



भारत सरकार  
Government of India  
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forest & Climate Change  
क्षेत्रीय कार्यालय (दक्षिणी जोन), बैंगलोर - 560 034  
Regional Office (Southern Zone), Bangalore – 560 034



Kendriya Sadan, 4<sup>th</sup> Floor,  
E & F Wing, 17<sup>th</sup> Main Road, 2nd Block,  
Koramangala, Bangalore -560 034

F.No. EP/12.1/2010-11/26 /Kerala

Dated: 11.01.2019.

To

**The Chief General Manager & Head,  
M/s Indian Rare Earths Ltd, Chavara, Kollam,  
Kerala- 691583**

**Sub : Beach Sand mining at Chavara, Alappad, Panmana and Ayanivelikulangara  
villages of Kollam District, Kerala by M/s Indian Rare Earths Ltd- Request for  
certified compliance report – reg.**

Ref : 1. Environment and CRZ clearance granted by the Ministry vide F.No. 11-36/2008-IA-III  
dated 01.03.2011.

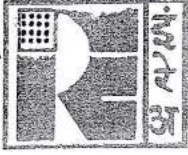
2. Your letter No. nil dt: 09/01/2019.

Sir,

This is in response to your letter dated 09/01/2019 requesting to provide a certified compliance report for the above mentioned project. In this regard, I am directed to state that this office is regularly receiving the six monthly compliance reports for this project after the issue of the environmental clearance by the Ministry on 01.03.2011 and a certified compliance report for this project will be issued soon after making a site visit to the project.

Yours faithfully,

**(E.Thirunavukkarasu)  
Scientist 'D'**



# इंडियन रेअर अर्थ्स लिमिटेड

(भारत सरकार का उपक्रम, परमाणु ऊर्जा विभाग)  
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## INDIAN RARE EARTHS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING, DEPARTMENT OF ATOMIC ENERGY)  
CHAVARA- 691583, KOLLAM DISTRICT, KERALA STATE, INDIA

(AN ISO 9001:2008, ISO 14001 : 2009 AND OHSAS 18001 : 2007 CERTIFIED UNIT)

CH/MNG/VT -21  
03.12.18

The Additional Principal Chief Conservator of Forests (C),  
Ministry of Environment, Forests & Climate Change,  
IV<sup>th</sup> Floor, E&F Wings  
Kendriya Sadan,  
Koramangala  
Bangalore – 560 034, Karnataka

महोदय/Sir,

विषय/Sub: Submission of Half yearly Compliance Report to MoEF - Environmental  
and CRZ clearance for Beach sand mining at Chavara, Alappad, Panmana  
and Ayanivelikulangara villages of Kollam District, Kerala – reg.  
संदर्भ/Ref: 1) EC No 11-36/2008-IA,III dt 01.03.2011  
2) No EP/12.1/194/KER dated 01.07.2016

### 2018 के 11<sup>nd</sup> अर्ध वार्षिक का मोनिटरिंग रिपोर्ट/ Half yearly Monitoring Report for the 11<sup>nd</sup> Half of 2018

As per the letter (1) referred above, from MoEF, New Delhi conveying the Environmental and CRZ clearance for beach sand mining in 180 Ha area in the above villages we are submitting herewith the Half yearly report for the 11<sup>nd</sup> Half of 2018.

सादर /Regards,

आपका/Yours truly,

Received  
*[Signature]*  
Government of India  
Ministry of Environment, Forest & Climate Change  
4th Floor, Kendriya Sadan,  
Koramangala, Bengaluru - 560 034

इंडियन रेअर अर्थ्स लिमिटेड, चवरा से ऋत /  
For Indian Rare Earths Limited, Chavara

*[Signature]*  
3/12/2018

एस सूर्य कुमार/S Surya Kumar

मुख्य महा प्रबंधक & प्रधान /Chief General Manager & HEAD

## 2018 के II<sup>nd</sup> अर्ध वार्षिक का मोनिटरिंग रिपोर्ट/

### Half yearly Monitoring Report for the II<sup>nd</sup> Half of 2018

**Introduction:** Indian Rare Earths Limited (IREL), a Government of India undertaking under the Department of Atomic Energy has been engaged in the mining and beneficiation of the heavy minerals from the Chavara deposit in Kollam district of Kerala state. IREL has been granted mining lease to collect heavy mineral sand from the area vide G.O (Rt) No. 746/07/ID dated 08/06/07 by the Government of Kerala and before commencing the mining operations IREL obtained Environmental and CRZ clearance vide EC No 11-36/2008-IA,III dt 01.03.2011, from MoEF, New Delhi for beach sand mining in 180 Ha area in the villages of Alappad, Panmana and Ayanivelikulangara. The Environmental Management Cell was reconstituted under the chairmanship of Shri S.Surya Kumar, Chief General Manager & Unit Head for monitoring the environmental activities of the project.

**Environmental Policy of IREL:** IREL is an ISO company following integrated ISO systems on Quality, Environment, Occupational Health & Safety . Our policy as follows:

“We, at IREL, Chavara are committed to sustain our growth in the supply of beach sand minerals & mineral products through:

- ❖ Product Quality
- ❖ Customer satisfaction
- ❖ Prevention of pollution
- ❖ Conservation of natural resources
- ❖ Compliance with legal requirements
- ❖ Prevention of incidents & ill health
- ❖ Safe working Environment & Continual improvement”

**Location:** The project area lies between Latitude 09<sup>00</sup>' 55.97" N & Longitude 76<sup>31</sup>' 17.19" E and Latitude 09<sup>02</sup>' 03.80" N & Longitude 76<sup>30</sup>' 29.90" (Toposheet No 58 C/8). A village road passes through the plot. This road connects the plot to NH 47 at Karunagapally at a distance of about 6 km, through Panikkarkadavu bridge, on the north. The broad gauge railway line is about 1 km to the east of NH 47. The nearest railway station is Karunagappally at a distance of about 8 km. M/s Kerala Minerals and Metals Ltd (KMML), a state government undertaking engaged in beach sand mining, beneficiation and pigment production & IREL are the only two major industries in this area.



**STATUS OF COMPLAINE OF EC CONDITIONS**

| Clause   | EC conditions  | Compliances  |
|----------|--|--|
| 6 (i)    | Consent order shall be obtained from state pollution control Board under air and water act and a copy shall be submitted to the Ministry before start of any work at the site.                                     | Consent obtained from Kerala State Pollution Control Board       |
| 6 (ii)   | No construction work shall be carried out in Coastal Regulation Zone area  | No construction work is carried out in Coastal Regulation Zone   |
| 6 (iii)  | 50 mts all along the canal shall be maintained as buffer and shall not disturb at all  | Noted  |
| 6 (iv)   | No religious places shall be disturbed without the consent of the locals   | Noted  |
| 6 (v)    | TCLP analysis of both mined and tail material can be done to check the presence of Hazardous materials and report shall be submitted along with the six monthly monitoring report.                                 | No hazardous material used or produced by our mining operations. |
| 6 (vi)   | A greenbelt shall be developed after mining and refilling block by block. Mangroves as recommended shall be developed in the area contiguous to Vattakayal.  | Will be done after the completion of mining                      |
| 6 (vii)  | Project proponent shall ensure that no disturbances is caused to the mangroves   | Noted  |
| 6 (viii) | All the commitments made during the public hearing including the budget for corporate social responsibility shall be earmarked for carrying out the activities.  | Noted  |
| 6 (ix)   | There shall be no waste disposal in the coastal area   | Noted  |
| 6 (x)    | The project proponent shall set up separate environment management cell for effective implementation of the environmental safeguards under the supervision of a Senior executive.                                  | EMC under the Chairmanship of the Unit Head is constituted       |
| 6 (xi)   | The project proponent shall take up mangrove plantation / green belt in the project area, wherever possible . Adequate budget shall be provided in the Environmental Management plan for such mangrove development | Noted  |
| 6 (xii)  | The funds earmarked for the Environmental Management plan shall be included in the budget and shall not be diverted for any other purposes.  | Noted  |

## General Conditions

| Clause | conditions   |  |
|--------|--|--|
| (i)    | Full support shall be extended to the officers of this Ministry / Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities,. | IREL , Chavara will extend full support to the officers of this Ministry / Regional Office at Bangalore. |
| (ii)   | A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bengaluru regarding the implementation of the stipulated conditions.   | Mining operations yet to commence  |
| (iii)  | Ministry of Environment, Forest and Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.  | Noted  |
| (iv)   | The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry  | Noted  |
| (v)    | In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forest and Climate Change  | Noted  |
| (vi)   | The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.  | Obtaining surface rights for carrying out mining operations is in progress                               |
| (vii)  | A copy of the clearance letter shall be marked to concerned Panchayat / local/ NGO, if any, from whom any suggestion / representation has been made received while processing the proposal   | Complied   |
| (viii) | State Pollution control Board shall display the clearance letter at the Regional Office, District Industries centre and Collector's Office/Tehsildar's office for 30 days  | Complied   |

Other conditions

| Clause | Conditions   | Compliance status |
|--------|--|-------------------|
| 8      | These stipulations would be enforced among others under the provision of Water ( Prevention and Control of Pollution ) Act , 1974 , Air ( Prevention and Control of Pollution ) Act , 1981, Environmental (protection ) act, 1986, the Public liability (insurance) act , 1991 and EIA Notification 1991, including the amendment and rules made thereafter  | Noted             |
| 9      | All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc, shall be obtained, as applicable by project proponents from the respective competent authorities.   | Noted             |
| 10     | The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . The advertisement should be made within seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bangalore. | Complied          |
| 11     | Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No 460 of 2004 as may be applicable to this project  | Noted             |
| 12     | A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom  | Complied          |

|    |  |   |
|----|--|---|
|    | suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.   |   |
| 13 | The proponent shall upload the status of compliance of the stipulated clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB   | Results of monitoring datas are complied with and sent to RO of MoEF&CC , Bangalore periodically. |
| 14 | The project proponent shall also submit six monthly reports on the status of compliance of the stipulated clearance conditions including results of monitored data (both in had copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB.   | complied  |
| 15 | The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of clearance conditions and shall also be sent to the respective Regional Office of MoEF&CC by e-mail. | complied  |

**Current Status of the Project:** As per the Mining Plan the production capacity is 2,37,150 t per year. Surface mining is going on with a daily production of around 800 t of raw sand. During the period from April 2018 to September 2018, we have produced 1,14,077 t of raw sand

**Green Belt:** Green belt will be created with suitable plantations once the mining activities are completed.

**Solid Waste Management:** No solid waste is generated in the area. The mined out raw sand is concentrated using spiral plant and the tails generated will be used for refilling the excavated area.

**Study on Ground Water & Ambient Air Monitoring :** We have conducted Ambient air monitoring and ground water analysis of the samples from the open wells in the mining area and nearby areas during the period from April 2018 to September 2018. The analysis of the samples were done through M/s Standard<sup>s</sup> Environmental & Analytical Laboratories, Udyogamandal, Ernakulam, an NABL accredited laboratory. The results are consolidated below:

**Ambient Air Monitoring:**

| Parameters   | KSPCB Limit | Near mining office at Vellanathuruthu | East of Panickar Kadavu bridge |
|--|-------------|---------------------------------------|--------------------------------|
| Suspended particulate Matter (ug/m <sup>3</sup> )  | 200         | 76.4                                  | 42.3                           |
| Respirable particulate Matter (ug/m <sup>3</sup> ) | 100         | 45.1                                  | 19.8                           |
| Sulphur Dioxide (ug/m <sup>3</sup> )               | 80.0        | 2.90                                  | <2.0                           |
| Nitrogen Dioxide (ug/m <sup>3</sup> )              | 80.0        | 4.80                                  | <2.0                           |
| Carbon Monoxide (ug/m <sup>3</sup> )               | 4.0         | 1.40                                  | <1.0                           |



**Ground water Analysis:**

| Parameters                                       | Location            |  |                                  |                            |
|--|---------------------|--|----------------------------------|----------------------------|
|  | Acceptable limit    | Open well near<br>PHC,<br>Vellanathuruth | Dredge Pond at<br>Vellanathuruth | Bore well at<br>office tap |
| Colour (Hazen)                                   | 5.00                | 1.00                                     | 1.00                             | 1.00                       |
| Odour  | Un<br>objectionable | Un<br>objectionable                      | Un<br>objectionable              | Un<br>objectionable        |
| Turbidity (NTU)                                  | 1.0                 | 0.50                                     | 0.90                             | 0.60                       |
| pH   | 6.5 – 8.5           | 7.05                                     | 7.28                             | 7.15                       |
| Total Dissolved<br>Solids (mg/L)                 | 500 (max)           | 410                                      | 386                              | 48.0                       |
| Total Hardness (as<br>CaCO <sub>3</sub> ) (mg/L) | 200 (max)           | 131                                      | 109                              | 18.4                       |
| Calcium (as Ca)<br>(mg/L)                        | 75.0 (max)          | 39.7                                     | 31.7                             | 6.53                       |
| Magnesium (as Mg)<br>(mg/L)                      | 30.0 (max)          | 7.78                                     | 7.24                             | <1.00                      |
| Chloride (as Cl)<br>(mg/L)                       | 250 (max)           | 109                                      | 122                              | 14.8                       |
| Iron (as Fe) (mg/L)                              | 1.00 (max)          | 0.41                                     | 0.32                             | 0.60                       |
| Total Coli form<br>Bacteria<br>(MPN/100ml)       | Absent/100 ml       | Absent/100 ml                            | Absent/100 ml                    | Absent/100 ml              |
| E coli   | Absent/100 ml       | Absent/100 ml                            | Absent/100 ml                    | Absent/100 ml              |