	52	26
10.07.2025	N024125072	7	12	40	21
16.07.2025	N021425073	6	9	35	16
17.07.2025	N025025073	8	11	46	25
23.07.2025	N020225074	7	9	49	27
24.07.2025	N023625074	8	9	37	17
30.07.2025	N018425075	7	12	42	22
31.07.2025	N021225075	6	10	25	16
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy TM - Chemical
Govt. Analyst / Authorised Signatory

Office & Lab Address : # 948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.
Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in

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Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.07.2025	N020225072	7	9	35	19
10.07.2025	N024225072	8	11	41	15
16.07.2025	N021525073	9	12	30	18
17.07.2025	N025125073	10	13	36	19
23.07.2025	N020325074	5	9	40	15
24.07.2025	N023725074	9	9	34	19
30.07.2025	N018525075	8	12	39	15
31.07.2025	N021325075	6	10	49	26
Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

ARSHIYA KOUSAR
Dy TM - Chemical
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Table No. 3

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A3, Pilgao village
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.07.2025	N020325072	9	8	36	17
10.07.2025	N024325072	7	9	51	28
16.07.2025	N021625073	7	10	35	16
17.07.2025	N025225073	6	11	40	22
23.07.2025	N020425074	7	9	34	19
24.07.2025	N023825074	8	10	36	16
30.07.2025	N018625075	6	12	39	18
31.07.2025	N021425075	5	9	47	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy TM - Chemical
Govt. Analyst / Authorised Signatory

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Table No. 4

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A4, Sirigao village
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
09.07.2025	N020425072	8	9	51	28
10.07.2025	N024425072	9	11	35	19
16.07.2025	N021725073	6	10	39	14
17.07.2025	N025325073	7	9	43	20
23.07.2025	N020525074	10	12	37	15
24.07.2025	N023925074	8	11	46	22
30.07.2025	N018725075	9	10	39	17
31.07.2025	N021525075	8	9	48	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
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Table No. 5

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.07.2025	N004225071	9	12	35	16
08.07.2025	N015425072	8	10	42	21
11.07.2025	N027725072	7	9	45	24
12.07.2025	N001925073	9	13	51	25
18.07.2025	N028325073	10	11	36	18
19.07.2025	N002225074	8	9	40	23
25.07.2025	N025225074	7	9	43	27
26.07.2025	N000125075	9	11	38	17
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
By TM - Chemical
Govt. Analyst / Authonsed Signatory

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Table No. 6

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A6, DBB office
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.07.2025	N004325071	7	9	42	22
08.07.2025	N015525072	6	9	37	19
11.07.2025	N027825072	8	12	40	21
12.07.2025	N002025073	10	10	34	16
18.07.2025	N028425073	8	11	39	19
19.07.2025	N002325074	6	12	35	15
25.07.2025	N025325074	7	9	30	16
26.07.2025	N000225075	8	12	34	16
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A7, NSP office
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.07.2025	N004425071	9	11	42	22
08.07.2025	N015625072	10	12	47	24
11.07.2025	N027925072	8	10	34	20
12.07.2025	N002125073	5	9	37	19
18.07.2025	N028525073	9	9	35	17
19.07.2025	N002425074	8	9	38	19
25.07.2025	N025425074	10	11	40	23
26.07.2025	N000325075	9	10	36	19
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A8, 4 Top office
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
04.07.2025	N004525071	5	9	41	20
08.07.2025	N015725072	7	12	37	17
11.07.2025	N028025072	8	9	36	16
12.07.2025	N002225073	10	11	43	22
18.07.2025	N028625073	5	10	39	19
19.07.2025	N002525074	8	9	33	16
25.07.2025	N025525074	7	12	37	17
26.07.2025	N000425075	10	13	52	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy TM - Chemical
Govt Analyst / Authorised Signatory

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA1, Crushing and screening & Ore Stacking- NSP
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
04.07.2025	N004625071	125
08.07.2025	N015825072	145
11.07.2025	N028125072	154
12.07.2025	N002325073	111
18.07.2025	N028725073	254
19.07.2025	N002625074	188
25.07.2025	N025625074	196
26.07.2025	N000525075	245

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

ARSHIYA HOUSAR
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Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA2, Mine Face- 5 top Common Boundary
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
04.07.2025	N004725071	187
08.07.2025	N015925072	196
11.07.2025	N028225072	245
12.07.2025	N002425073	235
18.07.2025	N028825073	174
19.07.2025	N002725074	155
25.07.2025	N025725074	170
26.07.2025	N000625075	212

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

ARSHIYA KOUSAR
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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA3, Dumping- 5 Top
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
04.07.2025	N004825071	256
08.07.2025	N016025072	274
11.07.2025	N028325072	195
12.07.2025	N002525073	164
18.07.2025	N028925073	215
19.07.2025	N002825074	166
25.07.2025	N025825074	222
26.07.2025	N000725075	312

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

ARSHIYA KOUSAR
Dy TM - Chemical
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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA4, Haul road- at 4 Top
Duration	: 24 Hrs
Issue date	: 06.08.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
04.07.2025	N004925071	254
08.07.2025	N016125072	187
11.07.2025	N028425072	255
12.07.2025	N002625073	168
18.07.2025	N029025073	102
19.07.2025	N002925074	217
25.07.2025	N025925074	156
26.07.2025	N000825075	245

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

ARSHIYA KOUSAR
Dy TM - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)
Issue Date	: 06.08.2025

Sl. No.	Parameters	EDW1	EDW2	EDW3	General Standards For Effluent Discharge of Environmental Pollutants	Test Method
	Date of sampling	10.07.2025	11.07.2025	11.07.2025		
	Report No	M009425072	M009525072	M009625072		
	Sample Code	EDW1	EDW2	EDW3		
	Parameters	Results				
1	Colour (Hazen Units),	1	1	2	--	IS:3025(P-4)
2	pH	6.53	6.26	5.92	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	10.6	2.7	5.2	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	66	38	46	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	36	22	26	--	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	14.0	6.0	8	Non Rainy Day 50, Rainy Day 100	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	13	7	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	14	8	10	--	IS 3025 (Part 21):2009 RA 2023
9	Calcium (as Ca),mg/l,	2.4	<2	1.6	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	1.94	<1	1.15	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	3.5	1.4	1.8	1000	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.6	1	1	--	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2023
14	COD, mg/l	15	12	10	250	IS 3025 (P-58) 2023
15	Iron (as Fe), mg/l	<0.005	<0.005	0.008	3	APHA (24th Ed Method No 3030K
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	APHA (24th Ed Method No 3030K
17	Dissolved Oxygen (as O_2), mg/l	5.6	5.8	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<4.0	<4.0	<4.0	10	IS 3025 (P-39) 2021

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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2028

TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block** **Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages** **Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected	: **GW1 - Well water Bicholim (Anand Mulgaudi),** **GW2 - Well water Lamgao village (Santosh dewari),** **GW3 - Well water Mulgao village (Vitthal Sathu House)**
Date of sample collection	: **10.07.2025**
Issue Date	: **06.08.2025**

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M008925072 / GW1	M009025072 / GW2	M009125072 / GW3	Desirable Limits	Permissible Limits	Test Method
		Results					
1	Colour (Hazen Units)	2	1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.70	5.36	5.90	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	1.6	5.3	3.8	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	190.0	80.0	40.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	102.0	44.0	22.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids	16.0	10.0	8.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	8.00	4.00	<2	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	25.00	12.00	7.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	4.80	3.40	<2	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	5.50	3.20	<1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	18.00	10.00	1.50	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	40.00	12.00	8.00	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	40.0	24.0	8.00	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.20	2.30	2.90	--		--

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block** **Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages** **Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected	: **GW4 - Well water Pilgao village, (Gajanand Chari)** **GW5 - Well water Mayem village**
Date of sample collection	: **10.07.2025**
Issue Date	: **06.08.2025**

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M009225072 / GW4 / Results	M009325072 / GW5 / Results	Desirable Limits	Permissible Limits	Test Method
1	Colour (Hazen Units)	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	6.10	5.36	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	2.1	2.6	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	40.0	42.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	22.0	24.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	4.0	2.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	<2	<2	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	8.00	10.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	<2	<2	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	1.00	1.20	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	10.00	8.0	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	6.0	8.0	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	3.00	5.60	--		--

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TEST REPORT

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River
Date of sampling	: 10.07.2025
Issue Date	: 06.08.2025

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Report No		M008525072	M008625072	Limits	Test Method
Sl.No.	Sample Code	SW1	SW2		
	Parameters	Results			
1	Colour (Hazen Units),	3	5	300	IS:3025(P-4)2021
2	pH	6.20	6.12	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	16.0	10.0	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	72	50	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	40	28	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	20	18	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	14	11	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	14	10	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	3.2	1.6	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	1.45	1.45	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	4.8	<1	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.1	<1	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	18	25	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	0.009	0.005	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	: **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling	: **10.07.2025**
Issue Date	: **06.08.2025**

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Report No / Sample Code / Parameters	M008725072 SW3 Results	M008825072 SW4 Results	Limits	Test Method
1	Colour (Hazen Units),	5	5	300	IS:3025(P-4)2021
2	pH	6.90	6.71	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	14	12	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	45	52	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	26	28	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	16	14	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	8	11	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	8	10	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	1.6	2.4	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	<2	<2	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	3.0	1.4	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.5	1.1	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	20	18	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	0.005	0.008	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Particular of Sample Collected : DW1 - Drinking water Near DBB office
DW1 - Drinking water Near DBB Canteen
DW3 - Drinking Water Near DBB security
DW4 - Drinking Water DBB Office (HSE)
DW5 - Drinking water Near 4 Top office
DW6 - Drinking water Near NSP office
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Month : July, 2025
Date of sampling : 10.07.2025
Issue Date : 06.08.2025
Ref : IS:10500-2012 Norms (Drinking Water Standards)

Sl. No.	Sample Code / Report No / Parameters	DW1 / M009725072 / Results	DW2 / M009825072	DW3 / M009925072	DW4 / M010025072	DW5 / M010125072	DW6 / M010225072	Desirable Limts	Permissible Limts	Method of Testing
1	pH	6.21	6.78	6.82	6.1	6.00	6.13	6.5 to 8.5	6.5 - 8.5	IS:3025 (P-11) 2022
2	Turbidity,NTU	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	5	IS 3025 (Part 10) 2023
3	Total Hardness (as $CaCO_3$),mg/l	12	14	12	8	10	10	200	600	IS 3025 (Part 21) :2009 RA 2023
4	Total Coliform	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Shall Not be Detectable in any 100ml Samples		IS 15185 2016 RA 2021

""END OF REPORT""

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A1, Lamgao village
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.08.2025	N012925082	9	13	35	22
07.08.2025	N017025082	7	10	54	27
13.08.2025	N023225083	10	12	42	25
14.08.2025	N026425083	11	12	35	18
20.08.2025	N011725084	8	10	41	19
21.08.2025	N014525084	10	13	29	16
25.08.2025	N010725085	5	9	46	25
26.08.2025	N018525085	7	9	44	27
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.08.2025	N013025082	10	12	40	24
07.08.2025	N017125082	7	9	38	19
13.08.2025	N023325083	10	11	33	17
14.08.2025	N026525083	11	13	27	15
20.08.2025	N011825084	9	10	47	24
21.08.2025	N014625084	8	12	48	22
25.08.2025	N010825085	9	11	28	18
26.08.2025	N018625085	7	10	33	16
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A3, Pilgao village
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.08.2025	N013125082	6	9	48	17
07.08.2025	N017225082	7	<9	45	23
13.08.2025	N023425083	4	9	39	21
14.08.2025	N026625083	8	9	34	17
20.08.2025	N011925084	9	10	40	22
21.08.2025	N014725084	8	10	47	25
25.08.2025	N010925085	6	9	48	23
26.08.2025	N018725085	9	12	37	19
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A4, Sirigao village
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
06.08.2025	N013225082	7	13	42	17
07.08.2025	N017325082	9	11	31	20
13.08.2025	N023525083	7	13	46	24
14.08.2025	N026725083	6	9	28	15
20.08.2025	N012025084	8	11	35	22
21.08.2025	N014825084	6	12	26	16
25.08.2025	N011025085	9	11	40	22
26.08.2025	N018825085	6	9	37	21
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

ARSHIYA KOUSAR
Dy TM - Chemical
Govt. Analyst / Authorised Signatory

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
01.08.2025	N001325082	7	9	39	22
02.08.2025	N002325082	9	10	46	24
08.08.2025	N021225082	10	11	35	17
09.08.2025	N002725083	4	9	28	16
15.08.2025	N027925083	8	9	46	25
16.08.2025	N000825084	7	11	28	16
22.08.2025	N018825084	6	12	48	26
23.08.2025	N003225085	6	9	53	25
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A6, DBB office
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
01.08.2025	N001425082	8	11	35	17
02.08.2025	N002425082	5	9	43	23
08.08.2025	N021325082	10	12	49	24
09.08.2025	N002825083	7	10	43	20
15.08.2025	N028025083	5	9	50	28
16.08.2025	N000925084	8	11	38	18
22.08.2025	N018925084	9	12	25	14
23.08.2025	N003325085	10	12	40	22
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A7, NSP office
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
01.08.2025	N001525082	6	9	44	25
02.08.2025	N002525082	8	10	50	27
08.08.2025	N021425082	6	10	46	22
09.08.2025	N002925083	7	9	47	26
15.08.2025	N028125083	4	10	36	18
16.08.2025	N001025084	10	11	40	21
22.08.2025	N019025084	7	<9	37	21
23.08.2025	N003425085	8	10	36	18
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: A8, 4 Top office
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
01.08.2025	N001625082	9	11	44	26
02.08.2025	N002625082	11	13	40	23
08.08.2025	N021525082	8	9	51	28
09.08.2025	N003025083	10	12	31	17
15.08.2025	N028225083	4	<9	43	23
16.08.2025	N001125084	6	10	40	22
22.08.2025	N019125084	9	11	30	18
23.08.2025	N003525085	10	12	28	15
Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA1, Crushing and screening & Ore Stacking- NSP
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
01.08.2025	N001725082	155
02.08.2025	N002725082	214
08.08.2025	N021625082	163
09.08.2025	N003125083	145
15.08.2025	N028325083	124
16.08.2025	N001225084	154
22.08.2025	N019225084	256
23.08.2025	N003625085	233

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA2, Mine Face- 5 top Common Boundary
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
01.08.2025	N001825082	265
02.08.2025	N002825082	154
08.08.2025	N021725082	138
09.08.2025	N003225083	120
15.08.2025	N028425083	155
16.08.2025	N001325084	129
22.08.2025	N019325084	254
23.08.2025	N003725085	230

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA3, Dumping- 5 Top
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
01.08.2025	N001925082	212
02.08.2025	N002925082	231
08.08.2025	N021825082	187
09.08.2025	N003325083	124
15.08.2025	N028525083	115
16.08.2025	N001425084	196
22.08.2025	N019425084	135
23.08.2025	N003825085	147

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particular of Sample Collected	: FA4, Haul road- at 4 Top
Duration	: 24 Hrs
Issue date	: 04.09.2025
Reference	IS 5182 & Lab SOP

Date of sample	Report No	Particulate mater (µg/m^3)
01.08.2025	N002025082	266
02.08.2025	N003025082	148
08.08.2025	N021925082	187
09.08.2025	N003425083	167
15.08.2025	N028625083	144
16.08.2025	N001525084	135
22.08.2025	N019525084	124
23.08.2025	N003925085	215

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	1200 µg/m^3

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected	: **EDW1 - 1 Top Discharge (Bicholim Dhabdabha), EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)**
Issue Date	: **04.09.2025**
Ref	: **Environmental (P) Rules, 1986 SCHEDULE VI**

	Date of sampling	08.08.2025	08.08.2025	08.08.2025	Limits	Test Method
	Report No	M008925082	M009025082	M009125082		
Sl. No.	Sample Code / Parameters	EDW1	EDW2	EDW3		
	Parameters	Results				
1	Colour (Hazen Units),	1	<1	1	--	IS:3025(P-4)
2	pH	7.30	5.48	5.36	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	4	10.5	4.6	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	90	44	46	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	50	24	26	--	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	10*	14*	6*	Non Rainy Day 50, Rainy Day 100	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	12	9	10	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	30	8	10	--	IS 3025 (Part 21):2009 RA 2023
9	Calcium (as Ca),mg/l,	5.6	2	2.4	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	4	<1	<1	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	6	1.8	2	1000	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	2.5			--	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27°C] mg/l	<3.0	<1	<1	30	IS 3025 (P-44) 2023
14	COD, mg/l	10	18	22	250	IS 3025 (P-58) 2023
15	Iron (as Fe), mg/l	<0.005	<0.005	0.008	3	APHA (24th Ed Method No 3030K
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	APHA (24th Ed Method No 3030K
17	Dissolved Oxygen (as O_2), mg/l	5.7	5.8	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<4.0	<4.0	<4.0	10	IS 3025 (P-39) 2021

"END OF REPORT"

Note ; * Sample collected in Rain Day

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected : **GW1 - Well water Bicholim (Anand Mulgaudi),**
GW2 - Well water Lamgao village (Santosh dewari),
GW3 - Well water Mulgao village (Vitthal Sathu House)
Date of sample collection : **08.08.2025**
Issue Date : **04.09.2025**
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	M008425082	M008525082	M008625082	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	<1	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.60	6.50	5.70	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	<0.1	<0.1	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	140.0	56.0	72.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	76.0	30.0	40.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids	2.0	2.4	4.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	6.41	3.20	4.00	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	24.00	10.00	15.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	4.37	2.43	1.94	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	2.30	<1	1.80	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	10.20	1.50	4.00	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	14.00	12.00	8.00	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	34.0	18.0	18.00	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.90	2.75	4.35	--		--

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TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particulars of sample collected : **GW4 - Well water Pilgao village, (Gajanand Chari)**
GW5 - Well water Mayem village
Date of sample collection : **08.08.2025**
Issue Date : 04.09.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M008725082 GW4 Results	M008825082 GW5 Results	Desirable Limits	Permissible Limits	Test Method
1	Colour (Hazen Units)	<1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.62	6.80	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	4.2	<0.1	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	40.0	110.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	22.0	60.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	8.0	2.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	2.40	8.00	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	8.00	14.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	<1	5.83	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	<1	1.10	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1	4.00	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	8.00	38.0	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	10.0	44.0	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	1.40	7.60	--		--

BINU MANI
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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2028

TEST REPORT

Name of the Client : **M/s. Vedanta Limited**
Name of the Project : **Block I - Bicholim Mineral Block**
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Particular of Sample Collected : **SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River**
Date of sampling : **08.08.2025**
Issue Date : **04.09.2025**
Ref : IS : 2296 Water Quality Standards

Sl.No.	Report No / Sample Code / Parameters	M008025082 SW1 Results	M008125082 SW2 Results	Limits	Test Method
1	Colour (Hazen Units),	<1	1	300	IS:3025(P-4)2021
2	pH	6.30	6.28	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	2.0	2.2	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	60	62	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	32	34	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	4	4.8	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	9	8	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	20	20	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	3.2	3.2	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	2.90	2.9	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	1.8	1.7	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	<1	<1	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	16	20	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	0.008	0.006	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.8	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

"END OF REPORT"

***Class-C**: Drinking water with conventional treatment followed by disinfection.

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Particular of Sample Collected	: **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Date of sampling	: **08.08.2025**
Issue Date	: **04.09.2025**

Ref : IS : 2296 Water Quality Standards

	Report No	M008225082	M008325082	Limits	Test Method
Sl.No.	Sample Code	SW3	SW4		
	Parameters	Results			
1	Colour (Hazen Units),	<1	1	300	IS:3025(P-4)2021
2	pH	6.31	6.22	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	4	3	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	50	55	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	28	30	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	8	6	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	8	10	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	20	18	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	4	3.2	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	2.4	2.4	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	1.0	1.5	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	<1	<1	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	22	20	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	<0.005	0.01	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.7	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

"END OF REPORT"

***Class-C**: Drinking water with conventional treatment followed by disinfection.

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES072508

Name of the Client	: M/s. Vedanta Limited
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Date of monitoring	: 22.08.2025
Issue Date	: 04.09.2025
Sampling Method	: IS:9989

Code No.	Monitoring stations	Day			Night		
		L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
	Buffer zone						
N1	Lamgao village	36.0	47.1	53.2	34.0	38.0	42.5
N2	Mulgao village	38.0	49.8	54.6	35.0	40.7	43.6
N3	Piligao Village	36.3	47.9	53.8	34.0	38.8	42.3
N4	Shirgao village	35.0	44.5	50.2	34.0	37.3	39.7
N5	Anil Naik House Near Sarmanas Jetty	38.4	50.6	54.8	34.2	40.7	45.2
	Corezone						
N6	Mine Face- 5 top Common Boundary	39.0	49.4	56.2	36.5	48.9	56.0
N7	Dry Crushing and screening & Ore Stacking- NSP	38.0	54.0	59.0	36.0	48.3	53.0
N8	Haul road- at 4 Top	39.0	52.7	60.0	36.0	50.2	57.2
N9	Dumping- 5 Top	37.0	53.7	58.0	36.7	49.4	55.6

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A) Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

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TEST REPORT

Table No. 1

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Code & Station : A1, Lamgao village
Duration : 24 Hrs
Issue date : 06.10.2025
Sampling &Test Method : IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
03.09.2025	N004625091	6	9	51	29
04.09.2025	N011025091	7	10	40	22
10.09.2025	N019625092	4	9	46	27
11.09.2025	N022225092	12	13	37	17
17.09.2025	N023425093	9	10	33	21
18.09.2025	N025525093	7	9	43	22
24.09.2025	N023225094	10	11	49	28
25.09.2025	N026225094	9	12	40	24
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 2

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: A2, Mulgao village
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
03.09.2025	N004725091	6	11	46	27
04.09.2025	N011125091	10	13	53	29
10.09.2025	N019725092	9	11	41	22
11.09.2025	N022325092	4	9	50	28
17.09.2025	N023525093	9	10	32	24
18.09.2025	N025625093	7	9	34	22
24.09.2025	N023325094	4	<9	47	27
25.09.2025	N026325094	8	9	45	26
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

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TEST REPORT

Table No. 3

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Code & Station : A3, Pilgao village
Duration : 24 Hrs
Issue date : 06.10.2025
Sampling &Test Method : IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
03.09.2025	N004825091	6	9	43	23
04.09.2025	N011225091	8	12	47	27
10.09.2025	N019825092	9	10	39	18
11.09.2025	N022425092	7	10	52	30
17.09.2025	N023625093	5	9	45	23
18.09.2025	N025725093	7	12	41	22
24.09.2025	N023425094	9	10	32	19
25.09.2025	N026425094	6	<9	43	25
NAAQS Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 4

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: A4, Sirigao village
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
03.09.2025	N004925091	5	9	37	21
04.09.2025	N011325091	8	9	44	24
10.09.2025	N019925092	9	12	33	19
11.09.2025	N022525092	10	12	40	22
17.09.2025	N023725093	12	14	34	17
18.09.2025	N025825093	10	11	39	16
24.09.2025	N023525094	6	9	42	22
25.09.2025	N026525094	7	9	45	24
NAAQS Limits for Industrial , Residential, Rural and other Areas		80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs

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TEST REPORT

Table No. 5

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: A5, Anil Naik House Near Sarmanas Jetty (Transportation route)
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.09.2025	N017125091	8	9	51	27
06.09.2025	N003825092	11	12	37	19
12.09.2025	N002625093	7	10	31	16
13.09.2025	N008025093	8	9	42	22
19.09.2025	N002725094	9	13	45	25
20.09.2025	N008125094	9	12	50	27
26.09.2025	N027925094	7	10	30	17
27.09.2025	N000925095	4	<9	44	21
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 6

AMBIENT AIR QUALITY

Name of the Client : M/s. Vedanta Ltd.,
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages,
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory
(Unit of Mineral Engineering Services LLP)
Code & Station : A6, DBB office
Duration : 24 Hrs
Issue date : 06.10.2025
Sampling &Test Method : IS 5182 & Lab SOP

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.09.2025	N017225091	10	12	36	15
06.09.2025	N003925092	8	10	42	24
12.09.2025	N002725093	9	13	29	15
13.09.2025	N008125093	5	9	37	22
19.09.2025	N002825094	7	10	43	25
20.09.2025	N008225094	9	13	35	19
26.09.2025	N028025094	10	11	32	17
27.09.2025	N001025095	11	12	43	22
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

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TEST REPORT

Table No. 7

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: A7, NSP office
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.09.2025	N017325091	12	14	36	21
06.09.2025	N004025092	9	11	46	24
12.09.2025	N002825093	12	14	40	22
13.09.2025	N008225093	6	9	50	28
19.09.2025	N002925094	8	9	38	19
20.09.2025	N008325094	5	10	40	25
26.09.2025	N028125094	6	12	45	26
27.09.2025	N001125095	4	9	38	17
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80 24 Hrs**	**80 24 Hrs**	**100 24 Hrs**	**60 24 Hrs**

ARSHIYA KOUSAR
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ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2028

TEST REPORT

Table No. 8

AMBIENT AIR QUALITY

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: A8, 4 Top office
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of Sampling	Report No	Sulphur Dioxide (SO_2), µg/m^3	Nitrogen Dioxide (NO_2), µg/m^3	Particulate Matter	
				PM_{10}, (µg/m^3)	$PM_{2.5}$, (µg/m^3)
05.09.2025	N017425091	9	10	50	27
06.09.2025	N004125092	7	11	39	18
12.09.2025	N002925093	5	9	35	15
13.09.2025	N008325093	8	10	45	24
19.09.2025	N003025094	9	12	40	21
20.09.2025	N008425094	7	11	39	19
26.09.2025	N028225094	6	9	32	16
27.09.2025	N001225095	10	12	52	27
NAAQS Limits for Industrial , Residential, Rural and other Areas		**80** **24 Hrs**	**80** **24 Hrs**	**100** **24 Hrs**	**60** **24 Hrs**

ARSHIYA KOUSAR
Dy TM - Chemical
Govt Analyst/Authorised Signatory

Office & Lab Address : # 948, 2nd Cross, St. Thomas Town Post, Kammanahalli, Bangalore - 560 084.
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TEST REPORT

Table No. 9

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Code & Station	**: FA1, Crushing and screening**
Duration	**: 24 Hrs**
Issue date	**: 06.10.2025**
Sampling &Test Method	*: IS 5182 & Lab SOP*

Date of sample	Report No	Particulate mater (µg/m^3)
05.09.2025	N017525091	158
06.09.2025	N004225092	232
12.09.2025	N003025093	175
13.09.2025	N008425093	199
19.09.2025	N003125094	254
20.09.2025	N008525094	231
26.09.2025	N028325094	254
27.09.2025	N001325095	154

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

ARSHIYA HOUSAR
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TEST REPORT

Table No. 10

Fugitive Emission

Name of the Client	: M/s. Vedanta Ltd.,
Name of the Project	: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by	: Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Code & Station	: FA2, Mine Face- 5 top Common Boundary
Duration	: 24 Hrs
Issue date	: 06.10.2025
Sampling &Test Method	: *IS 5182 & Lab SOP*

Date of sample	Report No	Particulate mater (µg/m^3)
05.09.2025	N017625091	321
06.09.2025	N004325092	256
12.09.2025	N003125093	187
13.09.2025	N008525093	261
19.09.2025	N003225094	257
20.09.2025	N008625094	187
26.09.2025	N028425094	112
27.09.2025	N001425095	132

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

ARSHIYA KOUSAR
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TEST REPORT

Table No. 11

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Code & Station	**: FA3, Dumping- 5 Top**
Duration	**: 24 Hrs**
Issue date	**: 06.10.2025**
Sampling &Test Method	*: IS 5182 & Lab SOP*

Date of sample	Report No	Particulate mater (µg/m^3)
05.09.2025	N017725091	154
06.09.2025	N004425092	275
12.09.2025	N003225093	268
13.09.2025	N008625093	154
19.09.2025	N003325094	287
20.09.2025	N008725094	362
26.09.2025	N028525094	275
27.09.2025	N001525095	225

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

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TEST REPORT

Table No. 12

Fugitive Emission

Name of the Client	**: M/s. Vedanta Ltd.,**
Name of the Project	**: Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	**: Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Code & Station	**: FA4, Haul road- at 4 Top**
Duration	**: 24 Hrs**
Issue date	**: 06.10.2025**
Sampling &Test Method	*: IS 5182 & Lab SOP*

Date of sample	Report No	Particulate mater (µg/m^3)
05.09.2025	N017825091	157
06.09.2025	N004525092	265
12.09.2025	N003325093	154
13.09.2025	N008725093	247
19.09.2025	N003425094	222
20.09.2025	N008825094	321
26.09.2025	N028625094	285
27.09.2025	N001625095	267

Ref : Environmental (Protection) Rules, 2010 (Sixth Amendment)

	Particulate mater (µg/m^3)
Permissible limits for Fugitive Emissions	**1200 µg/m^3**

ARSHIYA KOUSAR
Dy TM - Chemical
Govt Analyst/Authorised Signatory

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block** **Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages** **Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Nature of Sample	: **Surface water**
Sample Location	: **EDW1 - 1 Top Discharge (Bicholim Dhabdabha),** **EDW2 - 2 Top Discharge (Lamgao), EDW3 - 5 Top Discharge (Mulgao)**
Issue Date	: **06.10.2025**

Sl. No.	Parameters	EDW1	EDW2	EDW3	Standards For Effluent Discharge of Environmental Pollutants	Test Method
	Date of sampling	11.09.2025	11.09.2025	11.09.2025		
	Date of sample Receipt	12.09.2025	12.09.2025	12.09.2025		
	Report No	M005525092	M005625092	M005725092		
	Sample Code	EDW1	EDW2	EDW3		
	Parameters	Results				
1	Colour (Hazen Units),	3	3	3	--	IS:3025(P-4)
2	pH	6.40	5.80	5.67	5.5-9.0	IS 3025 (P-11) 2022
3	Turbidity,NTU	16	18.0	21	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	60	62	40	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	32	34	22	--	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	30*	40-	38*	Non Rainy Day 50, Rainy Day 100	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	10	11	8	1000	IS 3025 (P-32) 1988 RA 2019
8	Total Hardness (as $CaCO_3$),mg/l	18	12	12	--	IS 3025 (Part 21):2009 RA 2023
9	Calcium (as Ca),mg/l,	4.0	2.4	3.2	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	1.94	1.45	<1.0	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	6.0	5.2	2.0	1000	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.5	1.1	<0.1	--	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^0C] mg/l	<3.0	<3.0	<3.0	30	IS 3025 (P-44) 2023
14	COD, mg/l	15	22	20	250	IS 3025 (P-58) 2023
15	Iron (as Fe), mg/l	<0.005	<0.005	0.008	3	APHA (24th Ed Method No 3030K
16	Manganese (as Mn), mg/l	<0.001	<0.001	<0.001	2	APHA (24th Ed Method No 3030K
17	Dissolved Oxygen (as O_2), mg/l	5.8	5.6	6	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<4.0	<4.0	<4.0	10	IS 3025 (P-39) 2021

Note ; * Sample collected in Non Rain Day

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Nature of Sample	: **Surface water**
Sample Location	: **SW1 - Upstream Bicholim River, SW2 - Downstream Bicholim River**
Date of sampling	: **11.09.2025**
Date of sample Receipt	: **12.09.2025**
Issue Date	: **06.10.2025**
Ref : IS : 2296 Water Quality Standards	

	Report No	M005825092	M005925092		
Sl.No.	**Sample Code**	**SW1**	**SW2**	**Limits**	**Test Method**
	Parameters	**Results**			
1	Colour (Hazen Units),	3	1	300	IS:3025(P-4)2021
2	pH	6.45	6.50	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	20.0	30.0	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	60	70	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	34	38	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	30	42	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	8	7	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	20	18	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	4.8	4	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	1.94	1.94	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	2.6	6	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.1	2.3	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27°C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	16	20	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	0.009	0.008	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.7	6.00	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

Note : Class-C: Drinking water with conventional treatment followed by disinfection.

BINU MANI
TM - Microbiology
Govt Analyst/Authorised Signatory

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TEST REPORT

Name of the Client	: **M/s. Vedanta Limited**
Name of the Project	: **Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa**
Sample Collected by	: **Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Nature of Sample	: **Surface water**
Sample Location	: **SW3 - Upstream Asnora River, SW4 - Downstream Asnora River**
Date of sampling	: **11.09.2025**
Date of sample Receipt	: **12.09.2025**
Issue Date	: **06.10.2025**

Ref : IS : 2296 Water Quality Standards

Report No		M006025092	M006125092	Limits	Test Method
Sl.No.	Sample Code	SW3	SW4		
	Parameters	Results			
1	Colour (Hazen Units),	3	20	300	IS:3025(P-4)2021
2	pH	6.30	6.40	6.5 to 8.5	IS 3025 (P-11) 2022
3	Turbidity,NTU	100	21	--	IS 3025 (Part 10) 2023
4	Electrical Conductvity (µmhos/cm)	60	150	--	IS 3025 (Part 14) : 2013 RA 2023
5	Total Dissolved Solids (TDS) mg/l	32	82	1500	IS:3025(Part-16) 2023
6	Total Suspended Solids, mg/l	300	36	-	IS 3025 (Part 17) 2023
7	Chlorides (as Cl), mg/l	9	30	600	IS:3025(Part-32) ;1988RA2019
8	Total Hardness (as $CaCO_3$),mg/l	16	36	--	IS 3025 (Part 21) :2009 RA 2023
9	Calcium (as Ca),mg/l,	3.2	8.8	--	IS 3025 (Part 40) 2024
10	Magnesium (as Mg) mg/l,	2.0	3.4	--	IS 3025 (Part 46) 2023
11	Sulphates (as SO_4) mg/l	6.0	8.2	400	APHA (24th Edition):4110B
12	Nitrates (as NO_3),mg/l	1.8	4.6	50	IS 3025 (Part 34-Sec1)
13	BOD [3 days at 27^{0}C] mg/l	<3.0	<3.0	-	IS 3025 (Part 44) 2023
14	COD, mg/l	30	24	-	IS 3025 (Part 58) 2023
15	Iron (as Fe), mg/l	<0.005	0.01	50	IS 3025 (Part 65) 2022
16	Manganese (as Mn), mg/l	<0.001	<0.001	-	IS 3025 (Part 65) 2022
17	Dissolved Oxygen (as O_2), mg/l	5.4	5.3	Min 4	IS:3025(Part-38)1989RA 2019
18	Oil & Grease, mg/l	<0.1	<0.1	0.1	IS:3025(Part 39)2021

Note : Class-C: Drinking water with conventional treatment followed by disinfection.

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TEST REPORT

Name of the Client	:	**M/s. Vedanta Limited**
Name of the Project	:	**Block I - Bicholim Mineral Block** **Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages** **Bicholim Taluka, North Goa**
Sample Collected by	:	**Environmental Laboratory (Unit of Mineral Engineering Services LLP)**
Nature of Sample	:	**Ground water (Open well)**
Sample Location	:	**GW1 - Well water Bicholim (Anand Mulgaudi),** **GW2 - Well water Lamgao village (Santosh dewari),** **GW3 - Well water Mulgao village (Vitthal Sathu House)**
Date of sample collection	:	**11.09.2025**
Date of sample Receipt	:	**12.09.2025**
Issue Date	:	**06.10.2025**

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No	M006225092	M006325092	M006425092	Desirable Limits	Permissible Limits	Test Method
	Sample Code	GW1	GW2	GW3			
	Parameters	Results					
1	Colour (Hazen Units)	5	<1	1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.70	5.44	5.71	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	2.0	<0.1	7.0	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	130.0	75.0	70.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	70.0	42.0	38.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids	30.0	1.8	10.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	6.41	4.80	2.40	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	18.00	10.00	10.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	3.40	1.94	2..0	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	2.00	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	22.00	10.00	8.00	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	12.00	8.00	6.00	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	30.0	20.0	14.00	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	7.40	2.60	3.80	--		--

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TEST REPORT

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages
Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Nature of Sample : Ground water (Open well)
Sample Location : GW4 - Well water Pilgao village, (Gajanand Chari)
GW5 - Well water Mayem village
Date of sample collection : 11.09.2025
Date of sample Receipt : 12.09.2025
Issue Date : 06.10.2025
Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M006525092 / GW4	M006625092 / GW5	Desirable Limits	Permissible Limits	Test Method
		Results				
1	Colour (Hazen Units)	1	<1	5	15	IS:3025 (P-4) 2021
2	pH Value	5.08	5.85	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
3	Turbidity,NTU	2.9	4.6	1	5	IS:3025 (P-10)1984 RA 2017
4	Electrical Conductvity (µmhos/cm)	40.0	42.0	--	--	IS 3025 (Part 10) 2023
5	Total Dissolved Solids,mg/l	22.0	24.0	500	2000	IS 3025 (Part 16) 2023
6	Total Suspended Solids, mg/l	14.0	8.0	--	--	IS 3025 (Part 17) 2023
7	Calcium (as Ca),mg/l	2.40	3.20	75	200	IS 3025 (Part 40) 2021
8	Chloride as Cl (mg/l),mg/l	8.00	8.00	250	1000	IS 3025 (Part32):1988 RA 2019
9	Iron (as Fe),mg/l	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
10	Magnesium (as Mg)mg/l	1.45	<1.0	30	100	IS 3025 (Part 46) 2023
11	Manganese (as Mn),mg/l	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
12	Nitrates (as NO_3),mg/l	<0.1	<0.1	45	45	APHA 23rd Edition 4500B
13	Sulphates (as SO_4),mg/l	<1.0	<1.0	200	400	IS 3025 (Part 24/Sec1) 2022
14	Alkalinity (as $CaCO_3$) mg/l	4.00	4.0	200	600	IS 3025 Part(23) 2023
15	Total Hardness (as $CaCO_3$),mg/l	12.0	12.0	200	600	IS 3025 (Part 21) :2009 RA 2023
16	Escherichia coli/100ml	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
17	Total Coliform /100ml)	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS:15185:2016 RA 2021
18	Water levels in well from surface (m)	1.60	7.60	--		--

BINU MANI
TM - Microbiology
Govt Analyst/Authorised Signatory

ARSHIYA KOUSAR
Dy TM - Chemical
Govt Analyst/Authorised Signatory

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Phone : 080-25432969 Tel/fax : 25432968. E-mail : mesbng@gmail.com, www.envtest.in

Note : This report is subject to the terms and conditions mentioned overleaf.

Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

Recognised by BIS, FSSAI, ISO:45001:2018 Certified Laboratory
Recognised by MoEFCC(CPCB) under E(P) Act 1986 Recognition valid upto 23.05.2028

TEST REPORT

Name of the Client	:	M/s. Vedanta Limited
Name of the Project	:	Block I - Bicholim Mineral Block Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages Bicholim Taluka, North Goa
Sample Collected by	:	Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Nature of Sample	:	RO water
Sample Location	:	W1 - Drinking water Near DBB Canteen, W2 - Drinking water Near 4 Top Canteen W3 - Well water Mayem village
Date of sample collection	:	19.09.2025
Date of sample Receipt	:	20.09.2025
Issue Date	:	06.10.2025

Ref : IS:10500-2012 Norms Amendment - 4 (Drinking Water Standards)

Sl. No.	Report No / Sample Code / Parameters	M003425093 W1	M003525093 W2	M003625093 W3	Desirable Limts	Permissible Limts	Test Method
		Results					
1	Colour (Hazen Units)	1	1	<0.1	5	15	IS 3025 (Part 4) 2021
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (Part 5) 2018
3	pH Value	7.00	5.30	5.64	6.5 to 8.5	6.5 - 8.5	IS 3025 (Part 11) 2022
4	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	IS 3025 (Part 8) 2023
5	Turbidity,NTU	1.1	<0.1	<0.1	1	5	IS 3025 (Part 10) 2023
6	Total Dissolved Solids,mg/l	30.0	40.0	44.0	500	2000	IS 3025 (Part 16) 2023
7	Aluminium (as Al)	<0.005	<0.005	<0.005	0.03	0.2	IS 3025 (Part 65) 2022
8	Ammonia (as total Ammonia -N),mg/l	<0.1	<0.1	<0.1	0.5	0.5	IS 3025 (Part 34) Sec 1 2023
9	Anionic Detergents (as MBAS),mg/l	<0.1	<0.1	<0.1	0.2	1.0	IS 3025 (Part 68) 2023
10	Barium (as Ba), mg/l	<0.005	<0.005	<0.005	0.7	0.7	IS 3025 (Part 65) 2022
11	Boron (as B), mg/l	<0.1	<0.1	<0.1	0.5	2.4	IS 3025 (Part 57) 2021
12	Calcium (as Ca),mg/l	3.20	2.40	2.40	75	200	IS 3025 (Part 40) 2021
13	Chloramines as C12	<0.1	<0.1	<0.1	4	4	Clause 6.1 of IS 3025 (Part 26) 2021
14	Chloride as Cl (mg/l)	10.00	19.00	21.00	250	1000	IS 3025 (Part32):1988 RA 2019
15	Copper (as Cu),mg/l	<0.0005	<0.0005	<0.0005	0.05	1.5	IS 3025 (Part 65) 2022
16	Fluoride (as F),mg/l	<0.1	<0.1	<0.1	1	1.5	IS 3025 (Part 60) Sec1 2022
17	Residual, Free Chlorine,mg/l	<0.1	<0.1	<0.1	0.2	1	IS 3025 (Part 26) 2021
18	Iron (as Fe),mg/l	<0.005	<0.005	<0.005	1.0	1.0	IS 3025 (Part 65) 2022
19	Magnesium (as Mg)mg/l	2.43	<1.0	1.45	30	100	IS 3025 (Part 46) 2023
20	Manganese (as Mn),mg/l	<0.001	<0.001	<0.001	0.1	0.3	IS 3025 (Part 65) 2022
21	Mineral Oil,mg/l	<0.5	<0.5	<0.5	1.0	1.0	IS 3025 (Part 39) 2021
22	Nitrates (as NO_3),mg/l	<0.1	<0.1	<0.1	45	45	IS 3025 (Part 34) Sec 1 2023
23	Phenolics (as C_6H_5OH),mg/l	<0.001	<0.001	<0.001	0.001	0.002	IS 3025 (Part 43/Sec1) 2022
24	Selenium (as Se),mg/l	<0.0005	<0.0005	<0.0005	0.01	0.01	IS 3025 (Part 65) 2022
25	Silver (as Ag), mg/l	<0.005	<0.005	<0.005	0.1	0.1	IS 3025 (Part 65) 2022
26	Sulphate (as SO_4),mg/l	3.00	5.00	6.60	200	400	IS 3025 (Part 24/Sec1) 2022
27	Sulphide (as H_2S) , mg/l	<0.01	<0.01	<0.01	0.05	0.05	IS 3025 (Part 29) 2022
28	Total Alkalinity (as $CaCO_3$) mg/l	10.0	4.0	2.0	200	600	IS 3025 Part(23) 2023
29	Total Hardness (as $CaCO_3$),mg/l	18.0	10.0	12.0	200	600	IS 3025 (Part 21) :2009 RA 2023
30	Zinc (as Zn),mg/l	<0.005	<0.005	<0.005	5	15	IS 3025 (Part 65) 2022
31	Cadmium (as Cd),mg/l	<0.0005	<0.0005	<0.0005	0.003	0.003	IS 3025 (Part 65) 2022
32	Cyanide (as CN),mg/l	<0.01	<0.01	<0.01	0.05	0.05	IS 3025 (Part 27/Sec1) 2021
33	Lead (as Pb),mg/l	<0.0005	<0.0005	<0.0005	0.01	0.01	IS 3025 (Part 65) 2022
34	Mercury (as Hg),mg/l	<0.0005	<0.0005	<0.0005	0.001	0.001	IS 3025 (Part 65) 2022
35	Molybdenum (as Mo), mg/l	<0.0005	<0.0005	<0.0005	0.07	0.07	IS 3025 (Part 65) 2022
36	Nickel (as Ni),mg/l	<0.01	<0.01	<0.01	0.02	0.02	IS 3025 (Part 65) 2022
37	Arsenic (as As),mg/l .	<0.0005	<0.0005	<0.0005	0.01	0.01	IS 3025 (Part 65) 2022
38	Total Chromium (as Cr),mg/l	<0.001	<0.001	<0.001	0.05	0.05	IS 3025 (Part 65) 2022
39	Escherichia coli/100ml	Not Detected	Not Detected	Not Detected	Shall not be detectable in any 100ml Sample		IS 15185 2016 RA 2021
40	Total Coliform /100ml)	Not Detected	Not Detected	Not Detected			IS 15185 2016 RA 2021
41	Electrical Conductvity (µmhos/cm)	55.0	75.0	80.0	--	--	IS 3025 (Part 14) : 2013 RA 2023

"END OF REPORT"

BINU MANI
TM - Microbiology
Govt Analyst/Authorised Signatory

ARSHIYA KOUSAR
Dy TM - Chemical
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Format No. : 10

ENVIRONMENTAL LABORATORY

(UNIT OF MINERAL ENGINEERING SERVICES LLP)

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TEST REPORT

NOISE LEVEL DATA

Report No : ELMES0592507

Name of the Client : M/s. Vedanta Limited
Name of the Project : Block I - Bicholim Mineral Block
Location : Bicholim, Bordem, Lamgao, Mulgao, Mayem & Sirigao villages, Bicholim Taluka, North Goa
Sample Collected by : Environmental Laboratory (Unit of Mineral Engineering Services LLP)
Particulars of Sample collected : Sound levels
Issue Date : 06.10.2025
Sampling : IS : 9989 & CPCB Guidelines

Code No.	Date of Monitoring	Monitoring stations	Day			Night		
			L_{min}	L_{eq}	L_{max}	L_{min}	L_{eq}	L_{max}
		Buffer zone						
N1	10.09.2025	Lamgao village	35.0	46.7	53.0	34.0	36.5	38.0
N2	10.09.2025	Mulgao village	35.5	49.3	54.3	33.5	40.0	43.0
N3	11.09.2025	Piligao Village	36.0	44.9	51.0	34.0	37.4	40.0
N4	11.09.2025	Shirgao village	35.0	43.2	47.0	33.6	37.4	41.2
N5	11.09.2025	Anil Naik House Near Sarmanas Jetty	39.0	50.8	55.2	34.0	40.1	45.2
Corezone								
N6	12.09.2025	Mine Face- 5 top Common Boundary	37.0	48.3	55.0	37.0	45.9	53.0
N7	12.09.2025	Dry Crushing and screening & Ore Stacking- NSP	38.0	53.1	59.0	35.0	46.8	52.0
N8	13.09.2025	Haul road- at 4 Top	39.5	50.4	56.0	39.0	49.3	55.0
N9	13.09.2025	Dumping- 5 Top	38.0	55.9	60.0	36.0	46.6	54.2

Permissible Limits of Ambient Noise Levels as per CPCB Guidelines

	Leq. Limit dB(A)	
	Day	Night
Industrial areas	75	70
Commerecial area	65	55
Residential area	55	45

ARSHIYA KOUSAR
Dy TM - Chemical
Govt Analyst/Authorised Signatory

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ANNEXTURE - 2

Vedanta Limited – Block I Bicholim Mineral Block

CER Implementation progress FY 2024-2025				
Sr. No.	**Activities**	**1st Year budget (in lakhs)**	**Outreach - 1st year**	**For reporting period (2024-25)**
I	**Agriculture Development**			
1	Support for agriculture rejuvenation by providing necessary inputs like Seeds, Fertilizer, ploughing, Fencing support etc. in Mayem, Mulgao, Piligao, Bicholim villages to benefit farmers. Farmers awareness and motivational workshop by involving Agriculture department and other experts.	10	100 farmers	Completed, benefited 102 farmers(20 hactor, Sarmans - Piligao). We shd take a letter from agril dept or farmers grp etc as a back up doc.
2	Supplying water for irrigation of horticulture garden (Orchards of coconut, arecanut plantation) in Mulgao village during non monsoon season.	0.6	20 farmers of Mulgao apprx. Area 7000m2	Completed – Provided water for horticulture garden
II	**Education**			
3	Educative wall Paintings in Govt. Primary Schools in Mulgao, Piligao, Sirigao, Mayem and Lamgao villages.	5	5 primary schools (170 students)	Under process
4	Teaching learning kits and Sports kits to Government Primary Schools in Mulgao, Sirigao, Mayem, Lamgao,	3.5	6 primary schools	Under process

ANNEXTURE - 2

	Bordem, Dabdaba and Piligao villages			
6	Construction/Repair of Anganwadi building at Lamgao village	20	approx.20 children	Under process
7	Computer Labs in 4 high Schools in the buffer zone	10.9	4 computer labs in 4 high schools	Lab established in 4 high schools Benefiting 750 students. (Our lady of grace highs school, Ideal high school Piligao, Mahamaya high school Mayem, Sirigao school.
8	Construction of 2 classrooms in Vijayanand High school, Tikhajan-Mayem	20	500 students	Under process
III	**Health Care Facilities**			
9	Mobile Health Van (MHU) catering to Mulgao, Mayem, Piligao, Lamgao and Sirigao villages providing basic medical care services at doorstep. Additionally 10 specialized health camps for women, children and elderly.	30	Covering 5 villages	Completed (Details attached as report
IV	**Skill Development**			
10	Start 2 computer skilling /vocational training centers in Mayem Panchayat and Bicholim Municipal Council offering courses Like DCA, Tally & GST, Web designing, Advance excel and DTP.	10	240 youth per year	2 computer skilling /vocational training centres in Mayem Panchayat and Bicholim Municipal Council Completed

ANNEXTURE - 2

11	10 Skill training workshops covering around 300 women self help group members on rural enterprise development. Creating 10 women enterprises	6	250 SHG members	6 Skill training workshop Mulgao, Mayem, Piligao & Bicholim covered of 200 participants. Completed
	Total	**116**		

ANNEXTURE - 2

Vedanta Limited – Bicholim Mine
CER Highlights

A. Health

1. Mobile Health Unit :-

The objective of the project is to provide quality health care access to the community across our areas of operation, also to improve overall health status of the community by catering to their day-to- day basic health needs. We are covering five villages close to our operations. (Pilgao, Mayem, Mulgao, Lamgao & Sirigao). Till March around 6,523 footfalls. Also we conducted 10 specialized camps for women, children & old age people 1207 people benefited.





B. LIVELIHOOD

1. Agriculture support :-

Under our Back to Farming Project we are helping the farmers to rejuvenate fallow paddy fields and continue in ongoing fields. Our assistance is mainly in the form of farm inputs like fertilizers & seeds. We provided seeds & fertilizers to around 82 farmers.





ANNEXTURE - 2

C. Education :-

1. Computer lab set up in high schools :-

We set up a fully equipped computer lab in 4 high schools is benefit more than 2000 students of present batch and will continue to support upcoming batches of students as well. The objective of this initiative is to promote digital learning and provide computer education for the students.





Skilling :-

1.Computer skilling /vocational training centers :- To provide Computer training to unemployed youths from our operational area for enhancing their employment capability and secure livelihood, we started village computer training centers in collaboration of Vedanta Foundation. Currently we are running computer training centres at Bicholim & Mayem village.





ANNEXTURE - 2

2. Skill training workshops for SHG :- This project aims at the enhance technical capacity, entrepreneurship, and business skills of women through workshop vocational training program in different areas. The project has been aligned to the needs of the target beneficiaries as identified through the community mobilization, and in consideration of working towards strengthening of existing SHG.





Annexture 2

Vedanta Limited – Block I Bicholim Mineral Block

CER - Bicholim Mines - 2025-26				
Sr. No.	**Activities**	**Budget (Rs. In Lakhs)**	**Outreach**	**For reporting period**
I	**Agriculture Development**			
1	Support for agriculture rejuvenation by providing necessary inputs like Seeds, Fertiliser, ploughing, fencing support etc. Farmers awareness and motivational workshop by involving Agriculture department and other experts.	15.00	28 farmers supported, 2 hec under cultivation	Partially Completed
2	Supplying water for irrigation of horticulture garden (Orchards of coconut, arecanut plantation) in Mulgao village during non-monsoon season.	0.60	10 farmers supported	Completed
II	**Education**			
3	Educative wall Paintings in 10 Govt. Primary Schools in Mulgao, Piligao, Sirigao, Mayem and Lamgao villages.	5.00	10 Primary Schools	Under Process
4	Teaching learning kits and Sports kits to 10 Government Primary Schools in Mulgao, Sirigao, Mayem, Lamgao, Bordem, Dabdaba and Piligao villages	2.50	10 Primary Schools	Under Process
5	Computer Labs in 4 high Schools in the buffer zone	1.50	4 High Schools	Lab established in 4 high schools Benefiting 750 students. (Our lady of grace highs school, Ideal high school Piligao, Mahamaya high school Mayem, Sirigao school
6	Outdoor play equipment's in Govt. Primary School Manasbag Mulgao.	1.00	1 Primary Schools	Under Process
III	**Health Care Facilities**			
7	Mobile Health Van (MHU) catering to Mulgao, Mayem, Piligao, Lamgao and Sirigao villages providing basic medical care services at doorstep. Additionally 10 specialised health camps per year for women, children and elderly.	34.00	Covering 5 villages	Under Process
IV	**Skill Development**			
8	Operation of 2 computer skilling centres in year 2. Training 240 local youths.	6.00	2 villages	2 computer skilling /vocational training centres in Mayem Panchayat and Bicholim Municipal Council Completed

Sensitivity: Public (C4)

9	2 training workshops in each village namely Piligao, Mulgao, Mayem, Sirigao and Bicholim. Support 3 groups/individual for micro enterprises	12.00	3 SHGs	Under Process
V	**Infrastructure Development**			
10	Retaining wall to agriculture field of Satyavan Chodankar, Mulgao village	22.00	5 Farmers	Under Process
	Total	**99.60**		

1. Back to Farm Program



2. Computer lab & Computer center



Sensitivity: Public (C4)

ANNEXURE 3

4.1 The Project Proponent shall create awareness among the local people working within the project area as well as its surrounding area on the ban of Single Use Plastic (SUP) in order to ensure the compliance of Notification published by MoEF&CC on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six-monthly compliance report.

a. Posters displays at prominent places withing mine unit like admin building, canteen etc on ban of Single Use Plastic.





ANNEXURE 3

b. Awareness sessions on ban on SUP in Sesa technical school at Sanquelim (beneficiary: 40 students)





c. Nukkad natak/drama by Bicholim High School students at Bicholim Bus Stand – 26/09/2024





d. Awareness sessions on ban on SUP in Bicholim Government High school (beneficiary: 35 studnets)



ANNEXURE 3

e. SUP waste Cleanliness drives: carried out at Sarmans Ferry village at Sarmanas, Hanuman Temple at Pilago Village, Ideal School at Pilgao village in Bicholim Taluka - 22/04/2024 Participation – 25 nos.



f. Awareness session and interaction to all Supervisors and Work person on Single use plastic. Plastic collection drive conducted. - 22/04/2024 . Participation 35 Nos.



ANNEXURE 3

g. Poster Making, Slogan Writing and Drawing Competition with them on Environment protection and plastic pollution – 18/11/2024. Participation 22 Nos.



h. Drama and Skit by Bicholim Govt High School Students on Swachha Bharat Abiyan, Plastic pollution-Ban on Single use plastic and waste management in Bicholim mines – 20/11/2024 . Exposure: 22 Nos.



ANNEXURE 3

i. Awareness and Promotion of Environment Protection as part of MEMC week celebration with Songs, slogans and quotes on Ban of single use plastics, environment protection, plantation, conservation of water, etc. in Bicholim public areas – 20/11/2024. 5 buffer villages covered.



j. Awareness session and interaction to all Supervisors and Workmen on Plastic pollution and Ban of single use plastic - 26/12/2024. Attendees- 37 Nos



ANNEXURE 3

k. Awareness session and interaction to all Supervisors and Workmen on Plastic pollution and Ban of single use plastic - 20/11/2024. Attendees- 43 Nos.



l. Awareness session on plastic pollution to workmen and employee on the Theme: Beat Plastic Bollution on Environment day 2025. Beneficiaries: 25 Nos. Date:06/06/2025



m. Plantation drive in Mine on the occasion of Environment day on the Theme: Beat Plastic pollution. Beneficiaries: 30 Nos. Date: 06/06/2025



ANNEXURE 3

n. Walkathon - Ek Din, Ek Ghanta, Ek Saath Campaign celebrating Swachhata hi seva in Mine office area. Beneficiaries:80 Nos. Date: 29/09/2025



o. Poster making and Waste to Art and Awareness session on Swatch Bharat and Ban of Single use plastic in Govt. High Bicholim and Radha Krishna School Bicholim. Beneficiaries: 80 children and 10 teaching staff along with 5 Vedanta team. Date: 01/10/2025



ANNEXURE 3

p. Safai Mitra Abhiyan and Cleanliness drive and plastic waste collection drive in Sarmanas Ferry and Hanuman Temple Sarmanas Date:02/10/2025



q. Rally on awareness on Ban of Utilization of single use plastic and Cleanliness drive in Bicholim Market, Ground and bus stand. Participants/Beneficiaries: 85 people participation along with 10 Vedanta staff, Govt. High Bicholim and Shantadurga High School Bicholim and Goa Mineral Foundation team. Date:03/10/2025





Annexure 4

Allocations made for Environmental Management Plan with item wise & year wise breakup.

Details	Capital Cost (Rs in lakhs)	Recurring Cost (Rs in lakhs)	Remarks
Plantation	-	7.5	Green belt, Plantation on dump slopes etc
Environment monitoring	44	44	Air, Water, Noise, CAAQMS, AMCs
Air pollution control measures	20	300	It includes maintenance of wheel wash, operation of road sweeping machine, tarpaulin covering for trucks, road washing with water tanker, dust suppression on mines, maintenance of roads. Capex-fixed dust suppression system
Water Treatment	-	11	Use of lime and flocculants
Erosion control /monsoon measures	-	221	De-silting trenches-settling pits, boulder wall construction , geotextile, stack covering with silpaulin, Making trenches
Personal protective equipment	-	15	Safety shoes & gumboots, helmet, ear plugs, dust masks, goggles
Maintenance of fire protection systems	-	1.5	Providing Fire extinguishers; fire suppression systems
Environment awareness & training	-	5	Training sessions for employees and community; celebration of environment week, vanamahotasav and various significant days
Health	8	16	Premedical test; Occupational health centre on mines
Total	72	621	
CER Cost			
Budget for meeting the demands of public	-	309.3	Action plan keeping the demands of Public hearing
Grand Total	72	930.3	

Actual expenditure incurred on the Environmental Management Plan April24-March25

EMP Expenditure			
Description	**Cost (Rs in Lakhs)**		
	Capital	**Recurring**	**Details**
Environment monitoring	174	28	Environment Monitoring Air, Water, Noise, Awareness and training. Capex: display board, CAAQMS, , , water monitoring stations
Mine reclamation	0	7	Procurement of native and fruit bearing species of saplings and plantation and after care.
Errosion control	0	403	Laying of silpaulin on waste dumps, De silting of settling ponds, digging of trenches, garland drains. Laying of geotextile final waste dumps of 2Ha.
Water treatment	0	6	Water treatment by lime, magnasol and manpower
Air pollution control measures	261	72	Hot mixing of road, Dry wheel wash/rumbler system, Hiring of tankers and road sweeping machine for road cleaning.
Statutory	0	77	CTE/CTO/membership fees for Hazardous wate disposal facility
Health and safety	0	26	Premedical test, Occupational health centre on mines, PPE, Fire safety
TOTAL	**435**	**620**	
	1,055		

Actual expenditure incurred on the Environmental Management For FY25-26 will be submitted in the next 6 monthly compliance report.

ANNUXURE – 5

CN022523681

Model Contract of Apprenticeship Training for Major/Minor* Apprentices



1.	Name and Registered Address of Establishment	: Vedanta Limited (E10243000005)
	with Telephone no. & E-mail address	: Bicholim Mineral Block 1, BicholimNorth Goa, Goa : 0832-2460600 : dhirajkumar.jagdish@vedanta.co.in
2.	(a) Name of Apprentice (Block Letters)	: RASHMI RAMA PARAB GAONKAR (A062347104)
	(b) Father's/Mother's /Spouse's Name	: Rama Chandrakant Parab Gaonkar
3.	Address of apprentice	: # 12, Gaonkarwada, Piligao, Bicholim, Go : a, North Goa, 403504, Bicholim, : North Goa, Goa
4.	Gender	: Female
5.	Date of Birth	: 17-03-2004
6.	(a) Whether belongs to SC/ST/OBC/PwD/ Minority	: No
	(b) Name of the Category	: General
7.	Educational Qualification (Highest)	: ITI - NCVT
8.	(a) Category of Apprenticeship	: Designated
	(b) Name of the trade for which Apprentice is training	: Computer Operator and Programming Assistant
9.	(a) Whether Basic Training is to be provided as part of Apprenticeship	: No
	(b) If Basic Training is exempt – reason for exemption	
	(i) Name of the Course	: ITI
	(ii) Duration of Training/Course	: From 2022-08-03 00:00:00 To 2023-08-03 00:00:00
	(iii) Name of the Institute	: Bicholim Govt ITI
	(iv) Name of the Sector Skill Council (if applicable)	: N/A
10.	Apprenticeship Training duration (Total)	: 2080 Hours
	(a) Duration of Basic Training	: N/A
	Period of Basic Training	: N/A
	(b) Duration of On-the-Job Training	: 2080 Hours
	Period of On-the-Job Training	: From 10-02-2025 to 04-02-2026
	(c) Training Type	: Sequential
11.	Apprenticeship Training Location	: Vedanta Ltd
	(a) Name and address of facility where Basic Training is to be provided	: N/A
	(b) Name and address of the facility where On-the-Job Training is to be provided	: Vedanta Limited Vedanta Ltd North Goa Goa
12.	(a) Date of execution of contract	: 07-02-2025
	(b) Age of Apprentice on the date of execution of contract	: 20 years, 10 months and 21 days
13.	Is the establishment opting for benefits under NAPS*?	: No

*If yes, Annexure 2 to this contract will also be applicable.

ANNUXURE – 5

PDF reader

CN042521183

Model Contract of Apprenticeship Training for Major/Minor* Apprentices



1. Name and Registered Address of Establishment : Vedanta Limited (E10243000005)
   with Telephone no. & E-mail address : Bicholim Mineral Block 1, BicholimNorth Goa, Goa
   : 0832-2460600
   : dhirajkumar.jagdish@vedanta.co.in
2. (a) Name of Apprentice (Block Letters) : PRANALI MOHAN GAWALI (A0624126979)
   (b) Father's/Mother's /Spouse's Name : Mohan Gawali
3. Address of apprentice : H.no. 4/2616, Lakherem Bordem Bicholim -
   : Goa 403504, Bicholim
   : North Goa, Goa
4. Gender : Female
5. Date of Birth : 03-08-2005
6. (a) Whether belongs to SC/ST/OBC/PwD/ Minority : Yes
   (b) Name of the Category : Obc
7. Educational Qualification (Highest) : ITI - NCVT
8. (a) Category of Apprenticeship : Designated
   (b) Name of the trade for which Apprentice is training : Computer Operator and Programming Assistant
9. (a) Whether Basic Training is to be provided as part of Apprenticeship : No
   (b) If Basic Training is exempt – reason for exemption
   (i) Name of the Course : ITI
   (ii) Duration of Training/Course : From 2023-08-01 00:00:00 To 2024-09-15 00:00:00
   (iii) Name of the Institute : Bicholim Government Industrial Training Institute
   (iv) Name of the Sector Skill Council (if applicable) : N/A
10. Apprenticeship Training duration (Total) : 2080 Hours
    (a) Duration of Basic Training : N/A
    Period of Basic Training : N/A
    (b) Duration of On-the-Job Training : 2080 Hours
    Period of On-the-Job Training : From 05-04-2025 to 30-03-2026
    (c) Training Type : Sequential
11. Apprenticeship Training Location : Vedanta Ltd
    (a) Name and address of facility where Basic Training is to be provided : N/A
    (b) Name and address of the facility where On-the-Job Training is to be provided : Vedanta Limited
    Vedanta Ltd
    North Goa
    Goa
12. (a) Date of execution of contract : 04-04-2025
    (b) Age of Apprentice on the date of execution of contract : 19 years, 8 months and 1 days
13. Is the establishment opting for benefits under NAPS*? : No
    *If yes, Annexure 2 to this contract will also be applicable.

***For DBT cases- Partial stipend support by the Government of India under NAPS will be limited to 25% of the stipend paid, upto a maximum of Rs. 1500 per month per apprentice during the apprenticeship training period.**

For Non-DBT cases- Full stipend will be paid by the employer

14. Monthly stipend amount

Year of training	Total stipend amount (in Rs.)	Break up of total stipend amount (in Rs.)	
		Employer's share out of col. 2	Government of India's share out of col. 2(25% of stipend paid upto a maximum of Rs. 1500 per month per apprentice)
(a) During 1st year of training	8832	8832	0
(b) During 2nd year of training	N/A	N/A	0
(c) During 3rd and 4th year of training	N/A	N/A	0

ANNUXURE – 5

CN042521185

Model Contract of Apprenticeship Training for Major/Minor* Apprentices



1.	Name and Registered Address of Establishment	: Vedanta Limited (E10243000005)
	with Telephone no. & E-mail address	: Bicholim Mineral Block 1, BicholimNorth Goa, Goa : 0832-2460600 : dhirajkumar.jagdish@vedanta.co.in
2.	(a) Name of Apprentice (Block Letters)	: MALVIKA DASHARATH KARAPURKAR (A0923202351)
	(b) Father's/Mother's /Spouse's Name	: Dashrath Karapurkar
3.	Address of apprentice	: H no 19, Sawaribhat Velguem, Sanquelim, : Bicholim, North Goa, 403105, Sanquelim : North Goa, Goa
4.	Gender	: Female
5.	Date of Birth	: 17-12-2004
6.	(a) Whether belongs to SC/ST/OBC/PwD/ Minority	: Yes
	(b) Name of the Category	: Obc
7.	Educational Qualification (Highest)	: ITI - NCVT
8.	(a) Category of Apprenticeship	: Designated
	(b) Name of the trade for which Apprentice is training	: Computer Operator and Programming Assistant
9.	(a) Whether Basic Training is to be provided as part of Apprenticeship	: No
	(b) If Basic Training is exempt – reason for exemption	
	(i) Name of the Course	: ITI
	(ii) Duration of Training/Course	: From 2023-09-25 00:00:00 To 2024-09-15 00:00:00
	(iii) Name of the Institute	: Industrial Training Institute Bicholim Goa
	(iv) Name of the Sector Skill Council (if applicable)	: N/A
10.	Apprenticeship Training duration (Total)	: 2080 Hours
	(a) Duration of Basic Training	: N/A
	Period of Basic Training	: N/A
	(b) Duration of On-the-Job Training	: 2080 Hours
	Period of On-the-Job Training	: From 05-04-2025 to 30-03-2026
	(c) Training Type	: Sequential
11.	Apprenticeship Training Location	: Vedanta Ltd
	(a) Name and address of facility where Basic Training is to be provided	: N/A
	(b) Name and address of the facility where On-the-Job Training is to be provided	: Vedanta Limited Vedanta Ltd North Goa Goa
12.	(a) Date of execution of contract	: 04-04-2025
	(b) Age of Apprentice on the date of execution of contract	: 20 years, 3 months and 18 days
13.	Is the establishment opting for benefits under NAPS*?	: No
	*If yes, Annexure 2 to this contract will also be applicable.	

***For DBT cases- Partial stipend support by the Government of India under NAPS will be limited to 25% of the stipend paid, upto a maximum of Rs. 1500 per month per apprentice during the apprenticeship training period.**

For Non-DBT cases- Full stipend will be paid by the employer

14. Monthly stipend amount

Year of training	Total stipend amount (in Rs.)	Break up of total stipend amount (in Rs.)	
		Employer's share out of col. 2	Government of India's share out of col. 2(25% of stipend paid upto a maximum of Rs. 1500 per month per apprentice)
(a) During 1st year of training	8832	8832	0
(b) During 2nd year of training	N/A	N/A	0

ANNUXURE – 5

TMPCON122411236

Model Contract of Apprenticeship Training for Major/Minor* Apprentices



1.	Name and Registered Address of Establishment	: Vedanta Limited (E10243000005)
	with Telephone no. & E-mail address	: Bicholim Mineral Block 1, BicholimNorth Goa, Goa : 0832-2460600 : dhirajkumar.jagdish@vedanta.co.in
2.	(a) Name of Apprentice (Block Letters)	: RAJ RAMA MAYEKAR (A102379437)
	(b) Father's/Mother's /Spouse's Name	: Rama Mayekar
3.	Address of apprentice	: H No.344, Mayekar Wada, null, H No.344, : Goa, North Goa, 403504, H No.344, : North Goa, Goa
4.	Gender	: Male
5.	Date of Birth	: 12-08-2003
6.	(a) Whether belongs to SC/ST/OBC/PwD/ Minority	: No
	(b) Name of the Category	: General
7.	Educational Qualification (Highest)	: ITI - NCVT
8.	(a) Category of Apprenticeship	: Designated
	(b) Name of the trade for which Apprentice is training	: Mechanic Diesel
9.	(a) Whether Basic Training is to be provided as part of Apprenticeship	: No
	(b) If Basic Training is exempt – reason for exemption	
	(i) Name of the Course	: ITI
	(ii) Duration of Training/Course	: From 2023-09-26 00:00:00 To 2024-09-22 00:00:00
	(iii) Name of the Institute	: Sattari Goverment Industrial Training Institute
	(iv) Name of the Sector Skill Council (if applicable)	: N/A
10.	Apprenticeship Training duration (Total)	: 3120 Hours
	(a) Duration of Basic Training	: N/A
	Period of Basic Training	: N/A
	(b) Duration of On-the-Job Training	: 3120 Hours
	Period of On-the-Job Training	: From 13-12-2024 to 12-12-2025
	(c) Training Type	: Sequential
11.	Apprenticeship Training Location	: Vedanta Ltd
	(a) Name and address of facility where Basic Training is to be provided	: N/A
	(b) Name and address of the facility where On-the-Job Training is to be provided	: Vedanta Limited Vedanta Ltd North Goa Goa
12.	(a) Date of execution of contract	: N/A
	(b) Age of Apprentice on the date of execution of contract	: 21 years, 3 months and 22 days
13.	Is the establishment opting for benefits under NAPS*?	: No

*If yes, Annexure 2 to this contract will also be applicable.

1/5

***For DBT cases- Partial stipend support by the Government of India under NAPS will be limited to 25% of the stipend paid, upto a maximum of Rs. 1500 per month per apprentice during the apprenticeship training period.**

For Non-DBT cases- Full stipend will be paid by the employer

14. Monthly stipend amount

Year of training	Total stipend amount (in Rs.)	Break up of total stipend amount (in Rs.)	
		Employer's share out of col. 2	Government of India's share out of col. 2(25% of stipend paid upto a maximum of Rs. 1500 per month per apprentice)
(a) During 1st year of training	8832	8832	0
(b) During 2nd year of training	N/A	N/A	0
(c) During 3rd and 4th year of training	N/A	N/A	0

The Establishment agrees and understands that the minimum monthly stipend amount is prescribed in the Rule 11(1) of Apprenticeship Rule, 1992. The Establishment confirms that the agreed monthly stipend amount entered above must be higher than these minimum rates.

If the minimum rates are modified through legislation (either through modification of rules, or through modification of minimum wages payable) during the course of apprenticeship, this revised rates will apply as the minimum payable to Apprentice

15.	(a) Name and Address of Guardian In case Apprentice is under 18 years of age (Minor)	: N/A
	(b) Relationship with the Apprentice	: N/A
16.	(a) Whether Apprentice was identified through approved Third Party Aggregator	: No
	(b) Name of TPA (if applicable)	: N/A

FEASIBILITY REPORT FOR INSTALLATION OF OVERLAND BELT CONVEYOR FOR TRANSPORTATION OF IRON ORE FROM BLOCK – I BICHOLIM MINERAL BLOCK TO SARMANAS JETTY



VEDANTA LIMITED

AT TALUKA – BICHOLIM, DISTRICT – NORTH GOA, STATE – GOA

CONTENTS

Chapter No.	*Topic*	*Page No.*
1	*Introduction*	*1*
2	*Description of Project*	*1*
3	*Need of the project*	*2*
4	*Technical specification*	*3*
5	*Local Stakeholder Engagement in ore transportation by road*	*7*
6	*Technical aspects of Road Transportation:*	*8*
7	*Summary and Conclusion*	*9 - 10*

Introduction:

The mining industry is the backbone of Goa's Economy. It is mainly due to the Iron ore bearing geology of Goa and its huge network of rivers that helps to transport the finished product to the port. Iron ore transportation in Goa is carried out with combination of road and waterways system. Ore is transported from mines / Mining to the nearest loading jetty's by road with the help of 10.5 Tonne tipper trucks. From jetty's to port or mother vessel ore is transported with the help of Barges.

Iron ore Mining in the Goa state came to halt as on 16th March 2018 as per Supreme Court Order. Till 2018 Vedanta Limited was the major producer of iron ore in the state. Vedanta Limited was declared as the preferred bidder for Block- I Bicholim Mineral Block which was the part of states 1st phase of mineral block auction.

Bicholim Mineral Block is spread over an area of 478.5206 Ha with total iron ore Reserves & Resource of 84.743 million Tonnes. Total proposed production capacity of ROM is 3 MTPA. A dry mineral processing plant exists within the mineral block area. The nearest jetty is at Sarmanas which is at a distance of 5.48km by road out of which 4.54km is dedicated transport road and 0.94km is MDR-20 public road. Earlier leasee used to transport finished ore from lease to Sarmanas jetty by road with the help of 10.5 Tonne tipper trucks.

Description of the Project:

Vedanta believes in Environment friendly mining with zero harm culture. Therefore, it is proposed to study the feasibility of Over Land Belt Conveyor (OLBC) and Pipe Conveyor system with capacity of 3 MTPA from dry mineral processing plant (WML) to Sarmanas Jetty covering a length of 6 km (approx.). The current transportation route is selected as proposed route for OLBC. It is passing through Non-Forest Land and devoid of any habitations. Fig .1 shows the location plan of proposed OLBC and Fig.2 shows the location plan of Pipe Conveyor.



Fig.1 Location plan of proposed OLBC



Fig.2 Location plan of proposed Pipe Conveyor

Need of the Project:

Safety and efficiency are paramount in the mining industry, where the movement of extracted materials is crucial. One invention that has transformed these sectors is the conveyor belt system. Conveyor belts have revolutionized mining operations by streamlining material transportation, enhancing productivity, and improving overall safety. Overland conveyor systems are used to transport large quantities of materials over long distances, connecting mining and Plant/Jetty/Port sites. This system minimizes environmental impact, enhances safety and it is energy efficient.

Environmental Benefits: Conveyor systems reduce carbon emissions associated with truck transportation, contributing to a greener and more sustainable mining industry.

Enhanced Safety: By automating material movement, conveyor belts minimize human contact with heavy machinery, reducing the risk of accidents and injuries. They also mitigate the dangers associated with truck haulage, such as vehicle collisions and road accidents.

Increased Efficiency: Conveyor belts in mining operations significantly improve material handling efficiency, enabling higher transportation rates, and reducing downtime associated with truck transportation.

Cost Savings: Conveyor belts reduce fuel consumption by replacing material transportation by truck haulage. Additionally, they minimize product loss and damage during handling, resulting in substantial cost savings.

Technical Specifications:

Vedanta Limited has its own Project's team which consists of high potential professionals. The groundwork is conducted by our in-house team including route selection and preparation of designs for installation of OLBC and Pipe Conveyor. Fig.3 shows the layout of the proposed conveyor belt and Fig.4 shows the layout of proposed Pipe Conveyor. Flow sheets diagrams for OLBC and Pipe Conveyor are shown in Fig.5 and 6 respectively.

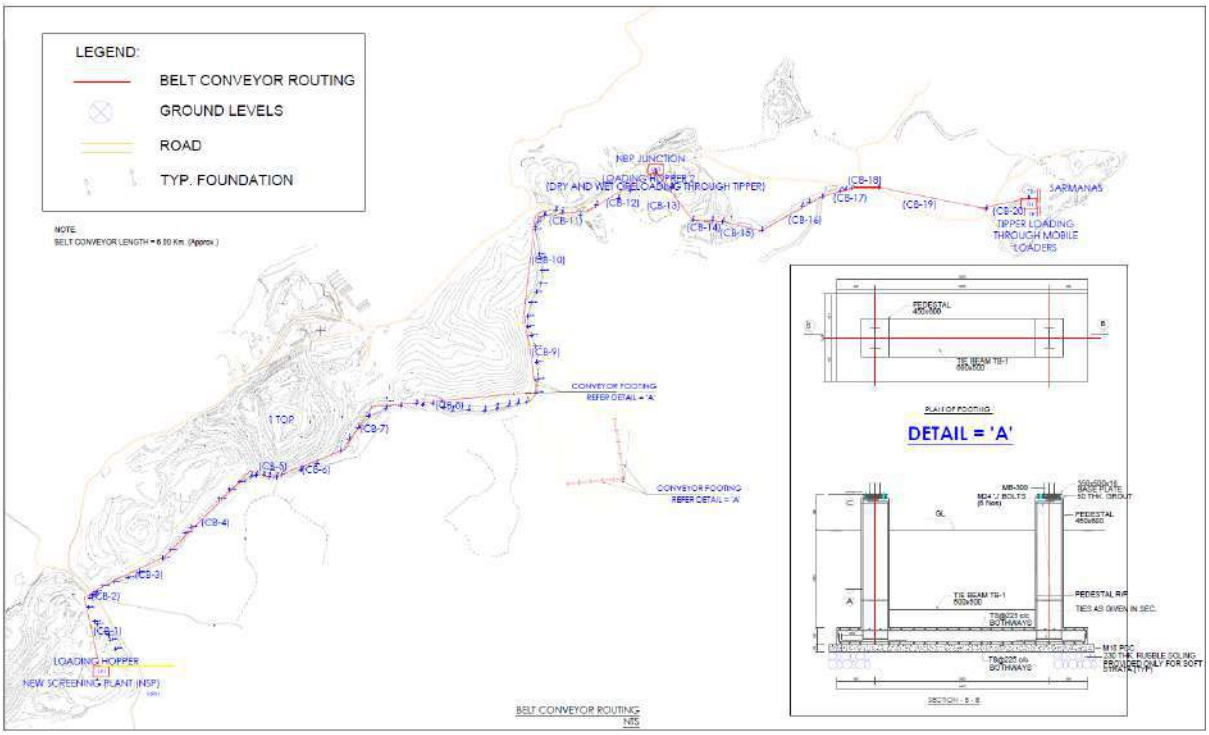


Fig.3 Layout of proposed OLBC

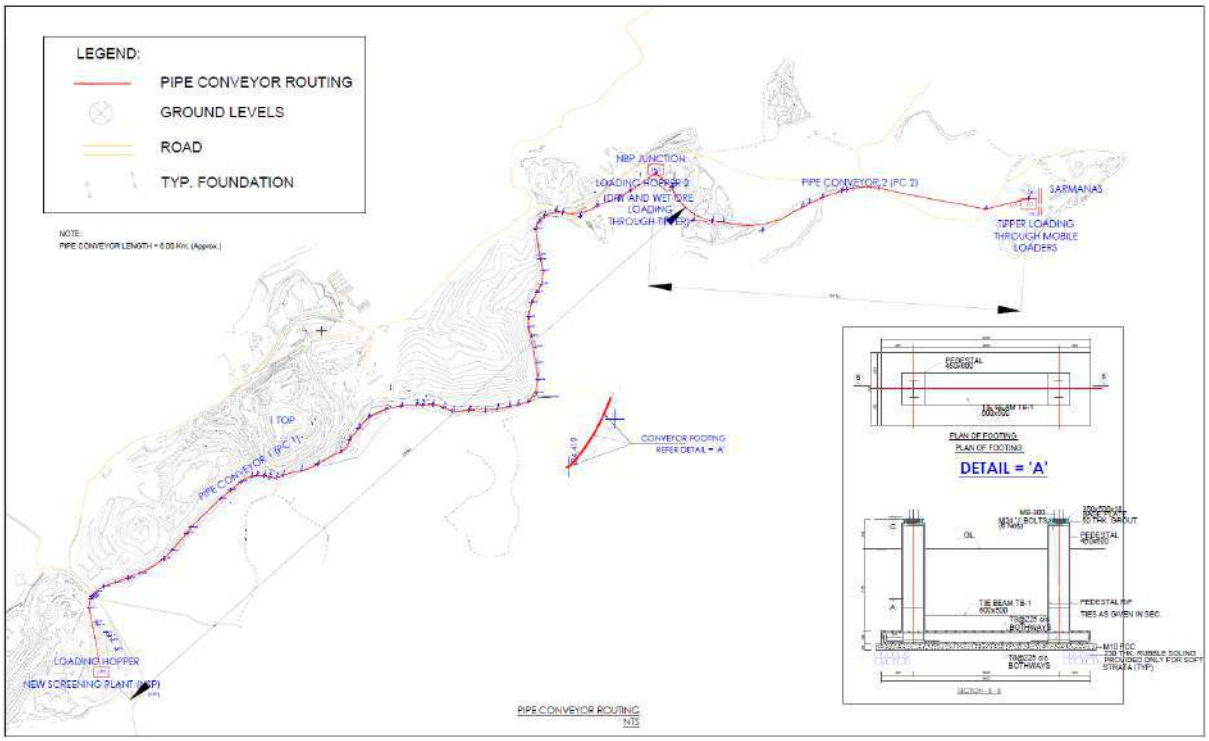


Fig.4 Layout of proposed Pipe Conveyor

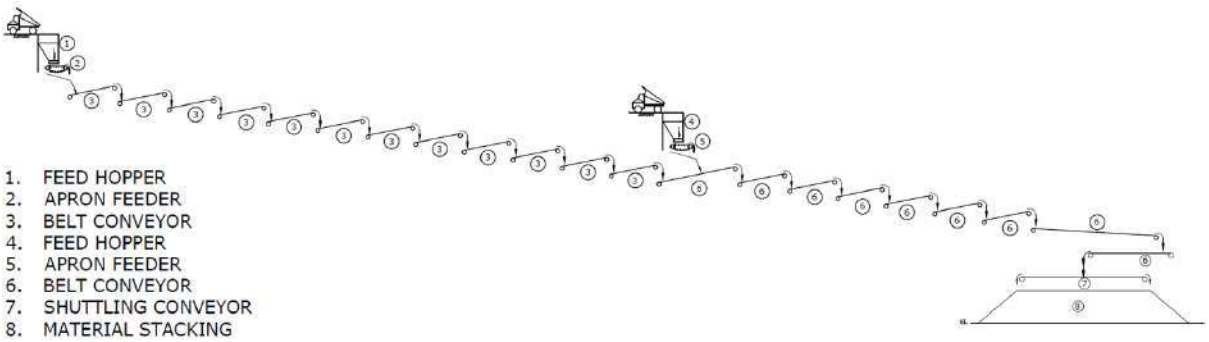


Fig.5 Flowsheet diagram of OLBC

Belt Conveyor:-After weighment, ore will be loaded with tipper trucks into the first stream feed hopper (100 Tons capcity) and same will be hauled throuh series of belt conveyor (total 12 nos of belt conveyor) up to NBP plant area. The first stream loaded material will be discharge into strem 2 belt conveyor and will hauled through series of conveyors (total 8 nos of belt conveyor). Second stream will also have feed hopper loading arrangements to accommodate product generating from NBP plant. At the end of sream 2 shuttleing conveyor will be made avaialabl for proper stacking of the material on jetty area

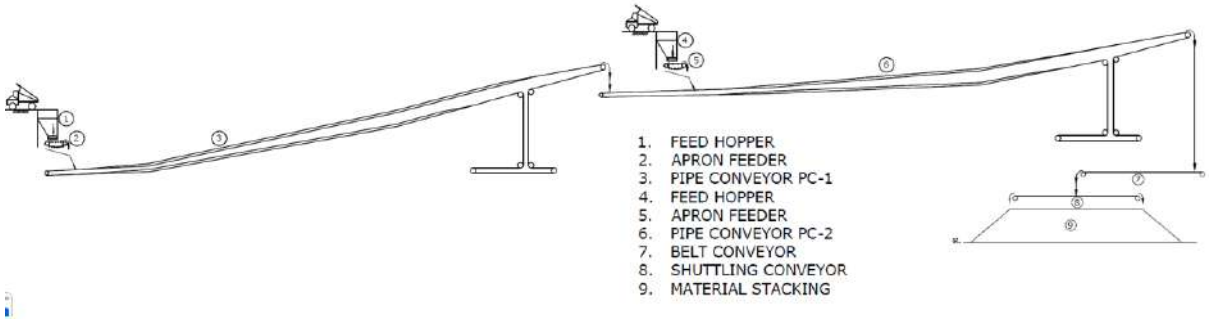


Fig.6 Flowsheet diagram of Pipe Conveyor

Pipe Conveyor:- After weighment, ore will be loaded with tipper trucks into the pipe conveyor 1 feed hopper (100 Tons capcity) and same will be hauled through pipe conveyor 1 (PC-1) up to NBP plant area. PC-1 loaded material will be discharge into pipe conveyor (PC-2). PC-2 will also have feed hopper loading arrangements to accommodate product generating from NBP plant. At the end of PC-2 shuttleing conveyor will be made avaialabl for proper stacking of the material on jetty area

The surface terrain of the selected route exhibits moderate to low relief. Reduced level at start point is 53.50 mrl and 2.5 mrl at the end point at sarmanas jetty. It passes over a small hillock with 110 mrl where excavation would be required to maintain the level of the conveyor belt. Excavation would not be required in the case of Pipe conveyor. The route selected is parallel along the existing dedicated ore transportation route which is easily motorable with gentle slopes and devoid of any habitations. The last stretch of the conveyor route where currently

ore transportation is on public road is routed through company owned area which is parallel to the existing road. Along the entire stretch of 6km (approx.) conveyor system would be crossing public road at 4 locations. This is one of the most feasible routes for the proposed conveyor system. The technical specifications of the conveyor system are shown in Table.1.

DPR study will be conducted in future on the finalized route wherein detailed technical specifications will be defined including the exact corridor route, single flight vs multiple flight overland conveyor options, structural requirements, civil requirements, electrical requirements, power optimization, upgradation provisions, etc. After the completion of DPR study alignment of conveyor system and its technical specifications may vary to some extent.

TECHNICAL DATA	BELT CONVEYOR	PIPE CONVEYOR	UOM
Horizontal conveying length	5772	5480	m
Vertical conveying height	10-12	15-20	m
Maximum inclination	9	5	degrees
Hourly capacity	1000	1500	T/Hour
Maximum lump size	10	10	mm
Bulk density	2.6-2.8	2.6-2.8	T/m3
Belt speed	1.2	2.5	m/sec
Location of drive unit	Unloading station	Unloading station	
Power required	150-200	350-400	Kw
No of Belts	20	2	no
Belt type	500/4 C.D Grade – m24 (Nylon Belt)	500/4 C.D Grade – m24 (Nylon Belt)	
Belt width	1200	1400	mm
Belt utilization width	600	700	mm
Side wall height	150-200	300-400	mm
Total number of Pillar’s	582	640	no
Loading station	2	2	no
Unloading station	1	1	no

Table.1: Technical specifications of conveyor System

Local Stakeholder engagement:

As discussed in the Introduction para, transportation of finished product from mine to jetty’s by earlier leasee was carried out by road with 10.5 Tonne tipper trucks. The local stakeholders were engaged in transportation which is their only livelihood. Across the entire Goa state transportation of ore from mines to plants/ jetty’s is carried out by using 10.5 T trucks of local stakeholders which takes care of their livelihood. Along with the transportation business there are many other local businesses which are interdependent like garages, spare retailers, hotels, shops, etc. Though the installation of conveyor system would be environmentally friendly, it will affect livelihood of the local villagers.

Technical aspects of Road Transportation:

The total road distance from dry screening plant to sarmanas jetty is 5.48km, out of which 4.54 km is dedicated road and 0.94 km is MDR-20 public road. Out of 4.54km of dedicated road, 3.31km has road width of 12-15m till Piligao junction and 1.23km from Piligao junction to Mathwada junction is with 7.0m of road width. Public road is with 7.0m of width. Fig 3 shows the ore transportation route.



Fig -3 Ore transportation route.

Ore transportation on public road can be carried out only 237 days / year i.e excluding rainy season. There for to transport 30,00,000 Tonnes/annum Vedanta needs to transport 12658 Tonnes per day to meet the EC limit. Table.2 shows the detailed break up of ore transportation along with transportation load and effective distance between two trucks.

Sr No	Particulars	10.5 Tonne Trucks	unit
1	The total distance of Road	5.48	Km
2	Width of public road (0.94km)	7	m
3	Transportation no. of days	237	days
4	Capacity of truck	10.5	Tonnes
5	Total ROM quantity	3000000	Tonnes
6	Total Handling per day	12658	Tonnes
7	effective transportation time	9.3	Hrs
8	Per Hour Handling/ Transportation	1332	Tonnes
9	No. of Vehicles per Hour	127	Trips
10	No. of Vehicles per Hour (to and fro)	254	nos
11	The Speed of vehicle	25	KPH
12	The time taken by each trip for 5.48 km (5.48/25*60)	13.152	min
13	loading time is 1min, weighment time at both source location is 2 min, Tarpaulin tying and untying time is 2 min, unloading time 1 min and waiting time 10 min	16	min
14	Each truck length	4.58	m
15	distance from truck to truck is 5 m Both side	10	m
16	Each vehicle occupies a min. distance	15	m
17	No. of vehicle which can travel on this road for one side= 5480 /15	365	nos
18	Transportation load from Mine to Jetty = 1332/10.5	127	vehicles/hr
19	Effective distance between two vehicles per hour:	43	m

Table.2: Details of transportation load and effective distance between two trucks

Hot mixing of the 4.54km of dedicated transport road is also studied. Table – 4 shows the details of costing and timelines for completion of the work.

Summary and Conclusion:

The feasibility study conducted on the introduction of conveyor systems, specifically evaluating OLBC and pipe conveyor installations, alongside traditional road transport, presents a comprehensive view of potential advancements in ore transportation. Table.4 shows the Techno- economical comparison with timelines for completion.

COST & TIMELINE COMPARISON FOR CONVEYOR SYSTEM AND DEDICATED ROAD

Particulars	BELT CONVEYOR	PIPE CONVEYOR	DEDICATED ROAD	UOM
NO OF BELTS	20	2	NIL	Nos
BELT WIDTH	1200	1400	NIL	mm
ROAD WIDTH	NIL	NIL	12-15	mtrs
TOTAL LEANGTH	5772	5480	5480	mtrs
AREA (hot mix)	NIL	NIL	48330	sq. mtrs
NO. OF PILLARS	582	640	NIL	nos
LAND ACQUISITION	34000	NIL	NIL	sq. mtrs
EXCAVATION	3	3	NIL	million tonnes
COST SUMMARY				
MECHANICAL WORK	17	97	NIL	Cr
CIVIL/HOT MIX WORK	8	15	27	Cr
ELECTRICAL WORK	9	28	NIL	Cr
LAND ACQUISITION COST	2	NIL	NIL	Cr
EXCAVATION COST	36	NIL	NIL	Cr
TOTAL	72	140	27	Cr
TIMELINE SUMMARY				
EXCAVATION	6	NIL	NIL	months
LAND ACQUISITION	24	NIL	NIL	months
NOC FROM PANCHAYAT	15	15	NIL	months
CONSTRUCTION	24	24	NIL	months
STATUTORY BODY PERMISSIONS FOR PUBLIC ROAD CROSSING	18	15	6	months
HOT MIXING	NIL	NIL	24	months
TOTAL	87	54	30	months

Table.4 Techno- economical comparison with timelines for completion.

The comparison between OLBC, pipe conveyor and road transport in open-cast mines reveals distinct advantages for each system. Pipe conveyors offer superior material containment but require higher initial investment and specialized installation. Belt conveyors, though simpler to set up and more cost-effective initially, have slightly lower containment abilities. Both

conveyors show potential in enhancing efficiency and safety in ore transportation compared to traditional road transport, reducing traffic congestion and environmental impact while offering continuous material flow.

Despite these advantages, road transport still holds value for short-distance or intermittent needs due to engagement of local stakeholders, its flexibility and lower initial costs. Both conveyors present promising prospects for optimizing material transportation, yet a comprehensive cost-benefit analysis considering environmental impacts, initial investments, and operational costs is crucial to determine the most suitable transport mechanism.

Further detailed studies and rigorous assessments are recommended to identify the optimal system for implementation, considering specific mine conditions and long-term operational benefits.

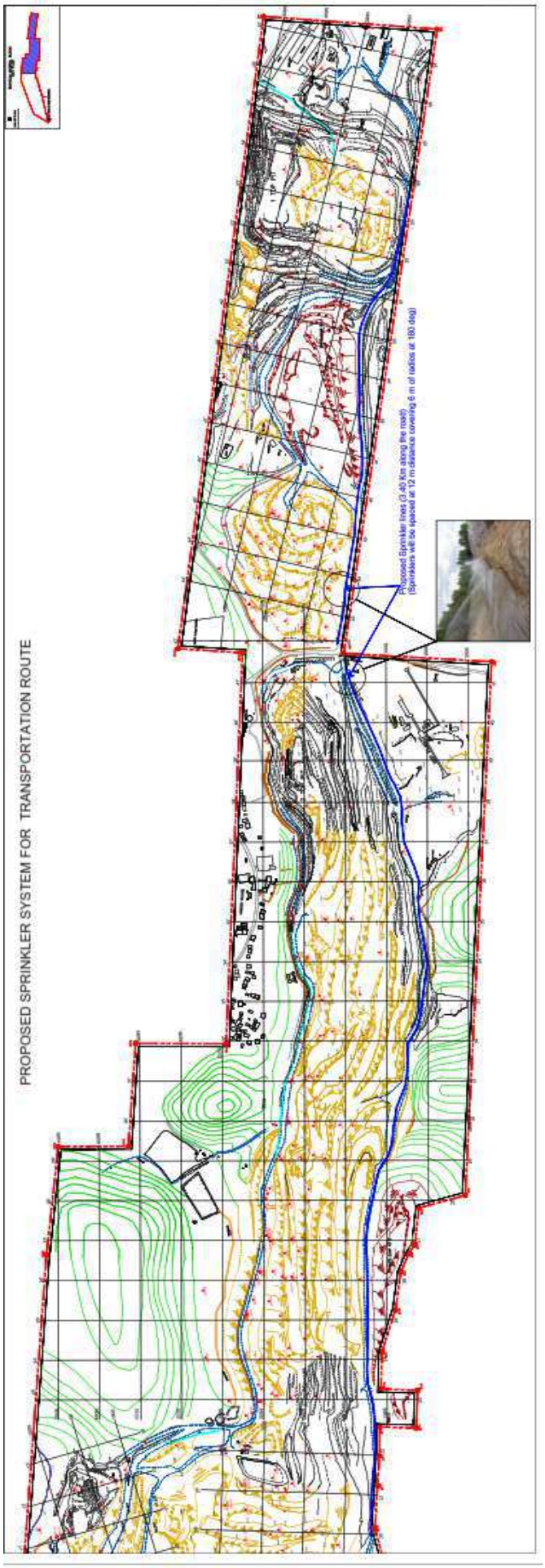
ANNEXURE - 7

PLANTATION AT BLOCK I BICHOLIM MINERAL BLOCK FOR THE YEAR 2025						
Sr.No.	**Common name**	**Botanical name**	**Locations**			**Total**
			5 bottom	**5 Top safety belt and dump stage**	**Safety zone near Idgah**	
1	Awala	Phyllanthus embica	150	0	0	150
2	Chinch	Tamarindus indica	150	0	0	150
3	Jambul	Syzygium cumini	150	300	100	550
4	Mango	Mangifera Indica	150	200	100	450
5	Owal		150	0	0	150
6	Mahaguni	Swietenia	150	0	100	250
7	Ghoting	Terminalia bellirica	150	300	0	450
8	Bayo	Cassia Fistulla	150	200	100	450
9	Peru	Psidium guajava	150	200	100	450
10	Rain Tree	Samanea saman	150	200	150	500
11	Tamhan	Lagerstroemia speciosa	150	0	0	150
12	Saton	Alstonia scholaris	150	0	0	150
13	Sisso	Dalbergia sissoo	150	200	0	350
14	Pelt Form	Pletophorum pterocarpum	150	200	0	350
15	Siras	Albizia lebbeck	150	0	150	300
16	Karan|	Millettia pinnata	150	0	0	150
17	Rito	Sapindus mukorossi	150	200	100	450
18	Kaju	Anacardium occidentale	0	500	250	750
19	Apto	Bauhinia racemosa	0	300	100	400
20	Spatodiya	Spathodea	0	200	100	300
21	Casiya Simiya	Cassia siamea	0	0	150	150
22	Gliricidia	Gliricidia	1500	500		
	Total		**4050**	**3500**	**1500**	**9050**

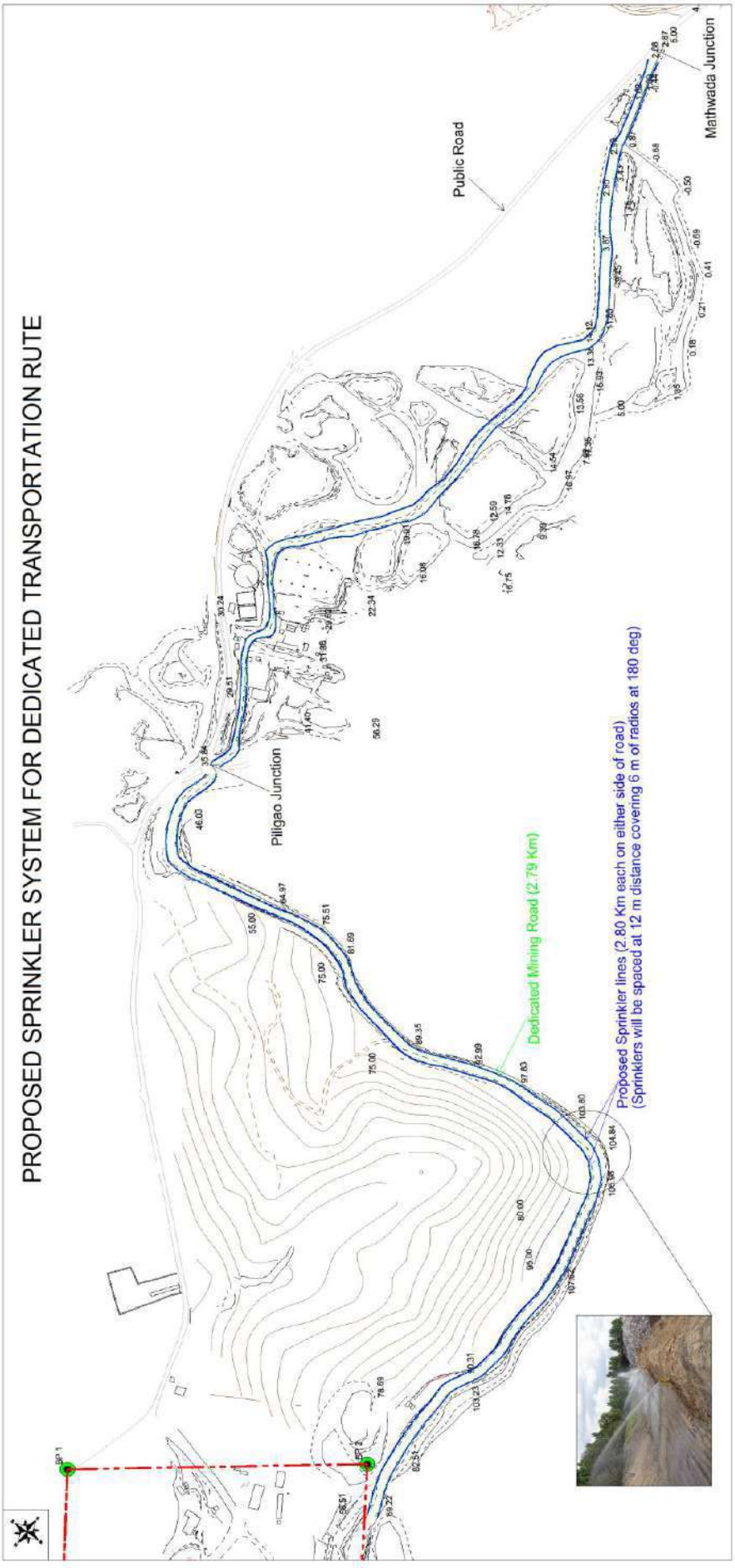
ANNEXURE - 7

PLANTATION AT BLOCK I BICHOLIM MINERAL BLOCK FOR THE YEAR 2024					
Sr.No.	**Common name**	**Botanical name**			**Total**
			5 Top safety belt and dump stage	**Buffer zone**	
1	Awala	Phyllanthus embica	100	50	150
2	Chinch	Tamarindus indica	150	50	200
3	Jambul	Syzygium cumini	150	50	200
4	Mango	Mangifera Indica	150	50	200
5	Owal		0	0	0
6	Mahaguni	Swietenia	100	50	150
7	Ghoting	Terminalia bellirica	100	0	100
8	Bayo	Cassia Fistulla	100	0	100
9	Peru	Psidium guajava	150	0	150
10	Rain Tree	Samanea saman	100	0	100
11	Tamhan	Lagerstroemia speciosa	100	0	100
12	Saton	Alstonia scholaris	100	0	100
13	Sisso	Dalbergia sissoo	100	0	100
14	Pelt Form	Pletophorum pterocarpum	150	0	150
15	Siras	Albizia lebbeck	100	0	100
16	Karan|	Millettia pinnata	100	0	100
17	Rito	Sapindus mukorossi	100	0	100
18	Kaju	Anacardium occidentale	150	0	150
19	Apto	Bauhinia racemosa	100	0	100
20	Spatodiya	Spathodea	50	0	50
21	Casiya Simiya	Cassia siamea	100	0	100
22	Gliricidia	Gliricidia	2000	0	2000
	Total		**4250**	**250**	**4500**

Annexure - 8


PROPOSED SPRINKLER SYSTEM FOR TRANSPORTATION ROUTE
Proposed Sprinkler lines (3.40 Km along the road)
(Sprinklers will be spaced at 12 m distance covering 6 m of radius at 180 deg)

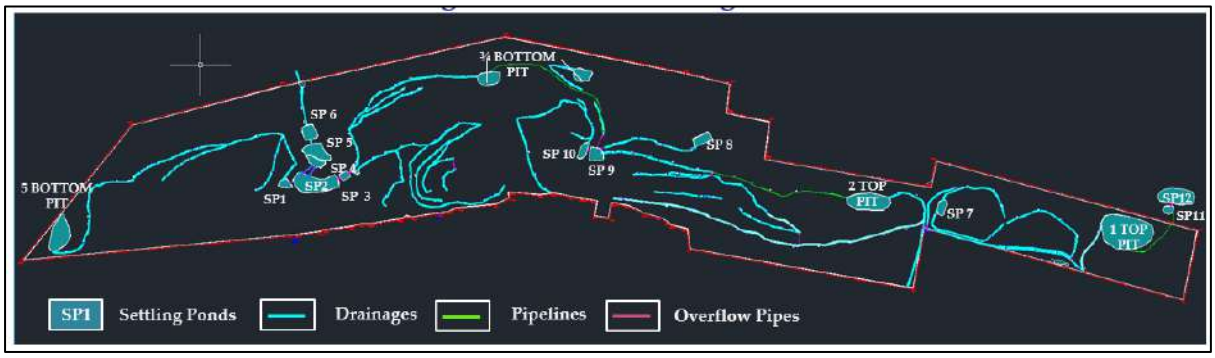
Annexure - 8


PROPOSED SPRINKLER SYSTEM FOR DEDICATED TRANSPORTATION RUTE
Public Road
Mathwada Junction
Piligao Junction
Dedicated Mining Road (2.79 Km)
Proposed Sprinkler lines (2.80 Km each on either side of road)
(Sprinklers will be spaced at 12 m distance covering 6 m of radios at 180 deg)

ANNEXURE – 9

Details of Rainwater harvested and Settling ponds

Rainwater harvesting FY 25-26 (Till Sept)			
Pit	**Catchment Area (Ha)**	**Rainfall in m for the period**	**Rain Water harvested (m3)**
1 Top	40	3.4434	309906
2 Top	28	3.4434	278915.4
3/4 Bottom	20	3.4434	103302
5 top	40	3.4434	206604
5 CB	11	3.4434	206604
		Total	1105331.4



The detailed study of the mine site area has been conducted. Remote sensing based data of Digital elevation model has been used for topographic study, which has been cross verified by ground truthing in field survey. As this mine has garland drains, settling ponds with check dams are present at different locations in the mine site. Based on the topographical study in the field and through elevation map, it has been observed that all the runoff generated from the rainfall will be collected through these drains and will eventually flow through the series of settling ponds. The gradient of the garland drains is properly maintained and regular cleaning of the drain is done to avoid blockages. The garland drains are made such that from upstream to the downstream where the drains are meeting the settling ponds will show decrease in elevation, to maintain a free flowing gradient of rainfall runoff. The dimension of the drains is maintained at about 2m in width and 1.5m in depth. A proper height has been maintained in the form of bund on the sides of the garland drain so that there is no spillage of storm water from the drains

The entire monsoon runoff is channelized into mine pits and supernatant water flows into series of settling ponds through drains. The clear water is allowed to naturally overflow by Header arrangements or through check dams.

There are 12 nos of interlinked settling ponds for collecting surface run off from respective catchment areas.

Total of 0.38 Million cu.m of void volume is available for surface run-off holding in 12 nos settling ponds having a cumulative area of 8.84 Ha.

The settling pond and trenches are desilted prior to monsoon.

ANNEXURE – 9

Pit ID	Area in m^2	Depth in mts	Volume in m^3	Location
SP1	1824	1.8	3283.2	5 Top pit Area
SP2	1667	1.8	3000.6	
SP3	27879	8	223032	
SP4	5208	2	10416	5 Top Mulgao Area
SP5	8602	2	17204	
SP6	4661	2.5	11652.5	
SP7	3896	1.5	5844	1 Top Area (Sec 43)
SP8	5831	3	17493	2 top area
SP9	3753	1.5	5629.5	3 Top Sec 22
SP10	5564	1.5	8346	
SP11	2443	3	7329	Outside lease (Above 1 Top Area)
SP12	17130	4	68520	
Total			381749.8	

Truck Owner Association of Sesa Mining
Bicholim-Goa

Ref. NO. TOASM/BICH/2023-24/05 Dated:- 27/12/2023

With Reference to your letter dated 18/12/23 the T.O.A is most respectfully sunmit before you as under:-

1) That the rates of Transporation of iron ore which is offered by the mines reppresantative is not Acceptable at this stage being the rates of each and every required items have been increased and for the purpose it is behind the the control of doing the nusienss, So it is required to be finalize the proper/Acceptable rate revision for Transportation of iron ore-inorder to smooth and fair transportation in the interest of truck owner and mining operator.

2) Mines representatives should declare that No vehicles of ten tyres will be allowed to ply for transportation of iron ore for the further period of 5 years being the six wheelers vehilces have been maintain by the truck owners in a very difficult period of time of banning of mining activities /operation in the state of Goa. And also in the process of replacement of any such cases vehicle should be of six (6) wheelers only.

3) All the routes of transportation of iron ore should be maintain as per the previous practice of work.

4) The copies of of minutes of meeting should be delivered to the T.O.A. immediately after conclution of meeting and same should be provided on the established letter-pad of the companies organisaiton.

5) Immidiate confirmation of date and time of meeting be fixed for revision of rate and to discussed the other issue related to the transportation of iron ore.

Thanking you

Yours faithfully,

27/12/23

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transforming elements

sesa goa iron ore

To
The Chief Wildlife Warden
Goa Forest Department,
Van Bhavan, Altinho, Panaji,
Goa

Dated: 30/11/2023

Sub: Approval of Wild Life Conservation Plan w.r.t Block I- Bicholim Mineral Block

Respected Sir,

We had submitted the Wild Life Conservation Plan for your approval vide our letter dated 19/06/2023. We would like to state that we have reviewed the list of Schedule 1 species within the study area w.r.t the latest Wild Life (Protection) Amendment Act 2022 along with the Wild Life North Division. The list of Schedule 1 species as authenticated by Wild Life division is attached herewith as Annexure 1.

We are also submitting the revised proposal for Wild Life Conservation Plan with a financial budget of Rs 60 Lakhs for approval. The details of the same is attached herewith as Annexure 2.

We request you to kindly approve the Wild Life Conservation Plan w.r.t Block I Bicholim Mineral Block .

Thanking you

Your faithfully

For Vedanta Limited

Jagdish Ravindranath Desai
Head Environment
Authorised Signatory

Received
30/11/23
Office of the
Pr. Chief Conservator of Forests
Altinho, Panaji - Goa 403 001

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

AUTHENTICATED LIST OF FLORA AND FAUNA IN CORE AND BUFFER ZONE OF BLOCK I BICHOLIM MINERAL BLOCK OF VEDANTA LIMITED, BICHOLIM TALUKA, NORTH GOA

List of Scheduled I Wildlife species around 10 kms radius of Block-I Bicholim Mineral Block

Sl. No.	Common Name	Scientific name	Family	IUCN / WPA schedule
		MAMMALS		
1	Common leopard	Panthera pardus	*Felidae*	I
2	Indian grey mongoose	*Urva edwardsii*	*Herpestidae*	LC/ I
3	Indian porcupine	*Hystrix indica*	*Hystricidae*	LC/ I
4	Small Indian civet	*Viverricula indica*	*Viverridae*	LC/ I
5	Bonnet macaque	*Macaca radiate*	*Cercopithecidae*	VU/ I
		BIRDS		
6	White-bellied Sea-Eagle	Haliaeetus leucogaster	*Accipitridae*	R/ I
7	Indian Peafowl	*Pavo cristatus*	*Phasianidae*	VU / I
8	Brahminy Kite	*Haliastur indus*	*Accipitridae*	LC / I
9	Indian Vulture	*Gyps indicus*	*Accipitridae*	LC / I
10	Crested Serpent Eagle	*Spilornis cheela*	*Accipitridae*	LC / I
11	Crested Goshawk	*Accipiter trivirgatus*	*Accipitridae*	LC / I
12	Shikra	*Accipiter badius*	*Accipitridae*	LC / I
13	Grey Jungle fowl	Gallus sonneratii	*Phasianidae*	LC / I
14	Nilgiri Wood Pigeon	*Columba elphinstonii*	*Columbidae*	LC / I
15	Brown Wood Owl	*Strix leptogrammica*	*Strigidae*	LC / I
16	Crested Tree-swift	*Hemiprocne coronata*	*Hemiprocnidae*	LC / I
17	Small Minivet	*Pericrocotus cinnamomeus*	*Campephagidae*	LC / I
18	Common Hill-Myna	*Gracula religiosa*	*Sturnidae*	LC / I
19	Cinnamon Bittern	*Ixobrychus cinnamomeus*	*Ardeidae*	LC/I
20	Cotton Pygmy Goose	*Nettapus coromandelianus*	*Anatidae*	LC/I
21	Western Marsh Harrier	*Circus aeruginosus*	*Accipitridae*	R/I
22	Besra	*Accipiter virgatus*	*Accipitridae*	R/I
23	Spot-bellied Eagle-Owl	*Bubo nipalensis*	*Strigidae*	LC / I
24	Brown Wood Owl	*Strix leptogrammica*	*Strigidae*	LC / I
		REPTILES		
25	Cobra	*Genius Naja*	*Elapidae*	LC /I
26	Russell's Viper	*Daboia russelii*	*Viperidae*	LC/I
27	Bengal monitor	*Varanus bengalensis*	*Varanidae*	VU/I
28	Checkered Keelback	*Fowlea piscator*	*Colubridae*	LC/I
29	Indian rat Snake	*Ptyas muscosa*	*Colubridae*	LC/I

**** Note: As per Amended Gazette Notification of Wildlife (Protection) Amendment Act 2022***

Dy. Conservator of Forests
Wildlife & Eco-Tourism (North)
Panaji-Goa

Annexure 2

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Sr.No	Plan of Operations	1st year	2nd year	3rd year	4th year	5th year
1	Enrichment of forest areas with suitable indigenous species for wild life habitatimprovement	12	12	12	12	12
2	Creation/ maintenance of habitat for herbivores/ avion fauna					
3	Managemental interventions for facilitating water availability to the wild life in forest areas/ Improvement of soil and water regime of forest areas					
4	Financial support to the department for conducting awareness campaigns for various stakeholders					
5	Financial support to the department for celebrating events like Wildlife week and sponsoring the prizes for the competitions					
6	Financial support for Use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the vicinity of the mine lease area as well as in study area					
		12	12	12	12	12
	Total	**60 lakhs**				

VEDANTA LIMITED
Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India
CIN: L13209MH1965PLC291394

Inward No 1436
Date 30/6/2020

Inward No 231
Date 02/07/20
SDI WDXXIII
PWD Bicholim-Goa

OFFICE OF THE DISTRICT COLLECTOR, NORTH GOA
Revenue Branch, Collectorate Bldg., Panaji – Goa – 403001.
Phone Nos: 2225383, 2225083, 2225383(EPBX)
Fax No:- 2427690/2225083/2225383 (Ext. No.210 & 212)
Email:- dycrev-north.goa@nic.in

No. 28/Cust. Evacuee/VPMV/RB/2008/Misc. Vol. II/ 1364 **Date: 19 /06/2020**

To,
The Executive Engineer,
Works Division XXIII,
Public Works Department,
Bicholim-Goa.

Sub:- Issue of NOC in respect of construction of road under bridge on the existing road (MDR-21) near Sesa Mining Screening Plant at Bicolim in Mayem Constituency of Bicholim taluka.

Ref:- Your letter No. F6/22/ASW/19-20/WDXXIII/PWD/97 dated 02/05/2019

Sir/ madam,

With reference to the above cited subject, I am directed to inform you that the Under Secretary (Revenue-I), Revenue Department, Secretariat, Porvorim-Goa, conveyed the approval of the Government vide letter No. 28/1/18/2019-RD-1/3379 dated 08/05/2020 in public interest to your proposal regarding NOC for construction of road under bridge on the existing road (MDR-21) near Sesa Mining Screening Plant at Bicholim in Mayem Constituency of Bicholim taluka through Govt. Land under Sy. Nos. 163/0, 164/0 and 166/0 of Mayem village, Bicholim taluka.

Yours faithfully,

19/6/2020

(Dasharath M. Redkar)
Additional Collector-I

AE I
Mayem
24/7/20

Encl: as above

GOVERNMENT OF GOA
Office of the Executive Engineer,
Works Division XXIII, PWD,
Bicholim - Goa.

Phone No.:- 0832-2361360 Email:- ee23-pwd.goa@nic.in

No.F2/425/ASW/18-19/WDXXIII/PWD/1873 Date:- 9/10/2019

Inward No. 1112
Date 11-10-19
SI... XIII
PWD, Panaji - Goa.

To,
The Manager,
Sesa Mining Co-operation Limited.
Sesa Ghor, Panaji Goa.

Sub: - Handing over of Hindrance free site

Ref: - Construction of road under bridge on the existing road (MDR-21) near Sesa Mining Screening Plant at Bicholim in Mayem constituency of Bicholim Taluka.

Sir,

This is to inform you that based on your request for the above referred work this office has already issued the work order to the Agency Jog Construction 8, Panaji at Housing Society, Khadpabandh, Ponda Goa dt. 07/09/2018 for the execution of the work.

Now the agency has written a letter to this office asking to hand over hindrance free work site for the execution of the work.

It may be noted that delay in execution of the work may result in financial implication hence it is requested to demarcate the work site and give your concurrence to go ahead with the project at the earliest.

Yours faithfully,

(Executive Engineer)
WDXXIII, PWD
Bicholim-Goa

Sir Mayure Je
for record
AEE

Noted

Government of Goa
Office of the Superintending Surveyor of Works
Public Works Department
Altinho, Panaji – Goa

Technical Sanction Order No. 1-1-05/CE-(NH,R&B)/PWD/Vol.I/ 25 Dated 04/10/2017

TECHNICAL SANCTION ORDER

Technical Sanction is hereby accorded for the work of:-

Name of work :- "Construction of road underbridge on the existing road (MDR 21) near SESA Mining screening plant at Bicholim in Mayem Constituency of Bicholim Taluka".

Amount :- Rs. 4,85,32,492.75 (Rupees four crore eighty five lakhs thirty two thousand Four hundred ninty two & seventy five paisa only) including 3% Contingencies.

4/10/17

(U.P. Parsekar)
CHIEF ENGINEER –(NH,R&B),
P.W.D.

Copy to:-

1. The Principal Chief Engineer, PWD, Altinho, Panaji - Goa.
2. The Chief Engineer-(NH,R&B), PWD, Altinho, Panaji - Goa.
3. The Suptdg. Surveyor of Works, PWD, Altinho, Panaji -Goa.
4. The Suptdg. Engineer, Circle Office- III, PWD, Altinho, Panaji
5. The Executive Engineer, W.D.XXIII, PWD, Bicholim-Goa.
6. T.S. Order file.
7. Guard file.

Date : 04 /10/2017
Place : Altinho-Panaji

vedanta

Work Div. XXIII P.W.D.
Bicholim - Goa
Inward no. : 1057
Date : 24/5/17

DATE : 22.05.2017.

To:

The Executive Engineer
Work Division XXIII (Roads),
Office of the Executive Engineer,
Public Works Department,
Government of Goa
Bicholim, Goa.

Inward No. 217
Date 31-5-17
SDO WDXXIII
PWD, Sankhali - Goa.

Sub: **Construction of dedicated mining roads "Realignment of MDR-21 from Bicholim to Polytechnic College Mayem near Dempo Mining Screening plant".**

Ref: **Your Letter Ref no: No.F-9/15-16/A SW/WDXXIII/PWD/2588 dated 24/02/2016 and our reply dated 21st April'16**

Dear Sir,

Further to the above communication on the subject matter, we would like to submit our revised proposal of a road underbridge on the existing road instead of the diversion that was proposed earlier. This revised proposal is submitted due to the following reasons:

1. The delay in execution of the project where there is a safety concern is defeating the essence of the project.

2. The NOC for Government land required at survey no 162 and 166 of Mayem, Bicholim (Govt Polytechnic and GTDC) required for project execution still not in place and has delayed the execution.

3. The original proposal of handing over the old road stretch (shown as KLM in PWD files) temporarily for mining to win the ore underneath has been refused by your department. Also the subsequent precondition that the old road should be de-notified for all public usage and regraded /re-aligned for use of mining traffic only is yet not given acceptance.
4. There is objection to the alignment of Diversion proposal on religious sentiments as we are approached by locals expressing their feeling for not disturbing the land there as the same they expressed is the way for Devi's procession during the festival.

We apprehend that addressing the above issues will delay the road diversion project execution, defeating the purpose the same, hence we hereby proposed the quicker and cheaper solution of a RUB (Road Under Bridge) for mining traffic along the existing road. The revised proposal can be executed immediately and will address the road safety issues without any compromise with respect to mining traffic.

Attaching here with the proposal for RUB (Road Under Bridge) for mining traffic at point L on the attached layout plan instead of the diversion ADCDE shown in the plan. The detailed layout of the RUB along with proposed levels , Cross sections, design drawing of the bridge is attached for your considerations and for your advice on changes if any. We have engaged the Civil Consultant Dr.Raghuvir Salkar for the design of the same. We will arrange your meeting with the consultant for technical clarification or changes if any, before the final cost estimates are worked out.

...../2.

Sesa Mining Corporation Limited Bicholim Iron Ore Mine, Dhabdhaba, Bicholim (Goa) 403 504 India
T +91 832 n4 14862

Registered Office: Sesa Ghor, 20 EDC Complex, Patto, Panaji (Goa) - 403 001 India
CIN: L13209GA1965PLC000091

AE/L ..24/5 Mayur Kasar 31.5 Rkms

vedanta

We reiterate that we will bear 100% of the project execution cost and request PWD to undertake the same on Deposit Work basis. We have deposited Rs.25,00,000,00.00 (Rupees : Twenty five crore only) with PWD through Executive Engineer Division XVIII, Ponda vide our letter dated 15/11/2012 as per the joint minutes of meeting of 2/11/12 & 5/11/2012 for road improvement projects . As per our records an amount around Rs.2.29 Crores from this funds is used for deposit in the high court towards enhanced land compensation claimed by the land owners in the high court and the balance of Rs.22.71 Crores still remains to be utilised. The entire project cost for executing the RUB proposed above may be utilised from this funds lying with PWD.

Request you to kindly give your principal approval for the revised proposal of the Road Under Bridge.

Thanking you,

Yours faithfully,
For Sesa Mining Corporation Limited

(Santosh C. Mandrekar)
Head IOG - North Goa.

Encl: as above.

Cc: 1) Principal Chief Engineer – PWD , Althino Goa
2) Minister for Public Works Department – Goa Secretariat, Porvorim Goa.

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To,

Date :- 24/01/2024

Office of Chiet Officer,

Bicholim Municipal Council

Bicholim – Goa.

Sub: Information regarding Environment Clearance for Bicholim mineral Block- Block 1

Respected Sir,

We are sharing here with the Environment clearance granted by MoEF & CC to Bicholim mineral Block- Block 1. You are requested to display the same for 30 days as per the MoEF & CC condition.

Kindly acknowledge receipt of the same.

Thanking you

Yours faithfully

Dhirajkumar Jagdish

Dy. CEO – Iron Ore Goa & Authorized Signatory

Received 25/1/24
BICHOLIM MUNICIPAL COUNCIL
BICHOLIM-GOA

VEDANTA LIMITED (Formerly known as Sesa Sterlite Ltd/Sesa Goa Ltd.)
sesa goa iron ore, Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 0832 2460600 | Website: www.vedantalimited.com

Registered Office: Sesa Ghor, 20 EDC Complex, Patto, Panaji (Goa) - 403 001
CIN: L13209GA1965PLC000044

Sensitivity: Internal (C3)

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sesa goa iron ore

To,

Date :- 24/01/2024

Office of Secretary,

Village Panchayat, Mayem.

Sub: Information regarding Environment Clearance for Bicholim mineral Block- Block 1

Respected Sir,

We are sharing here with the Environment clearance granted by MoEF & CC to Bicholim mineral Block- Block 1. You are requested to display the same for 30 days as per the MoEF & CC condition.

Kindly acknowledge receipt of the same.

Thanking you

Yours faithfully

Dhirajkumar Jagdish

Dy. CEO – Iron Ore Goa & Authorized Signatory

25/01/2024
V. P. Mayem - Vainguinim

vedanta
transforming for good

sesa goa iron ore

To,

Date :- 24/01/2024

Office of Secretary,

Village Panchayat, Sirigao.

Sub: Information regarding Environment Clearance for Bicholim mineral Block- Block 1

Respected Sir,

We are sharing here with the Environment clearance granted by MoEF & CC to Bicholim mineral Block- Block 1. You are requested to display the same for 30 days as per the MoEF & CC condition.

Kindly acknowledge receipt of the same.

Thanking you

Yours faithfully

Dhirajkumar Jagdish

Dy. CEO – Iron Ore Goa & Authorized Signatory

VILLAGE PANCHAYAT SIRIGAO
BICHOLIM - GOA
RECEIVED
DATE 25/1/2024 SIGN

VEDANTA LIMITED (Formerly known as Sesa Sterlite Ltd Sesa Goa Ltd)
sesa goa iron ore, Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 0832 2460600 Website: www.vedantalimited.com

Registered Office: Sesa Ghor, 20 EDC Complex, Patto, Panaji (Goa) - 403 001
CIN: L13209GA1965PLC000044

Sensitivity: Internal (C3)

vedanta
transforming for good

sesa goa iron ore

To,

Date :- 24/01/2024

Office of Secretary,

Village Panchayat, Mulgao.

Sub: Information regarding Environment Clearance for Bicholim mineral Block- Block 1

Respected Sir,

We are sharing here with the Environment clearance granted by MoEF & CC to Bicholim mineral Block- Block 1. You are requested to display the same for 30 days as per the MoEF & CC condition.

Kindly acknowledge receipt of the same.

Thanking you

Yours faithfully

Dhirajkumar Jagdish

Dy. CEO – Iron Ore Goa & Authorized Signatory

Village Panchayat Mulgao
Inward No.: 85/24
Date: 25/01/24

VEDANTA LIMITED (Formerly known as Sesa Sterlite Ltd Sesa Goa Ltd.)
sesa goa iron ore. Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 0832 2460600 | Website: www.vedantalimited.com

Registered Office: Sesa Ghor, 20 EDC Complex, Patto, Panaji (Goa) - 403 001
CIN: L13209GA1965PLC000044

Sensitivity: Internal (C3)

sesa goa iron ore

To,

Date :- 24/01/2024

Office of Secretary,

Village Panchayat, Pilgao.

Sub: Information regarding Environment Clearance for Bicholim mineral Block- Block 1

Respected Sir,

We are sharing here with the Environment clearance granted by MoEF & CC to Bicholim mineral Block- Block 1. You are requested to display the same for 30 days as per the MoEF & CC condition.

Kindly acknowledge receipt of the same.

Thanking you

Yours faithfully

Dhirajkumar Jagdish

Dy. CEO – Iron Ore Goa & Authorized Signatory

25/01/2024

VEDANTA LIMITED (Formerly known as Sesa Sterlite Ltd Sesa Goa Ltd)
sesa goa iron ore, Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T +91 083 2466600 Website: www.vedantalimited.com

Registered Office: Sesa Ghor, 20 EDC Complex, Patto, Panaji (Goa) - 403 001
CIN: L13209GA1965PLC000044

Sensitivity: Internal (C3)

ANNEXURE - 14

Water Balance

Purpose	QTY (KLD)	Source
Dust Suppression	600	Rain water harvested in mine pit
Green Belt	20	
Vehicle Washing	8	
Domestic	36	Bore Well
Total	664	

Projects for reduction of Water consumption

1. **Use of dry wheel wash (Rumbler system)**
2. **Use of fixed sprinklers in transportation route, in progress**
3. **Use of PTO in water tankers to reduce consumption of water, in progress.**
4. **Use of Use of suitable water-soluble chemical dust suppressing agent, study conducted.**

ANNEXURE 15

ROM and Overburden Details

Year	ROM (Million MT)	Over Burden (Million MT)
FY23-24	0.557920	0.061000
FY24-25	2.334330	11.932378
FY25-26 (Upto Sept-25)	1.105137	3.268308

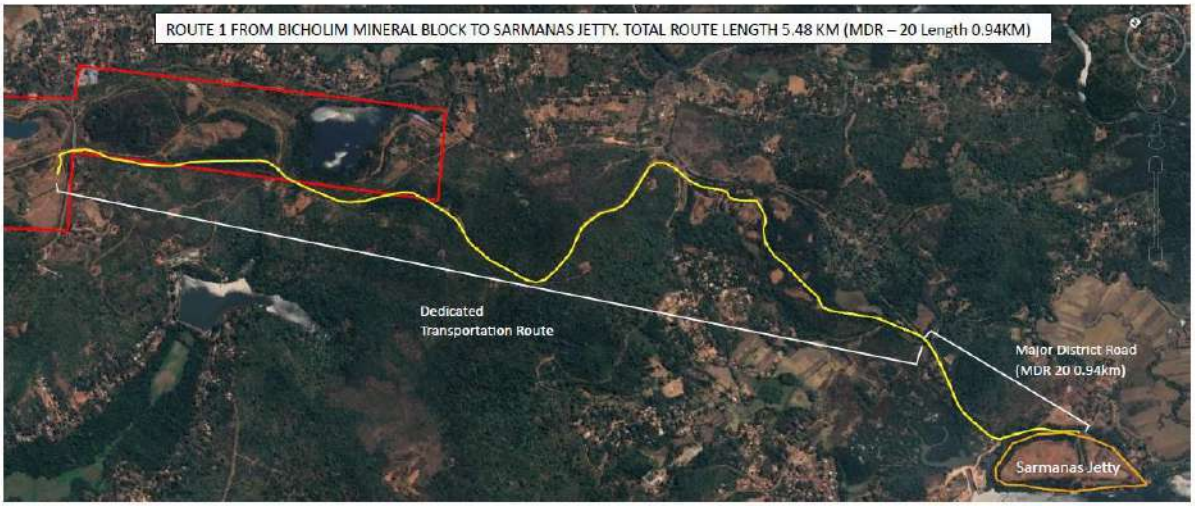
SNo.	Mine Pit Location	
1	1 Top	Current Back filling Pit
2	2 Top	Proposed Working Pit
3	3 Top	Proposed working Pit
4	¾ Bottom	Current working Pit
5	5 Top	Current Back filling Pit
6	5 Top CB	Non-Working pit
7	5 Bottom	Current Back filling Pit

Mobile Crushing And Screen Plant

Year	ROM (Million MT)
FY23-24	0.012420
FY24-25	0.954215
FY25-26 (Upto sept-25)	0.327600

Annexure - 16

Transportation route mentioned in EC



Route with extended usage of public road MDR-20



Sensitivity: Internal (C3)

OFFICE OF THE DEPUTY COLLECTOR & SUB DIVISIONAL OFFICER & SUB DIVISIONAL MAGISTRATE SUB-DIVISIONBICHOLIM, GOA.

Phone No: 0832-2362058 **Email:sdmbicholim.goa@nic.in**

No. DCB/BICH/Mining/2024/3193 Dated: - 27/11/2024

To,
The Director of Mines and Geology &
Chairman of Inter Departmental Committee,
Directorate of Mines and Geology.
Panaji –Goa.

Sub: Report on Site Visit to the transportation route proposed for deviation of mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty,
Ref. 1. Order No.: 03/24/2023/Major/Mines/1934 dt. 07/10/2024.
2. No: DCB/BICH/Police Protection/2024/3167 dt. 22/11/2024.

Sir,

With reference to the above cited subject, as directed by the Director of Mines and Geology / Chairman of Inter Departmental Committee a meeting was held in the chamber of the Deputy Collector & SDM Bicholim on 25/11/2024 at 03:30 pm. The following members of the constituted Committee (Inter Departmental Committee) were present.

1. Rohan Kaskar, Dy. Collector & SDO, Bicholim
2. Sanford Mascarenhas , Geologist Directorate of Mines and Geology
3. Rohan R. Nagvekar, AEE, GSPCB
4. Gajanan Desai , EE PWD(R), Bicholim
5. Kamlakant B. Karapurkar, ADT, Bicholim
6. Punaji Gaonkar, Traffic Cell, Bicholim
7. Dinesh Gadekar, PI, PS, Bicholim

The letter dated 22/11/2024 made by the Vedanta Ltd., addressed to the Director of Mines and Geology, Panaji and copy endorsed to this office requesting approval for the proposed deviation transportation route for mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty as their approved transportation route has been obstructed by villagers was placed before committee members. The members decided to conduct site inspection of the proposed deviation transportation route for mineral transportation of Vedanta Ltd. from Bicholim Mineral Block I to Sarmans Jetty on 26/11/2024 at 10.30 a.m.

Accordingly, a joint inspection was carried out on 26/11/2024 at 10.30 a.m. by members of the committee formed by Director of Mines and Geology which was attended by Mr. Rohan Kaskar (Deputy collector Bicholim), Mr. Sanford Mascarehnas, Geologist DMG, Mr. Rohan R. Nagvekar, AEE GSPCB, Mr. Kundan Shet, JEE GSPCB, Mr. Waman R. Chari, SA, Mr. Gajanan R Desai, EE PWD Bicholim , Mr.Dinesh Gadekar, PI, PS Bicholim, Mr. Kamlakant B. Karapaurkar ADT Bicholim, Mr. Vishnu Gawas, ASI Traffic, Mr. Sunil Vaignakar Local Panch Member Piligao., Mr. Dhirajkumar Jagdish Vedanta Ltd., Mr. Benico Menezes, Vedanta Ltd., Mr. Milind Barve, Vedanta Ltd.

Following were the observations and recommendations of the committee.

1. Traditional route of mineral transportation was blocked by some of the land owners/farmers having land dispute with the company. Deputy collector and Dy. Director DMG attempted to mediate and resolve the issue in a joint meeting dated 21st November 2024, however no consensus was reached.

1287

2. In the meeting one of the demand of the farmers was that company should take the transport from public road and allow farmers to cultivate the traditional fields. Accordingly company has submitted new alignment of the road bypassing these fields through small deviation in the last used road between NBP Junction and mathwada Junction section of the route
3. Committee visited the site and observed that although the new alignment increases public road usage by around 0.8 KMs. There is no habitation in this additional distance neither there is any increase in traffic load.
4. Committee concluded that as an interim measure the deviation may be considered with following conditions
    a. Separate entry and exit should be maintained at the NBP area to avoid traffic congestion and minimize use of public road.
    b. Additional ambient air quality monitoring and dust monitoring stations may be installed on the deviated route if required in consultation with GSPCB.
    c. Traffic marshal be stationed at B and C gate and traffic blinkers to be installed at the at the gates for traffic safety
    d. Company to clear vegetation grown along the road from B gate to Mathwada Junction to improve visibility.
    e. The unit M/s. Vedanta Ltd is required to provide wheel wash & rumbler facility for the ore transport vehicles at the exit point of mine prior to entering Major District road (MDR 20) and should obtain prior permission from all the concerned authorities to carry out ore transportation.
    f. Vedanta Ltd. to comply with the various authorities as stipulated in their orders/ guideline/ directions.

Transportation Route Map is enclosed herewith

1288

Yours faithfully,

Vishnu Gawas
ASI on behalf of PI Traffic Bicholim

Dinesh Gadekar
PI, PS Bicholim

Gajanan Desai
Assistant Engineer, PWD
Bicholim-Goa

K. B. Karapurkar
Assistant Director of Transport
Bicholim-Goa

Sanford Mascarehnas,
Geologist, Director of Mines & Geology ,
Panaji-Goa

Rohan Nagvekar
AEE, GSPCB

Rohan J. Kaskar
Deputy Collector & SDO,
Bicholim Sub Division
Bicholim – Goa

CERTIFIED COPY
Date on which Copy applied For 13/12/24
Date On Which Application Complited 10/1/25
Date Given for Taking Delivery 10/1/25
Date On Which Copy was Ready 10/1/25
Date On Which Copy Delivered
Copying & Comparing is Rs. 67/-
Credited to Govt. Treasury Bank At
By Challan No. 2025-0025396.
10/01/2025
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Deputy Collector &
Sub Divisional Officer
Bicholim Sub Divisi
Bicholim