

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**ORIGINAL APPLICATION NO. 74 of 2023(SZ)**

Shri. Padmakumar, Kerala

Applicant

:

Vs

The State of Kerala, Through its Chief Secretary,  
Thiruvananthapuram and others

: Respondent(s)

**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER,  
KERALA STATE POLLUTION CONTROL BOARD, FOR AND ON  
BEHALF OF THE RESPONDENT**



Adv. Rema Smrithi.V.K

ADDITIONAL STANDING COUNSEL FOR THE THIRD RESPONDENT

---

---

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**ORIGINAL APPLICATION NO. 74 of 2023(SZ)**

Shri. Padmakumar, Kerala

Applicant

:

Vs

The State of Kerala, Through its Chief Secretary,  
Thiruvananthapuram and others

: Respondent(s)

**VOLUME 1**

Index

SL NO	Description	Pages
1	Report filed by the Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram on behalf of Kerala State Pollution Control Board, in Original Application No. 74/2023.	1-6

Dated this the 08<sup>th</sup> day of October 2025

Rema Smrithi. V.K, Advocate

ADDITIONAL STANDING COUNSEL FOR THE THIRD RESPONDENT

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**ORIGINAL APPLICATION NO. 74 of 2023(SZ)**

Shri. Padmakumar, Kerala

Applicant

Vs

The State of Kerala represented through its Chief Secretary, Thiruvananthapuram and others : Respondent(s)

**Report filed by Chief Environmental Engineer, Kerala State Pollution Control Board, Regional Office, Thiruvananthapuram on behalf of The Kerala State Pollution Control Board, in Original Application No. 74/2023**

I, Sumithra S, aged 44 years, working as Chief Environmental Engineer, Regional Office, Thiruvananthapuram, am authorized to represent the 3<sup>rd</sup> Respondent in Original Application No. 74/2023(SZ). I am fully acquainted with the facts and circumstances of the case. The factual submissions made hereunder are true and correct to the best of my knowledge, information, and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying information on file, and it is so humbly prayed in the interests of justice in this case.

This report is in continuation to the report dated 13/06/2025 submitted by Kerala State Pollution Control Board. The Hon'ble NGT Principal Bench, New Delhi, registered a Suo Motu case (Earlier O.A. No. 502/2022) following a letter petition from Sri. Padmakumar, alleging pollution caused by M/s Kerala Minerals and Metals Limited (KMML) in Chavara, Kollam district.



A handwritten signature in blue ink, appearing to be "SS", located below the stamp.

**SUMITHRA S.**  
Chief Environmental Engineer

The Hon'ble NGT in its order dated 31/07/2025 of Hon'ble NGT recorded the following;

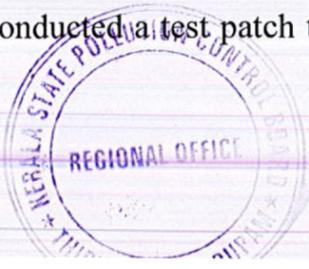
*"3. However, the learned counsel appearing for the applicant would state that they are still discharging the water outside and undertakes to file relevant photographs in support thereof.*

*4. The learned counsel for the applicant is directed to share the photographs with the Kerala SPCB. Upon receipt of the said photographs, the Kerala SPCB is directed to address the same and file a report before the date of next hearing."*

It is respectfully submitted that the Board's district office has reported that no such discharge was observed during an inspection following the receipt of photographs alleging discharge from the company premises. Furthermore, a joint inspection was carried out by officials from Board's Regional and District Offices on 06/10/2025 to assess the compliance status of the short-term and long-term measures proposed by the industry, as well as the recommendations of the Joint Committee. During this inspection as well, the officials from the Board did not observe any discharge outside the premises. The status of compliance with the short-term and long-term measures and the recommendations of the Joint Committee, as observed during the inspection and as reported by M/s KMML in the compliance report which is produced herewith as Annexure R3(A) is detailed below:

**1. Garland Drains around Sludge Ponds:** As reported by the company, construction of garland drains around the new ETP pond, new iron oxide pond, and old iron oxide pond has been fully completed. However, the installation of the pump in the collection pit of the garland drain for the new iron oxide pond is still pending. Some locations of the garland drain were not reachable due to thick vegetation. A path is to be provided around the drain for inspection.

**2. Remediation of Affected land around KMML premises:** The company officials reported that land remediation studies are in progress. M/s. FEDO, Kochi conducted a test patch trial; however, the proposed methodology did not improve the



  
**SUMITHRA S.**  
Chief Environmental Engineer

pH of the groundwater. Consequently, discussions are ongoing with officials from IIT Roorkee, as reported by the industry.

**3. Geotube implementation for storage of Iron Oxide:** The company officials reported that the geotube method is pending sanction from CPCB and since the value addition proposal for iron oxide is expected to be completed within 18 months, the geotube proposal is currently on hold and considered as a secondary option from the company's side.

**4. Iron Oxide residue sales:** The company reported that M/s. Miracle Sand & Chemicals Pvt. Ltd. has submitted a detailed project proposal for the manufacturing of iron oxide concrete bricks. CPCB has permitted a trial using 42 MT of iron oxide. The consent issued to M/s. Miracle Sand & Chemicals Pvt. Ltd. for iron oxide transfer from TNPCB has expired, and the renewal application has been submitted and is under processing with TNPCB as reported by the company.

**5. ETP Sludge sales:** M/s. Miracle Sand & Chemicals Pvt. Ltd. has completed the shifting of approximately 34,707.35 MT of ETP sludge as of 24.09.2025 as reported by the company.

**6. Value addition of Iron Oxide/ETP sludge:** The company reported that a sludge off-take agreement was signed with M/s. Tetrabic India Pvt. Ltd. on 07/08/2025 for the value addition of iron oxide and ETP sludge. It was reported that the land lease agreement is currently under vetting by the Government of Kerala (GoK). The target date for commencement of the work is reported to be 18 months from the date of signing of the final agreement.

**7. Iron Oxide brick making plant in KMML:** The company officials informed that, as part of the NH-66 widening work, approximately 8 lakh bricks are required for the construction of the KMML boundary wall. It was reported that 6.8 lakh iron oxide bricks have been produced by KMML through a local contractor to date.



**SUMITHRA S.**  
Chief Environmental Engineer

**8. In-house value addition of Iron Oxide:** The in-house value addition of Iron Oxide sludge is yet in the trial stage and three trials were completed as reported by the company.

**9. Process modification of Acid Regeneration Plant:** As reported by the company, the civil works for the process modification of the Acid Regeneration Plant (ARP) are currently underway and the project is expected to be completed by May 2026.

**The status of recommendations of the joint committee as reported by the company is as follows;**

**Timely Implementation of Long-Term and Short-Term Measures:** The status of long-term and short-term measures proposed by the industry are outlined above.

**Revamping/Modernization of Effluent Treatment Plant:** The company reported that a work order has been issued for the construction of a new 6 MLD ETP at KMML, with a tentative completion target set for December 2027. The application for Integrated Consent to Establish is yet to be submitted to the Board.

**Amendment of Integrated Consent to Operate (CTO):** It was directed to amend the Integrated Consent to Operate (CTO) issued to the industry, by Board, for changing the effluent standards. The renewal application for the plant is submitted to the Board and is under processing.

**Permanent Capping of Old ETP/Iron Oxide Ponds:** The permanent capping work of the old ETP/IOP is underway and it was reported that about 50% is completed.

**Prevention of Untreated Effluent Discharge outside unit Premises:** Stormwater drains are being cleaned regularly to prevent the discharge of untreated effluent outside the premises or into natural drains. Last round cleanup was done on 08/01/2025 as reported by the company. Lime is being added for neutralization



**SUMITHRA S.**  
Chief Environmental Engineer

downstream of the stormwater drain before it exits the industry premises. Construction of delay pond at the downstream of the stormwater drain that runs through the industry premises is seen completed. The company officials reported that the automatic dosing system will be installed soon. This is aimed at providing an additional treatment to the stormwater in case of contamination with leachate within the premises.

□ Process Change for Reuse/Recycling of Effluent: The company reports that the recycling of wash water within the plant is being practiced, and the Iron Oxide Slurry is neutralized before being pumped into the new Iron Oxide Pond. It is further reported that the clear slurry is recycled into the slurry preparation tank.

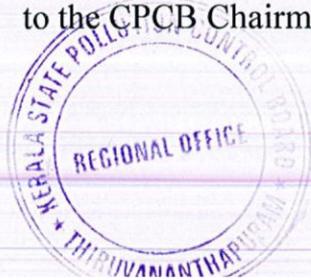
□ Lime Treatment in the Dump Yards: Lime is being applied at the existing dump yards of the old ETP/Iron Oxide Ponds by stacking lime bags and direct dumping.

□ Additional storage facility for Iron Oxide Sludge: It is reported that Generated Iron Oxide from Acid Regeneration Plant is disposed through KEIL. As of 07.10.2025, a total of 21714.69 MT of iron oxide has been shifted from KMML to KEIL. Iron Oxide sludge is also used for brick-making for in-house use.

□ R&D for Utilization of Iron Oxide Sludge: The industry has developed an in-house technique for adding value to Iron Oxide sludge by producing Iron Sinters, and trials are currently underway, as reported by the company.

□ Remediation of Affected Land: Based on the study report by CSIR-NEERI, Nagpur, the industry has conducted land remediation works on a trial basis inside the premises, as outlined above along with the compliance status of long term, short term measures.

□ Compliance with CPCB Directions issued Under Section 5 of the EP Act: The industry further reported that bimonthly action-taken reports are being submitted to the CPCB Chairman regarding compliance with CPCB's directions.



A handwritten signature in blue ink, appearing to be "S2" or similar, written over a horizontal line.

**SUMITHRA S.**  
Chief Environmental Engineer

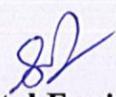
It is respectfully submitted that, based on the inspection conducted as mentioned above, a letter has been issued to M/s. KMML with necessary directions on the observations made during the inspection. A copy of the same is produced herewith as Annexure R3(B).

It is humbly submitted that KSPCB is continuously monitoring the activities of the industry to ensure the timely implementation and completion of the proposed actions.

All that stated above are true to the best of my knowledge information and belief.

Dated this the 08<sup>th</sup> day of October 2025.



  
**Chief Environmental Engineer.**  
**SUMITHRA S.**  
**Chief Environmental Engineer**  
**Kerala State Pollution Control Board**

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**ORIGINAL APPLICATION NO. 74 of 2023(SZ)**

Padmakumar, Kerala

Applicant

:

Vs

The State of Kerala, Through its Chief Secretary,  
Thiruvananthapuram and others

: Respondent(s)

**VOLUME 2**

Index

SL NO	Annexures	Pages
1	<b>Annexure R3 (A)</b> - Compliance report from M/s KMML received vide email dated 07/10/2025.	1-16
2	<b>Annexure R3 (B)</b> – Direction letter to M/s KMML dated 08/10/2025.	17-18

Dated this the 08th day of October 2025

Rema Smrithi. V.K, Advocate

ADDITIONAL STANDING COUNSEL FOR THE THIRD RESPONDENT



**The Kerala Minerals and Metals Ltd.**

(A Govt. of Kerala Undertaking)

(An ISO 9001, ISO 14001 & ISO 45001 Certified Company)

SANKARAMANGALAM, CHAVARA-691 583

KOLLAM, KERALA, INDIA.

Phone : +91- 476-2651215 to 2651217

Fax : +91- 0476-2680101, 2686721

E-mail : contact@kmml.com, URL : www.kmml.com



CIN-U14109KL1972SGC002399

TP/ENV/01  
07.10.2025

**To**

**The Chief Environmental Engineer  
The Kerala State Pollution Control Board  
Pattom  
Thiruvananthapuram**

Dear Sir/Madam,

Sub: KMML compliance report on Execution Application No. 7/2023 in Original Application No:290/2013 filed by Sri. Suresh Kumar in Hon'ble NGT (SZ), Chennai, Original Application No. 74/2023 (Earlier OA 502/2022 (PB)) filed by Sri. Padmakumar in Hon'ble NGT (SZ), Chennai and Original Application No. 94/2024 (Earlier OA 776 of 2023(PB) LP) filed by Sri. Shefeek S. in Hon'ble NGT (SZ), Chennai.

- Ref: (1) Execution Application No. 7/2023 in Original Application No:290/2013 filed by Sri. Suresh Kumar in Hon'ble NGT (SZ), Chennai.  
(2) Original Application No. 74/2023 (Earlier OA 502/2022 (PB)) filed by Sri. Padmakumar in Hon'ble NGT (SZ), Chennai.  
(3) Original Application No. 94/2024 (Earlier OA 776 of 2023(PB) LP) filed by Sri. Shefeek S. in Hon'ble NGT (SZ), Chennai.

Vide ref (1, 2 & 3), we hereby submit the action taken report & status covering short term and long term measures, directions/ findings suggested in the Hon'ble NGT verdict, Joint Committee Recommendation, etc as ANNEXURE.

Submitted for your kind information.

Thanking You,

Yours faithfully

**FOR THE KERALA MINERALS AND METALS LIMITED**

  
JGM & HOU (TP) 07/10/25

- Cc: (1) The Senior Environmental Engineer - 1  
Kerala State Pollution Control Board  
Pattom, Thiruvananthapuram - 695004.  
(2) The Environmental Engineer  
Kerala State Pollution Control Board  
District Office,  
Ushas Building, Big Bazar,  
Kollam - 691001.

### Action Taken Report on Short term and Long-Term measures

Sl No	Item	Status/History	Target	Remarks
1	<p><b><u>Long Term Measures</u></b></p> <p>Acid Regeneration Plant (ARP) technology modification to generate saleable iron oxide.</p>	<ul style="list-style-type: none"> <li>• KMML floated tender in July – 19 &amp; it was retendered due to single bid.</li> <li>• KMML invited tender in September 2019 and only one party quoted.viz. M/s INDROX Global Pvt.Ltd. NewDelhi.</li> <li>• After evaluation of the proposal, the file was put up to 243rd Board Meeting of the company held on 21.05.2020, for approval.</li> <li>• As approved by the Board, the file was put upto Government on 01.06.2020 for getting final sanction to place order.</li> <li>• As per the direction given by Government of Kerala retendering done in June 2021.</li> <li>• Global retender was invited on 10.06.2021.The bidders were M/S Indrox Global Pvt. Ltd andM/S Samrox.</li> <li>• The offer submitted was evaluated and noted that the only acceptable offer is from M/S Indrox Global Pvt. Ltd and approved in the 250th Board Meeting of the Company held on 15.01.2022. The file was submitted for final Government approval.</li> <li>• Subsequently a meeting was convened under the chairmanship of Hon'ble Minister for Industries, Law &amp; Coir on 09.06.2022 and in the meeting, it was decided to work out the cost reasonableness &amp; submit report to Government of Kerala.</li> <li>• Accordingly, FEDO, Kochi had done the Cost analysis study and the report got submitted to Government for approval to place order.</li> </ul>	<p><b>Target completion date:</b> <b>31.05.2026</b></p>	Work in progress.

		<ul style="list-style-type: none"> <li>• The Government has accorded administrative approval for the project on 26.05.2024.</li> <li>• LOI has been placed on the party dated. 04.06.2024.</li> <li>• Work order was issued on 18.09.2024 and the final work order was accepted on 15.01.2025.</li> <li>• M/s IGPL submitted the civil drawings for ARP modification, drawings reviewed and approved 23.01.2025.</li> <li>• Tender document prepared for civil work and approval under process.</li> <li>• Work Order placed for oxide bin, purification plant and ware house civil work and construction of oxide bin, purification plant &amp; ware house commenced on 21.04.2025, 06.06.2025, 02.06.2025, respectively.</li> <li>• Civil work for the oxide bin area was completed by 30.09.2025, and site handed over to start structural erection work.</li> <li>• Purification plant and ware house civil work are under progress.</li> <li>• Detail engineering drawing has been submitted by the party and under review.</li> </ul>		
II	<b><u>Short Term Measures</u></b>			
a	<u>Construction of garland drain around the IOP/ETP ponds</u>	<ul style="list-style-type: none"> <li>• Completed garland drain construction around new ETP. Collection pit provided with pump.</li> <li>• Garland drain construction around old ETP/ IOP. Collection pit provided with pump</li> <li>• Garland drain civil construction work completed on 23.05.2025, around new IOP.</li> <li>• Procurement action also in progress for FRP pipes and cables, pumps received at site as part of new IOP garland drain pit.</li> </ul>	Completed.	
			Completed.	
			Completed.	

b	<u>Remediation of affected land near KMML premises.</u>	<ul style="list-style-type: none"> <li>• Reengaged M/s FEDO, Kochi for Project Management for the trial test patch in the allegedly contaminated land in KMML premises.</li> <li>• Three parties quoted for the E-tender.</li> <li>• E-tender evaluation completed &amp; work order issued to M/s P T Jayapal.</li> <li>• Execution of the work started by the first week of April 2024 and installation completed.</li> <li>• First set of remediation trial runs with lime solution are progressing at site under the supervision of PMC M/s. FEDO, Kochi.</li> <li>• Status of the work &amp; procedure following got informed to KSPCB.</li> <li>• M/s FEDO, Kochi (Project Management Consultants), submitted a test patch trial report on 12.11.2024. In the report, they summarized that “The remediation method did not improve the pH of ground water. As the pH of water did not improve, it can deduced that the soil pH also did not improve. Hence the proposed methodology of land remediation is not to be applied extensively without further study.</li> <li>• To adopt remediation activities using specific technologies from the global front and as a part of further study on the way forward action to remediate the land, KMML has taken actions to invite a global expression of interest (EOI) to identify suitable &amp; competent bidders who can support their latest technology in the field.</li> <li>• KMML invited a “Global Expression of Interest (EOI) for the identification of competent bidders to implement remediation</li> </ul>	Target completion of test patch: 15.02.2027	
---	---	--	--	--

	<p>c. <u>Solid Waste Management (In-situ/ ex-situ storage)</u></p> <p>l. Geotube as a trial implementation</p>	<p>of contaminated land with acidity” on 03.12.2024. The last date for submission of EOI was 17.01.2025. But no quotes from parties received.</p> <ul style="list-style-type: none"> <li>• We have received no offers for the EOI. Hence alternatives are explored. Discussions were in progress with Indian Institute of Technology Madras (IITM), Chennai. The matter was referred to the civil wing of IITM and they replied that they have no expertise in giving a solution for land remediation of contaminated land.</li> <li>• KMML contacted IIT Roorkee for providing a further study as requested in the report of M/s FEDO during the test patch execution. Documents pertaining to the above have been forwarded to IIT Roorkee as per their request and after their review, IIT suggested site assessment. Further, we have requested IIT to revert on the same.</li> <li>• Tendering done for Geotube iron oxide containment from new elevated iron oxide pond.</li> <li>• Evaluation of the received offers was completed. Awaiting approval/authorization from CPCB/KSPCB for the trial.</li> <li>• The new technology of Geotubes involves dewatering and storage of iron oxide using Geotubes from the elevated new iron oxide pond.</li> <li>• Letter TP/TS/ENV dated 18.03.2024 forwarded to The Principal Secretary to Government of Kerala (Industries), seeking support to KMML by intervening with CPCB in getting</li> </ul>	<p>10 months from the date of placement of order.</p>	<p><b>Awaiting approval from CPCB, New Delhi</b></p> <p>However, taking Tetrabic into consideration, Geotube considered as secondary option.</p>
--	--	--	---	--

	<p>approval/authorization for the proposed Geotubes installation.</p> <ul style="list-style-type: none"> <li>• Letter dtd 11.07.2024 has been sent to CPCB for an appointment to discuss the matter of approval. Awaiting their reply.</li> <li>• Email sent to CPCB on 12.07.2024 with the above letter as attachment dt. 11.07.2024.</li> <li>• We were in follow up with CPCB (follow up letter also forwarded on 06.12.2024). Also it is to be noted that we are going to place order for the value addition of stock piled iron oxide in the storage ponds. This project is expected to be implemented in another 18 months of time and which would make it happen to consume the stockpiled masses of sludge stored and the load will be removed. Hence the proposal for geo tube filling would become redundant. So the same has been kept hold. .</li> </ul>		
<p>ii. Disposal of Iron oxide/ ETP sludge</p> <p><u>Iron oxide residue sales</u></p>	<ul style="list-style-type: none"> <li>• KMML invited E- tender for the sales of iron oxide residue on 19.12.2019. Sales order was issued to M/s Miracle Sands and Chemicals, Tuticorin for 10000 MT on 09.06.2020.</li> <li>• The matter has been taken up by the party for concurrence from CPCB &amp; resume proceedings are going on at their end for approval.</li> <li>• <b>Authorization given by CPCB</b> for trial production of Iron Oxide bricks by M/s Miracle Sands and Chemicals. (42 MT).</li> <li>• Letter dtd 11.07.2024 has been sent to CPCB for an appointment to discuss the matter of approval.</li> </ul>	<p>Tentatively 6-8 months from CPCB approval</p>	<p><b>TNPCB consent under progress by M/s Miracle Sands &amp; Chemicals</b></p>

		<p>Awaiting their reply</p> <ul style="list-style-type: none"> <li>• The matter is under follow up with CPCB by M/s Miracle Sands and Chemicals, Tuticorin, also. M/s Miracle Sands and Chemicals, Tuticorin is also under the process of exploring another technological use of iron oxide and they intimated that actions in this regard are progressing to develop operating procedures.</li> <li>• Online applications as suggested by CPCB in the previous NGT hearing are also done by M/s Miracle sands and Chemicals, Tuticorin, in Jan-2025, with their scheme. The matter is being followed up.</li> <li>• M/s Miracle Sands and Chemicals has done an online technical presentation as per the scheduled 42<sup>nd</sup> meeting of technical expert committee (TEC) of CPCB on 17.02.2025.</li> <li>• CPCB permitted to have a trial of 42 MT and the party is exploring the same as per their information.</li> <li>• The consent issued to M/s Miracle Sands and Chemicals Pvt Ltd &amp; obtained for Iron oxide transfer from Tamil Nadu State Pollution Control Board expired on 31.03.2025. M/s Miracle Sands and Chemicals Pvt Ltd forwarded application for renewing the consent from TNPCB and the grant of consent is getting processed</li> </ul>		
	<p>iii. <u>ETP sludge sales</u></p>	<ul style="list-style-type: none"> <li>• After e-tendering, Sales order was issued to M/s Miracle Sands and Chemicals, Tuticorin for 50000 MT of ETP sludge.</li> <li>• KSPCB granted authorization to</li> </ul>	<p>Work in progress</p>	<p><b>Ongoing activity.</b></p>

<p>iv. Value addition of by products</p>	<p>M/s Miracle Sands and Chemicals for collection and transportation of ETP sludge, which valid up to 31.03.2025.</p> <ul style="list-style-type: none"> <li>• M/s Miracle Sands and Chemicals have completed the shifting of approx. 28000 MT of ETP sludge as on 27.01.2025.</li> <li>• KMML also invited an E-tender for sales of 20,000MT of ETP sludge and its offer received, after evaluation Sales order No:TP/ENV/ETP SLUDGE/SALES/2025 dated 01.04.2025. issued to M/s Miracle sands and Chemicals Pvt Ltd.</li> <li>• Miracle Sands and Chemicals have completed the shifting of approx. 34707.35 MT of ETP sludge as on 24.09.2025.</li> <li>• In order to select potential agencies to carry out value addition of iron oxide &amp; ETP sludge on a DBFOO basis with suitable technology, KMML published a global Expression of Interest. Offers received from parties and CSIR-NIIST, Thiruvananthapuram was appointed as consultant to carry out the technical evaluation of the proposal.</li> <li>• E- Tender invited and finalized the proposal. M/s Tetrabic India Private Limited, Hyderabad, is the party identified. GO to engage in land lease agreement and sludge off take agreement with M/s Tetrabic India was received on 09.11.2024.</li> <li>• LOI has been issued to M/s Tetrabic India Pvt Ltd.</li> <li>• Land lease agreement under GOK vetting.</li> <li>• The sludge off-take agreement signed on 07.08.2025.</li> </ul>	<p><b>18 months from the date of signing of final agreement</b></p>
--	--	---

	<p>v. In house value addition of iron oxide</p>	<ul style="list-style-type: none"> <li>▪ KMML has developed an in-house technique for value addition of iron oxide by converting it to Iron Sinters (Sponge iron)</li> <li>▪ <b>Third trial with modified process methodology completed. The results were inferred and taken action for conducting another set of trial as part of fine tuning. A tentative timeline for the project is shown as below.</b></li> <li>▪ Technology freezing/DPR Preparation - 6 months</li> <li>▪ Statutory Clearance - 6 months</li> <li>▪ Tendering activities - 6 months</li> <li>▪ Plant installation- 18 months</li> <li>▪ Plant Trial run - 6 months</li> </ul>	<p>42 months from the placement of order.</p>	<p>Manufacturing in progress.</p>
	<p>vi. Iron oxide brick making plant</p>	<ul style="list-style-type: none"> <li>• As part of NH-66 widening work, about 8 lakhs quantity of bricks are required for KMML boundary wall construction.</li> <li>• E-tender invited (2023_KMML_586898_1 dt. 12.07.2023), for the set up of Iron Oxide brick manufacturing as done in the earlier days of KMML.</li> <li>• Work order (TP/ WO/PTS/ 0354/2023-2024 dt. 26.12.2023 was issued to M/s C Ashokan for the production of 8,00,000 nos of iron oxide brick for the in-home use of KMML.</li> <li>• The plant building construction completed &amp; Equipments installed.</li> <li>• Produced approx 6.8 lakhs bricks.</li> <li>• Intimation letter already forwarded to KSPCB vide letter (TP/TS/ENV dt. 01.02.2024) for iron oxide brick manufacturing in KMML.</li> </ul>	<p>Nov 2025</p>	

**Disposal of Online generated Iron oxide to CTSDF to Kochi**

1. It was also decided that the iron oxide which is further getting generated from the acid regeneration plant would get disposed of to CTSDF, Kochi (M/s. Kerala Enviro infrastructure Limited) until the technology modifications of ARP plant get completed.
2. An agreement dated 02.08.2024 has been entered between KMML and KEIL for the disposal of iron Oxide for a period of two years which are going to generate from ARP.
3. Till 07.10.2025, a total quantity of 21714.69 MT of Iron oxide sludge has been transferred in the special vehicle provided by M/s KEIL.

**Status of action taken and implementation of the recommendations of Joint committee**

	<b>Findings of the Joint committee</b>	<b>Status, Target and remarks</b>
1	The remedial measures both short term and long term already proposed by M/s KMML shall be implemented within the committed time limit.	Time lined status of short term and long-term measures mentioned items covered in the previous pages.
2	The existing effluent treatment system shall be upgraded to ensure compliance to the effluent discharge norms prescribed under the consent conditions – within one year.  Existing plant up gradation completed and new ETP is being processed.	<u>New Tertiary Tank in U 200</u> - Addition to improve the existing effluent treatment system.  New tertiary tank installation completed on 07.07.2025.  <u>ETP revamping/ Modernization</u> <ul style="list-style-type: none"> <li>▪ Work order issued on M/s SBA Enviro system, Delhi for DPR preparation.</li> <li>▪ The final DPR submitted by the party for the construction of 6 MLD Effluent Treatment plant got submitted to KSPCB on 26.06.2024 for Technical concurrence.</li> <li>▪ Forwarded letter to KSPCB dt. 05.12.2024 seeking permission for conducting a technical presentation</li> </ul>

		<p>through video conference on the technical aspects of 6 MLD Effluent Treatment Plant in KMML.</p> <ul style="list-style-type: none"> <li>▪ Actions are in progress for the implementation of the project.</li> <li>▪ Tentative time of Completion- December 2027.</li> </ul>
3	<p>Integrated consent to operate issued to KMML by KSPCB shall be amended suitably with the necessary effluent discharge norms and hazardous waste management according to The Environment (Protection) Rules 1986 within a month.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ A pH and flow meter already installed locally at the outlet of discharge pump and pH is displayed in the ETP MCC room.</li> <li>▪ The pH details are daily recorded by KMML.</li> <li>▪ Now new OCEMS also installed.</li> </ul>
4	<p>Place proper sign boards should be placed at all suitable places to avoid human/ animal contact with the polluted stagnant water bodies in the vicinity of the human habitation - within a month.</p>	<p>Sign board installed at site on 28.10.2023.</p> <p>Complied</p>
5	<p>Permanent capping of existing storage ponds or temporary capping using LDPE liners and also suitable chemical dosage to neutralize runoff before next monsoon or by May 2023.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ Almost fifty percentage of the old ponds area are capped.</li> <li>▪ Temporary capping of old iron oxide pond II for an area of 6300 M<sup>2</sup> using LDPE sheet completed on 03.02.2024.</li> <li>▪ Temporary capping of settling pond 1 for an area of 6200 M<sup>2</sup> using LDPE sheet completed on 21.05.2024.</li> <li>▪ Temporary capping of settling pond 1 for an area of 6776 M<sup>2</sup> using LDPE</li> </ul>

		<p>sheet completed on 23.09.2025.</p> <ul style="list-style-type: none"> <li>▪ Action taken for procuring another set of 10,000 M<sup>2</sup> LDPE film and it is in purchase order issuing stage.</li> <li>▪ An extra 10,000 M<sup>2</sup> is also intended for procurement, to complete the next stage of work.</li> <li>▪ Time of completion- August-2026</li> </ul>
6	<p>Not to discharge untreated effluent into any drain or natural drain. Construct Garland drain all along the industry premises within 9 months and along the periphery of old iron oxide ponds by March 2023. Also the runoff should be neutralized if required and ensured if required suitable and proper treatment before its discharge.</p>	<p>Complied</p> <p><u>Storm water cleaning</u></p> <ul style="list-style-type: none"> <li>▪ Cleaning of the storm water drains being done periodically.</li> <li>▪ Work order issued to M/s Friends Motors for storm water drain cleaning on 08.01.2025. Work completed.</li> </ul> <p><u>Storm Water Drain Neutralization</u></p> <ul style="list-style-type: none"> <li>▪ The storm water drain is neutralizing continuously using lime solution at a point near the railway gate exit.</li> </ul>
7	<p>Among the process changes, feasibility of inclusion of waste water option for recovery of acid and neutralization of iron oxide sludge using suitable chemicals prior to the disposal of iron oxide sludge into storage tank within 3 months.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ KMML already have the feasibility of recycling wash water and reusing in plant itself to the possible extent.</li> <li>▪ The iron oxide slurry is neutralized at source before pumping to the new pond. The iron oxide is deposited in the new IOP and clear liquor is recycled to the slurry preparation tank.</li> </ul>
8	<p>Lime treatment in existing dump yards and surface water contaminated areas- ongoing.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ Lime treatment in the existing dump yards as temporary measures being</li> </ul>

		<p>done continuously.</p> <ul style="list-style-type: none"> <li>▪ In addition, lime spreading has done prior to capping of old ponds.</li> </ul>
9	Regular water supply and periodical health camp- ongoing.	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ KMML is continuously supplying about 7 to 8 lakhs liters per day of drinking water of potable quality to the surrounding local residences.</li> <li>▪ Potable water is getting supplied through pipeline around 65 kms for local residence and also through tankers.</li> <li>▪ Conducting regular medical camps once in a month and providing medicines, medical aid to ailing patients/ palliative care.</li> </ul>
10	As the iron oxide pond capacity exhausted, take immediate action for temporary storage and safe disposal with immediate effect.	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ As the storage space in Iron oxide pond has exhausted, temporary storage area for safe disposal of iron oxide is done in accordance with the Hazardous and Other Waste (Management and transboundary Movement) Rules.</li> <li>▪ <u>Iron Oxide Brick Making</u> Work order dated. 26.12.23 was issued to M/s C Ashokan for iron oxide brick making plant and for making 8 lakh no.s of bricks for in-home use of KMML. Produced approx 6.8 lakhs bricks.</li> <li>▪ The value addition of iron oxide with the support of M/s Tetrabic Private Limited, iron oxide brick production, production of iron oxide sinters, etc.</li> </ul>

		<p>will utilize a portion of iron oxide generated/store in the premises in secured ponds.</p> <ul style="list-style-type: none"> <li>▪ Online generation quantity from ARP is getting disposed to CTDSF, Kochi and no iron oxide is getting accumulated in the ponds as part of current plant operations.</li> </ul>
11	Utilization of iron oxide sludge for recovery of iron within 3 months and also explore the option of red oxide from iron oxide sludge within 3 months.	<p><b><u>In-house Value addition of Iron oxide</u></b></p> <ul style="list-style-type: none"> <li>• Since there is no readily available technology for producing iron sinter from KMML iron oxide sludge, KMML has developed an in-house technique for value addition of iron oxide by converting it to iron sinters (sponge iron).</li> <li>• However, KMML have to further develop and fine tune a technology for iron sinter commercialization. Trials are ongoing.</li> </ul> <p>Time of completion - <b>42 months.</b></p>
12	Detailed assessment of affected areas and implement remedial measures in contaminated site as well as ground water, and feasibility of acquisition of affected land	<ul style="list-style-type: none"> <li>▪ Based on CSIR – NEERI, Nagpur study report, KMML started remediation of contaminated sites on trial basis.</li> <li>▪ The current methodology (as per KITCO DPR) was found not suitable as per M/s FEDO(PMC) report. KMML invited a new Global EOI <b>for the identification of competent bidders to implement remediation of contaminated land with acidity</b>” on 03.12.2024.</li> <li>▪ The last date for submission of EOI was 17.01.2025. However, no offer was received. Alternatives in this regard are being explored for way forward by checking with IIT</li> </ul>

		<p>Roorkee.</p> <ul style="list-style-type: none"> <li>▪ Feasibility of acquisition of the land is under the consideration of Government.</li> </ul>
13	<p>M/s. KMML also ensure compliance to CPCB directions issued under section 5 of the environment sound management of Hazardous and Other waste (management and Trans boundary Movements) Rules, 2016 as amended.</p> <p>KMML submit Action taken report to CPCB directions issued under section 5 of the environment sound management of Hazardous and Other waste (management and Trans boundary Movements) Rules, 2016 as amended.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ Action taken report is being submitted to CPCB Chairman once in two months.</li> <li>▪ Latest Bi-monthly report submitted on 11.09.2025.</li> </ul>
14	<p>All tube wells located within the industry premises shall be connected with tamper proof flow meter to record total water consumption of natural resources within 3 months and submit report to KSPCB on quarterly basis.</p>	<p>Complied.</p> <ul style="list-style-type: none"> <li>▪ Monthly water consumption report is being submitted to KSPCB.</li> <li>▪ Quarterly report of total water consumption submitted to KSPCB on 29.09.2025.</li> </ul>
15	<p>Install OCEMS (Online continuous effluent monitoring system) and a flow meter at effluent outlet discharge into sea to assess compliance to the effluent discharge norms prescribed by KSPCB and displayed at the entrance of the industry for the information to Public within 5 months.</p>	<p>Complied.</p> <p>A pH and flow meter already installed locally at the outlet of discharge pump and pH is displayed in the ETP MCC room. The pH details are daily recorded by water treatment plant of KMML.</p> <p>OCEMS (Online continuous effluent monitoring system) installation completed on 24.10.2024.</p> <p>KSPCB online portal registration process requested for implementation Letter No: TP/ENV/PCB forwarded to KSPCB on</p>

		06.12.2024. KSPCB central server registration completed on 13.12.2024.
--	--	---

### **Other Activities**

**As part of Corporate Social Responsibility (CSR), the company is also extending the following supports to the general public.**

- Conducting regular medical camps.
- Providing medical aid to ailing patients/ palliative care.
- Support to nearby Panchayaths for providing street lights, drains, stray dog catching etc.
- Covid Second Line Treatment Centre (CSLTC) – We have setup a CSLTC at GHSS, Sankaramangalam School. This facility was a 850 Nos bedded one with oxygen support from KMML and the same was maintained for more than a year time. Rs. 4.5 Crores expended and as part of COVID support.
- Supplied liquid medical oxygen at reduced rate for pandemic treatment.
- Providing support for the infrastructure upliftment of nearby schools.
- Tailing sand supply to nearby surroundings for low lying land filling.
- Supporting welfare activities of mining area.
- Dividend payment to Government of Kerala.
- We are continuously supplying about 7 to 8 lakhs liters per day of drinking water of potable quality to the surrounding local residences.
- Potable water is supplied through pipe line around 65 kms for local residence and also in tankers.
- KMML is paying 50% of water tax of the Jalanidhi scheme for local residences.



വീജ്യണൽ അഫീസ്  
കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്  
**KERALA STATE POLLUTION CONTROL BOARD**

Patton P.O., Thiruvananthapuram – 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം – 695 004  
☎: General: 0471- 2312910, 2318153, 2318154, 2318155  
e-mail: [ceetvm.kspcb@kerala.gov.in](mailto:ceetvm.kspcb@kerala.gov.in) web: [kspcb.kerala.gov.in](http://kspcb.kerala.gov.in)



PCBRTM/15/2024-AE2

Date: 08/10/2025

From,

Chief Environmental Engineer

To,

Managing Director,  
Kerala Minerals and Metals Pvt Ltd,  
Sankaramangalam, Chavara, Kollam

Sub: Inspection conducted at M/s KMML-reg

Ref : 1. Order dated 31/07/2025 in OA 74/2023 (SZ), EA 07/2023(SZ) of Hon'ble NGT.

2. Inspection conducted on 06.10.2025.

Sir,

This is with reference to the inspection conducted at your unit by officials from District and Regional Offices of Board, as per the references cited above. Based on the observations made during the inspection, you are hereby directed to comply with the following instructions and submit a compliance report to this office:

- It is observed that timelines initially proposed by the industry for multiple actions as per the proposals in long term and short term measures and as per the recommendations of the joint committee have been exceeded. In this context, it is directed to expedite the pending actions.

- It was observed that certain areas around the three ponds, the ETP sludge pond, Iron Oxide (IO) sludge pond, and the old IO/ETP sludge pond including delay pit/collection pit, were not accessible due to overgrown vegetation. These areas must be cleared of dense vegetation to facilitate smooth conduct of inspection.
- Minor leakages were observed on the South-West side wall of the ETP sludge pond and should be rectified immediately.
- Pet coke shall not be stored in the open premises. Adequate measures must be taken to prevent the risk of any runoff carrying pet coke/raw materials into storm water drain or garland drains.
- Pumps/standby motors shall be installed in the existing collection pits of the garland drains to ensure that any overflow/leakage collected is effectively pumped back to the respective ponds or the ETP without the chance of overflowing.

Yours faithfully,



**Chief Environmental Engineer**