

**Vayalapadi Limestone Mining Lease-I**  
**Mining Lease Owner/Lessee : Shri S.Subramanian**  
**(Captive Mine for Dhandapani Cement Plant, Trichy)**

**Extent : 3.57.0 Ha**

**ROM Production : 45,000 Tonnes per Annum**

**14/3A, 14/3B(P), 15/1A(P), 15/1B(P), 18/3A, 18/3B & 18/3C of**  
**Vayalapadi Village, Kunnam Taluk, Perambalur District , Tamil Nadu**

**Environmental Clearance under EIA Notification 2006**  
**Schedule Sl. No. 1(a); Category 'B1' (Mining in <100 Ha)**  
**Violation Proposal**

**Summary Environmental Impact Assessment**  
**(after TOR; for Public Hearing)**  
**Awarded TOR : SEIAA-TN/F.No.6211/TOR-358/2018 dated 17.05.2018**

**November 2020**

**EIA Consultant**

**ABC Techno Labs India Private Limited, Chennai**  
**(Sl. No. 3 of QCI/NABET List dated 10.11.2020)**

**Coordination for DCPL : Ensyscon, Chennai**

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**Summary Environmental Impact Assessment**

## 1.0 Introduction

### 1.1 Project Proponent

**M/s. Dhandapani Cements Private Limited (DCPL)** are operating a Cement Plant at Thathamangalam Village near Mannachanallur in Trichy District. Shri.S.Subramanian, (Chairman) and Mr.S.Saravanan are the Directors of DCPL. Shri.S.Subramanian is also the Managing Director of M/s. Samayapuram Vel Industries (Private) Limited and Mr.S.Saravanan is the Managing Director of M/s. Sathammai Chemicals Private Limited, Trichy. Both of them and their Family Members are having Limestone Mines in Perambalur, Ariyalur and Trichy Districts which are **Captive Mines to DCPL Cement Plant**.

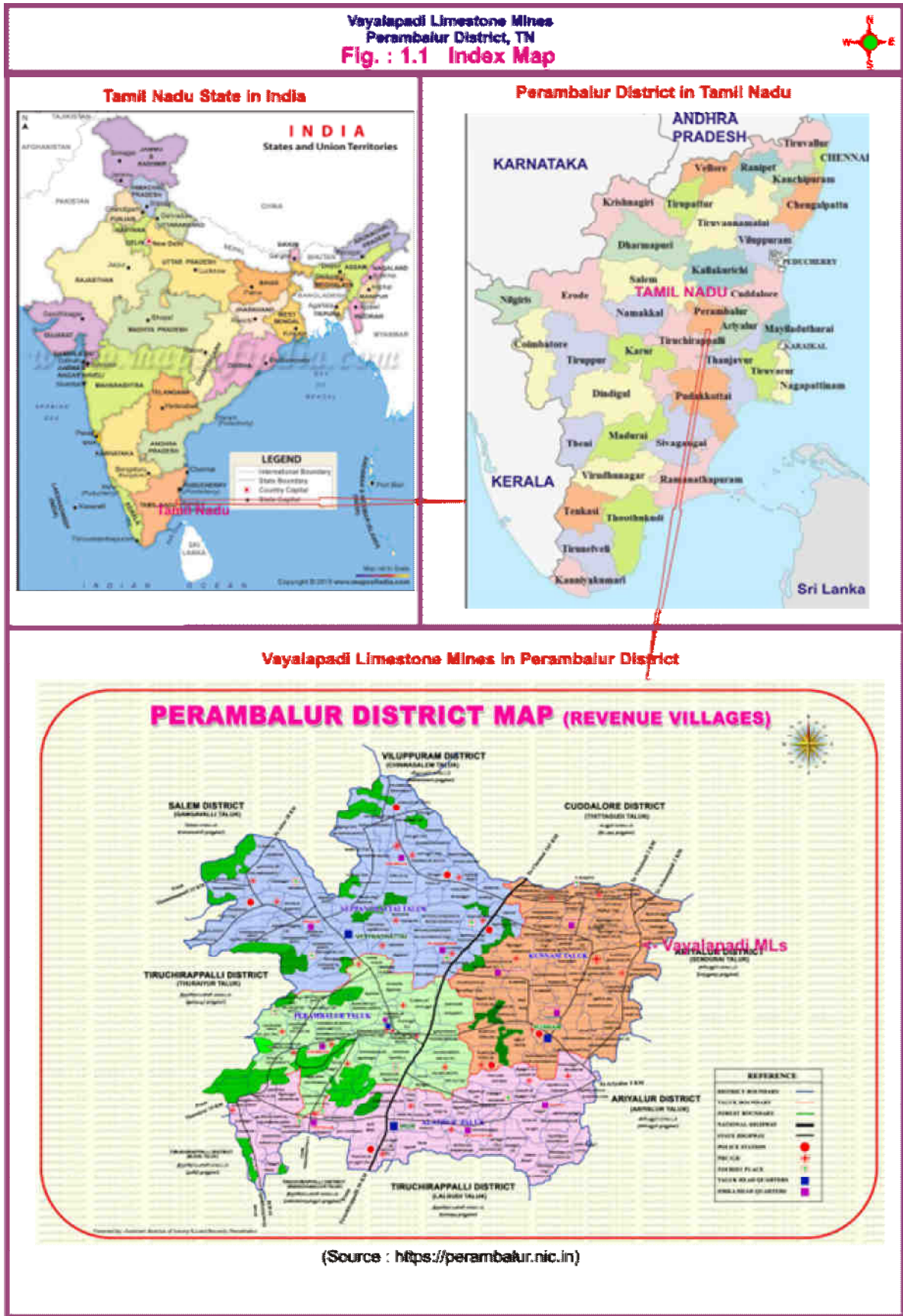
Both Shri.S.Subramanian and Mr.S.Saravanan, Directors of DCPL, are having individual Limestone Mining Leases at Vayalapadi Village, Kunnam Taluk, Perambalur District of Tamil Nadu State (**Fig. 1.1**). Vayalapadi Mining Lease over an extent of **3.57.0 Ha** in SF Nos. 14/3A Part, 14/3B Part, 15/1A Part & 15/1B Part (of 2.52.0 Ha Govt. poramboke lands) and 18/3A, 18/3B & 18/3C (of 1.05.0 Ha own Patta lands) was granted to **Shri.S.Subramanian** under **GO (3D) No. 25 dated 27.03.1998 for 20 Years** by Industries (MMA.2) Department, Government of Tamil Nadu. The Lease Deed was executed on 17.09.1998 with validity till 16.09.2018 and as per MMDR Amendment Act 2015, the **validity of the Lease is till 16.09.2048**. The date of opening of the Lease is **06.10.1999 (Lease-I)**.

Vayalapadi Mining Lease over an extent of **4.75.0 Ha** in SF Nos. 17/1A & 20/1 (of 1.18.5 Ha own Patta lands) and 18/2A Part, 18/2B, 18/2C, 19/1A Part, & 19/1C Part (of 3.56.5 Ha Govt. poramboke lands) was granted to **Mr.S.Saravanan** under **GO (3D) No. 128 dated 15.09.1998 for 20 Years** by Industries (MMA.2) Department, Government of Tamil Nadu. The Lease Deed was executed on 12.03.1999 with validity till 11.03.2019. As per MMDR Amendment Act 2015, the **validity of the Lease is till 11.03.2049**. The date of opening of the Lease is **27.01.2000 (Lease-II)**.

Being adjacent Leases with common boundary, they had applied and obtained the required Permission for the operation of **Workings at Common Boundary** from the Directorate General of Mines Safety (DGMS). Thus, the **Mining is being carried out systematically as per approved Mining Plans/Schemes in both the Leases I & II individually** with a Standard Operating Procedure (SOP) in place.

Present **Review of Mining Plan (ROMP) & Progressive Mine Closure Plan of Lease-I** (3.57.0 Ha) has been approved by the Regional Controller of Mines, Indian Bureau of Mines (IBM), Chennai vide Letter No. TN/PBR/LST/ROMP-1481.MDS dated 13/17.04.2018 for the Period 17.09.2018-19 to 2022-23. The present **Review of Mining Plan (ROMP) & Progressive Mine Closure Plan of Lease-II** (4.75.0 Ha) was approved by the Regional Controller of Mines, IBM, Chennai vide Letter No. TN/PBR/LST/ROMP-1528.MDS dated 05.11.2018 is valid for the Period 2019-20 to 2023-24.

Both the Leases (I & II) are having valid **Consents to Operate (CTOs)** from the Tamil Nadu Pollution Control Board (TNPCB) vide Orders 160514866259 (Water Act) & 160524866259 (Air Act) dated 29.06.2016 **for Lease-I** (referred as Lease-II in the DCTO Order) **valid till 31.03.2017** and Orders 160514859587 (Water Act) & 160524859587 (Air Act) dated 29.06.2016 **for Lease-II valid till 31.03.2017**.



## 1.2 Project Profile

**Vayalapadi Limestone Mining Lease-I** of **3.57.0 Ha** (2.52.0 Ha Govt. poramboke lands & 1.05.0 Ha own Patta lands) is located in SF Nos. 14/3A Part, 14/3B Part, 15/1A Part & 15/1B Part & 18/3A, 18/3B & 18/3C of Vayalapadi Village, Kunnam Taluk, Perambalur District, Tamil Nadu. **Shri. S.Subramanian** (MD-Samayapuram Vel Industries) is the **individual Lease Owner/Lessee**. The Communication Address of the Lessee is:

Shri. S. Subramanian  
 No. 69, Ganapathy Nagar,  
 Thiruvanai Kovil,  
 Trichy - 620 005.  
 Telephones : 0431-2432882 / 4030882  
 Mobile : 9489201001  
 email : dcplmaruthi@gmail.com

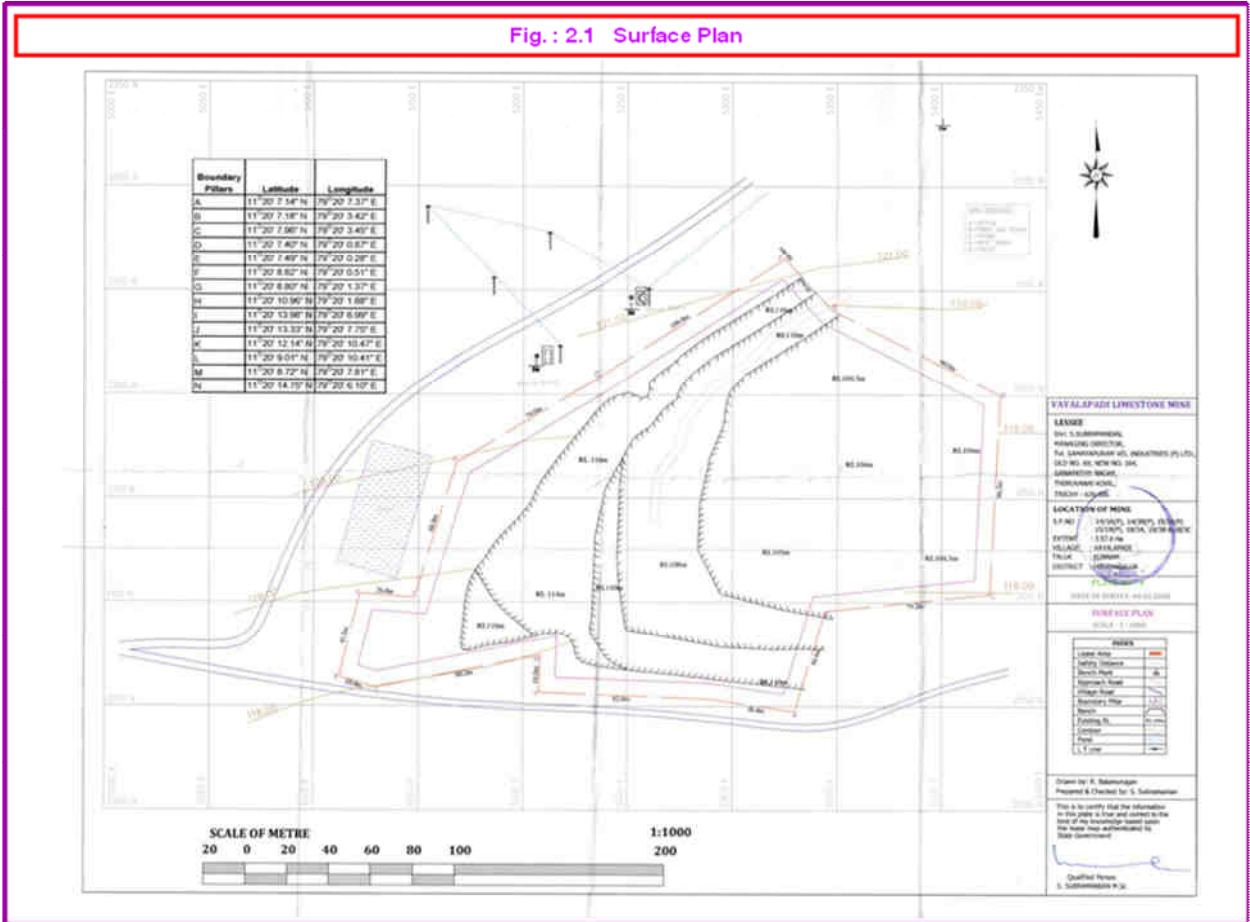
The Mine was in operation since 06.10.1999. The Mine is now in **Temporary Discontinuance from 20.02.2017**. The thickness of the Limestone in the ML Area is **proved up to a depth of 26 m BGL**. Proved Mineable Reserves (UNFC 3111<sub>4</sub> Category) is about **14,12,653 Tonnes**. About **6,51,153 Tonnes (46.09%) of reserves was already mined out** from the Lease till 2016-17 upto **17 m BGL**. An amount of **Rs.4.19 Crores was paid towards Royalty, Surface/Dead Rent, etc.** to the State Government. The balance Reserves, **as on 01.04.2018, is about 7,61,500 Tonnes (53.91% of the Total Reserves) on Raw-Ore-Mined (ROM) basis**. The Layout/Surface Plan is given as **Fig. 2.1**.

Mining operation is being carried out by **Non-conventional Mechanized Opencast Method of Mining (without Drilling & Blasting)** by deploying Rock Breaker for primary and secondary breaking. There is no Top Soil or OB generation till Conceptual Stage and **there is No Top Soil Dump and No OB Dump in the Lease Area**. About 98% of ROM is Cement Grade Limestone and 2% is Mineral Rejects. The Mineral Rejects so far generated were fully dumped in the Safety Zones and utilized for Haul Road formations in the Lease. The mined out Limestone will be transported by 20 Tons Taurus Tippers to DCPL Cement Plant near Samayapuram (74 km by road). No Beneficiation of the Limestone is required.

The **maximum Production from the Mine was 1,52,770 Tonnes/Annum (TPA) during 2011-12**. However, **EC Application has been filed for the maximum Production of 45,250 TPA, say 45,000 TPA**, in the current ROMP Period. With the proposed Production, the **Life of the Mine will be 16.9 years. Ultimate Pit Limit will be 26 m BGL (95 m Bottom RL) at Conceptual Stage**. Ground Water-table in the Mine vicinity is found to be at 36 m BGL during rainy seasons and at 40 m BGL during dry season. Thus, the **Mining will not intersect the Ground Water-table**.

Reserves (111 Category)	:	7,61,500 Tonnes ROM
Proposed Production-Maximum	:	45,000 TPA
Life of the Mine	:	16.9 years
Ore:OB Ratio-Conceptual	:	1:0
Pit Configuration-Conceptual	:	260 x 150 x 26 m (d)
Bench Height & Width	:	6 m & 8 m
Bench slope	:	60° (from horizontal)
Ultimate Pit Limit-Conceptual	:	26 m (BGL); Bottom RL 95 m
Ground Water-table at	:	36 m BGL (Postmonsoon) & 40 m (Premonsoon)

Fig : 2.1 Surface Plan



The capital cost of the Project is Rs.6.50 Lakhs. A budget of Rs.2.00 Lakhs has been earmarked as Capital Cost for EMP measures and Rs.3.00 Lakhs per Annum as EMP Operating Cost towards EMP measures, Green Belt development & maintenance, Environmental Monitoring, etc. About Rs.0.20 Lakhs per Annum will be spent for Occupational Health & Safety Measures.

No prior Environmental Clearance (EC) is required for the Mines with <5 Ha Extent earlier. However, the **existing Mining Lease requires EC as per MoEF&CC Notification SO 141(E) dated 15.01.2016** under EIA Notification 2006. **The mine leases which continue to operate without obtaining EC after 15.01.2016 shall be considered as Violation Cases.** MoEF&CC has issued amendment to the EIA Notifications vide SO No. 804(E) dated 14.03.2017 & SO 1030(E) dated 08.03.2018 for obtaining EC for Violation Proposals.

The **Lessee has operated** the Vayalapadi Lease-I **after 15.01.2016** and **produced 37,340 Tonnes of Limestone** and Despatched 37,346.98 Tonnes. **Operating the Lease after 15.01.2016 without EC is the VIOLATION. There is no Violation in any other Statute.** Accordingly, the Lessee has applied to the State Level EIA Authority-Tamil Nadu (SEIAA-TN)/MoEF&CC vide Online Proposal No. IA/TN/MIN/64201/2017 on **25.04.2017** for the EC under Schedule 1(a).

The Proposal under Category-B was deliberated under **Violation Category** in the State Level Expert Appraisal Committee-Tamil Nadu (SEAC-TN) in its 109<sup>th</sup> SEAC Meeting held on 26.04.2018 and in 301<sup>st</sup> SEIAA Meeting held on 17.05.2018. **TOR has been awarded vide Letter SEIAA-TN/F.No.6211/TOR-358/2018 dated 17.05.2018** with Public Hearing for preparing the Environmental Impact Assessment (EIA) Report, Environmental Management Plan (EMP), Ecological Damage Assessment, Remediation Plan and Natural Resource Augmentation & Community Resource Augmentation Plan. Accordingly, the legal requirements will be followed by the Lessee during the EC Process. Also, the **Mine will not be operated till all Statutory Dues are paid.**

The Baseline Data (BLD) pertaining to the Non-rainy season viz. **Dec. 2019-Feb. 2020 (Winter Season)** has been utilized for the EIA Study in compliance with MoEF&CC Office Memorandum No. J-11013/41/2006-IA-II(I)(Part) dated 29.08.2017.

The EIA Consultant M/s. ABC Techno Labs India Private Limited, Chennai has been accredited for various Sectors including Sector-1 (Mining Projects) for Category 3A<sub>4</sub> by the National Accreditation Board for Education & Training (NABET), Quality Council of India vide Certificate NABET/EIA/1922/RA 0155 with validity 22.05.2022 (Sl. No. 3 of QCI/NABET List dated 10.11.2020). The ABC Techno Labs India Private Limited Laboratory is accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) and also recognised by MoEF&CC. The services of Ensyson are also utilised by DCPL for the coordination works on behalf of DCPL.

The **EIA Report has been prepared and submitted as per awarded TORs with a Additional Chapter (No. 13) for Ecological Damage Assessment, Remediation Plan and Natural Resource Augmentation & Community Resource Augmentation Plan** and also as per the generic structure proposed in the EIA Notification 2006. The Summary EIA Reports (both in English and Tamil) along with EIA Report have been submitted for conducting the Public Consultation & Public Hearing and for the Environmental Clearance.

## 2.0 Description of the Environment

### 2.1 Environmental Setting

ML Area falls in Survey of India Topo Sheet No. **58 M/3** and is located in-between **11°20'07.14"-11°20'14.75" N Latitude & 79°06'00.28"-79°06'10.47" E Longitude (Fig. 1.2)**. There is no Eco Sensitive Area/Zone (ESA/ESZ) like National Parks, Wildlife Sanctuary, Biosphere Reserves, Elephant Corridor, Mangroves, Archaeological/ Historical Monuments, Heritage Sites, etc. within 10 km from the Mine boundary. There are 2 Reserved Forests (RF) within 10 km radius area viz. **Kuzhumur RF @ 2.8 km** in ESE and **Vangaram RF @ 6.9 km** in ENE. Seasonal Elumur Ar/Chinnar River flows at 0.75 km in N and Anaivari Odai flows at 3.6 km in SE. Seasonal River Vellar flows at 6.5 km NNW. **Willingdon Reservoir** is at 8.3 km distance in NNW. Dry and Barren Lands are predominant in the vicinity. There was **no Nalla/Stream crossing in the Lease Area**. There is a **small Pond of 0.12 Ha** (40 x 30 m) in the western part of the Pit adjacent to the MDR which is maintained as such.

ML area is at 1.5 km (SW) from Vayalapadi village and is accessible through the Major District Road (MDR)-618 connecting Tittakudi-Veppur-Kunnam (National Highway-136; Ariyalur-Perambalur Section)-Ore Transport Route.

Govindarajapattinam (GR Pattinam) is the nearest Hamlet at a distance of 0.15 km in SW from the Mine. Vayalapadi is at 1.5 km (NE). District Head Quarters Perambalur is at 24 km (SW) and Taluk Head Quarters Kunnam is at 14 km (SSW). Southern Railway BG Line (Vridhachalam-Ariyalur Section) runs through Echankadu at a distance of 11.2 km (E). Cuddalore Port is the nearest Port at 85 km (NE). Trichy Airport is at 75 km (SW).

### 2.2 Baseline Environmental Status

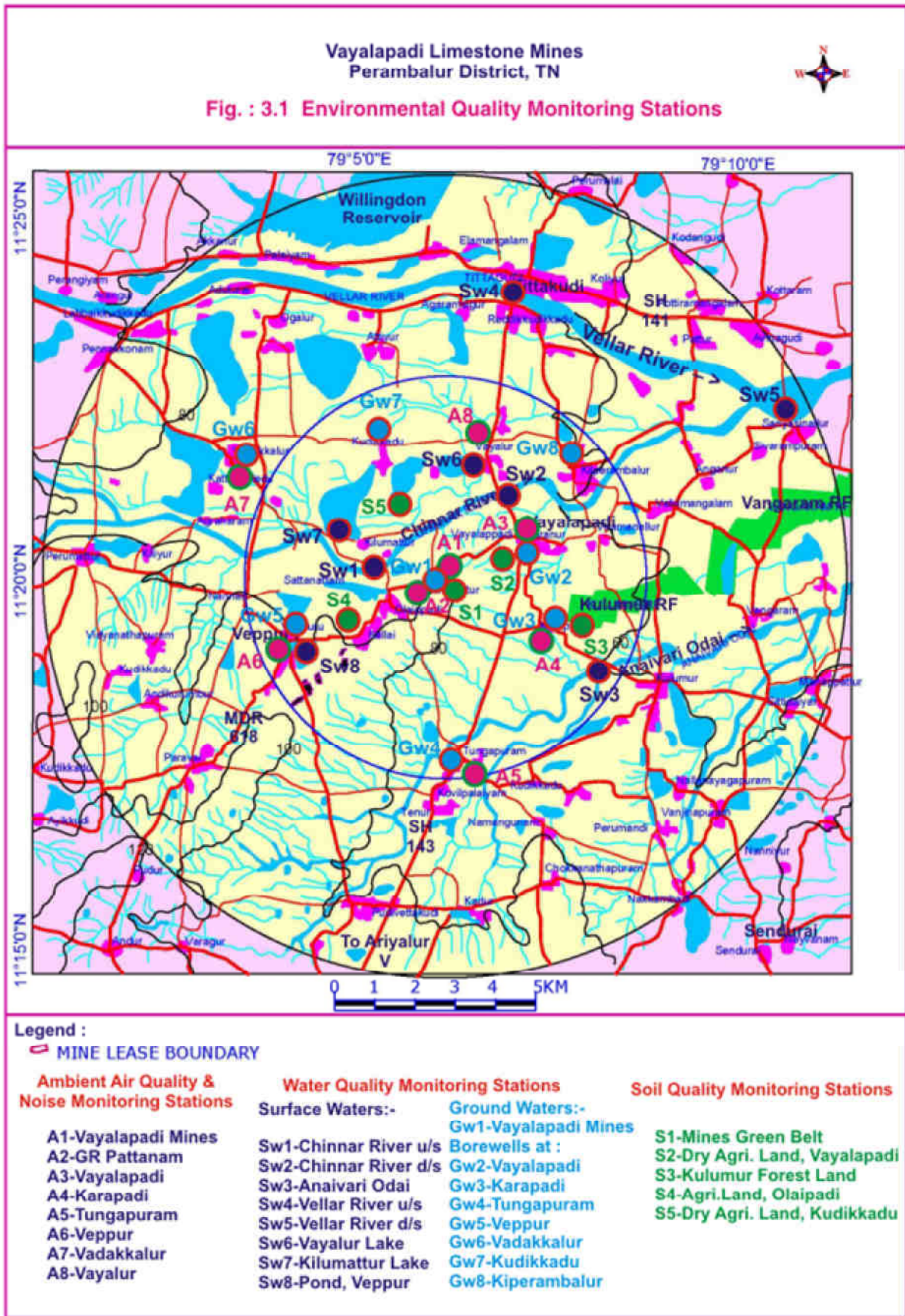
The monitoring stations were identified in the study area of 10 km radius from Mine boundary (**Fig. 3.1**). The monitoring stations are selected in such a way that the baseline environmental data reflects the **Cumulative Impact of existing Mines** in the Study area. Baseline Data collected **for one season** during the Winter Season 2019-20 is used. Project **Area does not fall in Critically Polluted Industrial Clusters** listed by CPCB. Also, **ML location is not falling in CRZ Area** as Bay of Bengal is at about 100 km in the East. Dry and Barren Lands are predominant in the vicinity.

Considering the Environmental setting of the project, project activities and their interaction, environmental regulations and Standards, following Environmental Attributes have been included in EIA Study.

- ❖ Site specific Micro-meteorological Data from the Lease Area for a Season.
- ❖ Ambient Air Quality Monitoring at 8 locations on 24-hourly basis, continuously for 2 days in a week for 4 weeks in a Month for a Season for all 12 parameters as per NAAQ Norms.
- ❖ Noise Level Measurements at all air quality monitoring station.
- ❖ Water Quality Monitoring- once in the Season-both Surface & Ground Waters (each 8 locations).
- ❖ Soil Quality Monitoring at 5 locations once in the Season..
- ❖ Land use pattern based on Satellite Imagery.
- ❖ Biotic Attributes for Flora & Fauna - Core zone & Buffer zones.
- ❖ Socio-Economic Profile, based on 2011-Census







The summary of baseline status is given in **Table 2.1**.

**Table : 2.1 Environmental Baseline Status**

Period : Dec. 2019-Feb. 2020

Envl. Component	Main Parameters	Minimum	Maximum	Mean	Desirable Norms
Ambient Air Quality (24-hly), ug/m <sup>3</sup>	PM2.5	10	33	<b>16.9</b>	<b>60</b>
	PM10	18	57	<b>30.6</b>	<b>100</b>
	SO <sub>2</sub>	6	18	<b>10.2</b>	<b>80</b>
	NO <sub>x</sub>	7	21	<b>12.2</b>	<b>80</b>
Ambient Noise, dB(A)	Leq-Day	40.4	46.1	<b>43.4</b>	<b>55</b>
	Leq-Night	39.5	44.0	<b>41.7</b>	<b>45</b>
Surface Waters	TDS, mg/l	290	380	-	<b>500/2100</b>
Ground Waters	TDS, mg/l	330	420	-	<b>500-2000</b>
Soil Status	EC, mmhos/cm	1.12	1.21	-	<b>0.2-0.5</b>
	SAR	1.57	2.40	-	<b>&lt;5</b>

Legend : PM2.5-Particulate Matter size less than 2.5 um; PM10- Particulate Matter size less than 10 um;  
SO<sub>2</sub>-Sulphur dioxide; NO<sub>x</sub>-Oxides of Nitrogen; Leq-Day & Leq-Night : Equivalent Noise Levels during Day & Night Times; TDS : Total Dissolved Solids; EC-Electrical Conductivity & SAR-Sodium Absorption Ratio.

The findings of baseline environmental status of the study area are summarized below :

- ❖ The collected meteorological data during this season represented the local weather phenomena.
- ❖ The monitored ambient air quality in the study area was found to be in compliance with the National Ambient Air Quality (NAAQ) 24-hourly Norms for Industrial, Residential, Rural and other areas.
- ❖ Monitored Ambient Noise Levels were found to be well within the MoEF&CC Norms.
- ❖ The water quality of surface waters were found to be in compliance with CPCB Norms.
- ❖ The ground water quality was found to be in compliance with the IS:10500-2012 Norms.
- ❖ The soil in the study area would very well support vegetation after amending it suitably.
- ❖ There is no eco sensitive area exists in the study area and only domesticated animals exist.
- ❖ The area is thinly populated and basic amenities are available almost in all villages.

Thus, there is **adequate buffer** for the proposed Project in the physical, biological and edaphic environments of the study area.

### 3.0 Anticipated Environmental Impacts

Identification of all potential environmental impacts due to the Proposal are critically examined and major impacts (**both Beneficial & Adverse**) are studied. The impacts have been divided into two categories, viz. **Localised and Cumulative**. Being an existing Mine Proposal, it **does not involve any major establishment or construction**. A Site Office exists on temporary structures.

For **Cumulative Impact Assessment**, the existing industrial activities in the Study Area are considered and their Contribution are also assessed (**Table 3.1**). Vayalapadi Leases I & II, adjacent GHP&SD mine (1.015 Ha) in south and Limestone Mines (<5 Ha) in Kallai & Olaipadi Areas are the Mines in the Study Area. All the Mines are not in operation now.

**Table : 3.1 Industrial Activities considered for Cumulative Impact**

Sl. No.	Industry / Mine	Consented Production/ Extent	Bearing & Contribution for Cumulative Impact
1	Vayalapadi Leases I & II	-	-
2	GHP&SD Mine (adjacent)	1.015 (Not in operation)	In Downwind Direction and not contributing.
3	Kallai & Olaipadi Area Limestone Mines (.5 Ha)	Not in operation	In Downwind Direction (5 km) and contributing cumulatively to Traffic Volume, if in operation.

Cumulative Impact has been assessed for the identified Industries and assumed that the **pollution due to other existing Industrial/Mining activities have already been covered under baseline environmental status** and continue to remain same till the operation of the project. The identified Impacts are given in **Table 3.2**.

**Table : 3.2 Identified Impacts**

Sl. No.	Environmental Component & Anticipated Impacts
1	<p><b>Land Environment</b> : In the total ML area of 3.57.0 Ha, about 3.22.0 Ha is the effective Mining Area after leaving the prescribed safety barriers. Mechanized Opencast Quarrying, <b>without Drilling and Blasting</b>, is adopted with deployment of Rock Breaker. There will be no developmental work and thus, no generation of Overburden wastes. Hence, no Top Soil/OB Dump in the Lease Area. By keeping the <b>same Production Quantity of 45,000 TPA</b>, the entire quantity will be exploited in another 12.6 years.</p> <p>At Conceptual Stage, out of 3.570 Ha Mine Area, 3.220 Ha will be the mine pit which will be left as Water Reservoir for harvesting the Rain Water. About 0.020 Ha will be under Roads. About 0.300 Ha (<b>8.4% coverage</b>) will be covered under Green Belt.</p>
2	<p><b>Traffic Volume</b> : ML-I will deploy 6 Tippers, 2 trips/day (one way) and ML-II will deploy 12 Tippers for 2 Trips/day (one way) to transport 260 TPD and 510 TPD Limestone from the Leases respectively. MDR-618 runs adjacent to the Leases which is the <b>Mineral Transportation Route</b> from the Mine to DCPL Cement Plant via Veppur-Kunnam NH-136 &amp; Perambalur NH-38 for a Road Distance of 74 km.</p> <p>The existing Traffic Volume at the Mines Area is 629.7 Passenger Car Units (PCU)/day and will be <b>796.9 PCU/day</b> during Operation Phase of both Leases. <b>There will be an addition 167.2 PCU/day</b> at Veppur Junction (existing 876.9 PCU/day) and Kunnam-NH Junction (4,044.8 PCU/day) Junctions. The existing Roads are adequate to handle the proposed traffic volume due to the Project.</p>
3	<p><b>Air Quality</b> : The Mining, Loading and Transporting activities would generate both fugitive dust emissions and smoke from HEM Machineries/Equipments &amp; Transporting Tippers. Fugitive emissions are predicted by using standard equations given in Indian Mine and Engineering Journal<sub>4</sub> and suggested by USEPA (Emission Factors as referred in AP-42) for Mining &amp; Allied activities. <b>AERMOD View</b> Software is used for Predicting the maximum Ground Level Concentration (GLC) of the Pollutant PM10 (as other Pollutant Levels are in insignificant levels) including the Transportation Impact.</p> <p>The maximum incremental GLC of PM10 is found to be <b>0.60 ug/m<sup>3</sup></b> due to the Leases operation and 2.14 ug/m<sup>3</sup> due to the Transportation (Cumulative). The predicted value will not have any significant impact on the Air Environment. Adequate Buffer (67-69%) exist in the Air Environment for the proposed activity.</p>
4	<p><b>Noise Levels</b> : <b>There will be no Drilling and Blasting in the Mine.</b> Excavation, Loading and Transportation activities are the sources of Noise. The noise levels due to the HEM operations would be maintained at &lt;85 db(A) at a distance of 1.5 m from the sources for 8-hours exposure. Ambient Noise level at the boundaries would be maintained &lt;55 dB(A) during day times and &lt;45</p>

Sl. No.	Environmental Component & Anticipated Impacts
	dB(A) during night times, well within the MoEF&CC Norms for Residential and Rural Areas.
5	<p><b>Water Environment :</b></p> <p><b>Impact on Surface Waters :</b> As per Micro Watershed Atlas of India, the Lease Area falls in Micro Watershed Map <b>4C1B2a4</b>. There is a First Order Stream which drains the Watershed Area and joins Chinnar River. The ML Areas have the MDR as Northern Boundary and other areas are surrounded by Dry Agricultural Lands. There is <b>no Mine Pit Water Discharge</b> and the natural Drain Course from the Mine vicinity reaches to Chinnar River only. Thus, there will not be any impact on the Surface Waters due to the Mines.</p> <p><b>Impact on Ground Waters :</b> As per TWAD Data, 70 year Normal Rainfall of Ariyalur Rain Gauge Station is 875 mm. Surface Runoffs from the ML Areas is estimated as per Manual of Artificial Recharge of Ground Water (CGWB, 2007). About 14,560 KL/Year is the Pre-Project Runoff and 61,285 KL/Year is the Post Project Runoffs. About 1,825 KL/Year is utilized as Raw Water for the Mines. The Balance Quantity of 46,725 KL/Year is recharging the Ground Water-table in the Mines vicinity. Also, there will be <b>no Ground Water-table Intersection due to the Mining</b>.</p>
6	<p><b>Biological Environment :</b> There is <b>no loss of forest cover</b> due to the Project and hence there is no need of compensatory afforestation. There is no cutting of trees or clearing of bushes, etc. within the Lease due to the Proposal. There is no habitat fragmentation or blocking of migratory corridors due to Project activities since there is no wild life movement or migratory birds movement in the study area. Thus, there will not be any significant impact on the existing flora-fauna of the area.</p> <p><b>Anticipated Impacts on Agriculture:</b> ML areas are surrounded by Dry Agricultural Lands. As the baseline AAQ are in lower levels as well as the Predicted GLCs are very low/insignificant, there <b>will not be any impact on the surrounding dry agricultural lands</b> due to the Project.</p>
7	<p><b>Socio-economics :</b> Project will employ about 12 persons directly and 10 persons indirectly. The direct &amp; indirect employment, CER &amp; CSR activities, etc., will have a positive impact on the Socioeconomic Structure of the area.</p>
8	<p><b>Occupational Health :</b> DCPL is committed to provide a Safety &amp; Healthy working conditions. Personal Protective Equipment (PPEs) are provided for all employees working in the Mines.</p>

#### 4.0 Environmental Monitoring Programme

For effective implementations of Environmental Management Plan (EMP), DCPL has the Environment Monitoring Cell under the overall supervision of the Chairman. The quality of air, noise, water, soil, etc. are being monitored at the identified locations as per MoEF&CC/TNPCB Norms by appointing an accredited external agency. The status reports are being submitted to MoEF&CC Monitoring Cell, IBM and TNPCB periodically.

#### 5.0 Additional Studies

Detailed Risk Assessment and mitigative measures are delineated and an effective Disaster Management Plan, for natural and man-made disasters, is also submitted.

#### 6.0 Project Benefits

**Environmental Benefits :** Effective utilization of the Mineral for Cement manufacturing as Mineral Conservation Measure.

**Financial Benefits :** The capital cost of the Project is Rs.6.50 Lakhs. Also, an amount of Rs.0.50 Lakhs has been earmarked for Corporate Social Responsibility (CSR) Budget and 2.5% of Mine Profit as

Recurring CSR Budget per annum. As per MMDR Act 2015, 30% of Royalty Amount will be earmarked for District Mineral Foundation (DMF) and the amount will be spent for the benefit of local villagers in the Mine Area.

**Social Benefits :** Project will employ about 12 persons directly and 10 persons indirectly. The direct & indirect employment, CER & CSR activities, etc., will have a positive impact on the Socioeconomic Structure of the area.

## 7.0 Environmental Management Plan

Environmental Management Plan (EMP) is suggested to mitigate the possible negative impacts that may be caused to the various attributes of environment due to the proposed mining operations. The EMP for the existing Mine are herewith proposed. Being Existing Mines, there will be **no Construction Phase** for the Project. The EMP Measures proposed for Operation Phase are given in **Table 7.1**.

**Table : 7.1 Proposed EMP Measures**

SI. No.	Environmental Component & Proposed EMP Measures
1	<p><b>Land Environment :-</b></p> <ul style="list-style-type: none"> <li>❖ Earthen bunds are to be provided along the boundaries to arrest wash-offs.</li> <li>❖ Garland drains are to be maintained around the Lease.</li> <li>❖ Periodical Maintenance of garland drains shall be done.</li> <li>❖ Green Belt shall be maintained along the Lease boundaries and Safety Barriers.</li> </ul>
2	<p><b>Transportation :-</b></p> <ul style="list-style-type: none"> <li>❖ Tippers are to be fully covered with Tarpaulin to avoid any spillage on transportation.</li> <li>❖ No overloading of Tippers is allowed strictly.</li> <li>❖ Safe Speed Limit has to be enforced and monitored continuously.</li> <li>❖ Compliance to <sub>3</sub>Pollution under Control<sub>4</sub> Certification has to be ensured for the Tippers.</li> <li>❖ Restriction of Truck parking in the Public Road has to be implemented.</li> <li>❖ Regular and preventive maintenance of transport vehicles has to be ensured.</li> <li>❖ Effective Green Belt with thick foliage has to be maintained along the haul roads.</li> </ul>
3	<p><b>Air Quality :-</b></p> <ul style="list-style-type: none"> <li>❖ Water sprinkling on the excavating areas, loading point, haul roads, etc. has to be carried out.</li> <li>❖ Covering of trucks/tippers with tarpaulin is to be done during the Mineral transportation.</li> <li>❖ Over loading of Tippers has to be avoided to control the spillages during transportation.</li> <li>❖ Periodical maintenance of quarrying equipments has to be carried out.</li> <li>❖ Periodical check up of vehicles for <sub>3</sub>Emission Under Control<sub>4</sub> Certificate is to be ensured.</li> <li>❖ Effective Green Belt with thick foliage has to be maintained along the boundaries.</li> <li>❖ Ambient Quality has to be periodically monitored in the Lease vicinity.</li> <li>❖ The monitored data are to be periodically submitted as half-yearly Compliance Reports to SEIAA-TN &amp; Regional Office, MoEF&amp;CC, Chennai.</li> </ul>
4	<p><b>Noise Levels :-</b></p> <ul style="list-style-type: none"> <li>❖ Deploying HEM equipments will be with in-built acoustic mechanism for reducing noise.</li> <li>❖ Provision of silencers is to be made to control the noise generated by the machines.</li> <li>❖ Provision of ear muffs/ear plugs are to be provided the Workers in higher noise zones.</li> <li>❖ Effective Green Belt has to be maintained along the lease boundary to act as acoustic barriers.</li> <li>❖ Ambient as well as Workzone Noise Levels have to be periodically monitored and the Reports submitted to the Authorities.</li> </ul>

Sl. No.	Environmental Component & Proposed EMP Measures
5	<p><b>Water Environment :-</b></p> <ul style="list-style-type: none"> <li>❖ Earthen bunds are to be provided along the boundaries to arrest wash-offs.</li> <li>❖ Garland drains are to be constructed around the Lease.</li> <li>❖ Settling Pond has to be provided to the Garland drains, to settle the Suspended Solids, before its utilization.</li> <li>❖ Periodical Maintenance of garland drains shall be done.</li> <li>❖ Green Belt shall be maintained along the Lease boundaries and Safety Barriers.</li> <li>❖ Mine Pits will be converted into a Water Reservoir to recharge the Ground Water-table.</li> <li>❖ Water Quality has to be periodically monitored in the Lease vicinity.</li> <li>❖ The monitored data are to be periodically submitted as half-yearly Compliance Reports to SEIAA-TN &amp; Regional Office, MoEF&amp;CC, Chennai.</li> </ul>
6	<p><b>Biological Environment :-</b></p> <ul style="list-style-type: none"> <li>❖ Effective Green Belt developed has to be maintained with good Survival Rate till Conceptual Stage.</li> <li>❖ Native species will be preferred for the Green Belt.</li> </ul>
7	<p><b>Socio-economics :-</b></p> <p>The following measures are proposed for the society :</p> <ul style="list-style-type: none"> <li>❖ Support for Infrastructure Facility in the Region.</li> <li>❖ Financial support to Govt. Schools.</li> <li>❖ Provision of medical facilities for the nearby villages.</li> <li>❖ Contribution to Education in the area.</li> <li>❖ Carrying out various welfare activities for the benefit of the local population.</li> <li>❖ A budget of 1% of the Project Cost will be allotted as <b>Corporate Environmental Responsibility (CER) Budget</b> in compliance with MoEF&amp;CC OM F. No. 22-65/2017.IA.III dated 01.05.2018 for execution within 2 years.</li> <li>❖ In addition, for the mandatory <b>District Mineral Federation (DMF) @ 30% of Royalty Amount</b> will also be contributed.</li> </ul>
8	<p><b>Occupational Health :-</b></p> <ul style="list-style-type: none"> <li>❖ All employees are to undergo Medical Check-up on recruitment and periodically during employment.</li> <li>❖ Maintenance of Pre, during &amp; Post Employment Records are to be kept for periodical review.</li> <li>❖ Required Personal Protective Equipments for the employees are to be provided.</li> <li>❖ Provision of ergonomically designed seats for drivers/operators has to be ensured.</li> </ul>

**Plastic Waste Management :** There will be ban on one-time use and throw away Plastic usage in the Lease. DCPL has to encourage the use of eco friendly alternative such as banana leaf, areca nut palm plate, stainless steel glass, porcelain plates / cups, cloth bag, jute bag etc.

**EMP Budget :** The capital cost of the Project is Rs.6.50 Lakhs. A budget of Rs.2.00 Lakhs has been earmarked as Capital Cost for EMP measures and Rs.3.00 Lakhs per Annum as EMP Operating Cost towards EMP measures, Green Belt development & maintenance, Environmental Monitoring, etc.

**Financial Assurance :** The financial assurance in the form of Bank Guarantees dated 02.04.2014 & 23.05.2017 for total Rs.10,41,000/- was already submitted to IBM, Chennai with validity till 31.03.2023.

## 8.0 Ecological Damage Assessment, Remediation Plan and Natural Resource Augmentation & Community Resource Augmentation Plan

The Violation of the Mine Project is summarized in **Table 8.1**.

**Table : 8.1 Violation Applicable to the Project**

Sl. No.	Statute Requirement	Status	Remarks
1	Valid EC	<b>Operating the Lease after 15.01.2016 for a Production of 37,340 Tonnes Limestone leads to the VIOLATION. Applied for EC on 25.04.2017.</b>	EC was not required for this Mine (<5 Ha) till 15.01.2016.
2	Valid CTO	CTOs were obtained from TNPCB vide Orders 160514866259 (Water Act) & 160524866259 (Air Act) dated 29.06.2016 valid till 31.03.2017.	There is <b>NO VIOLATION</b> in this regard.
3	Valid Mining Plans/Schemes	IBM has accorded the periodic Approvals for Mining Plans/Schemes of the Mine. Present ROMP is valid till 31.03.2023.	There is <b>NO VIOLATION</b> in this regard.
4	Forest Clearance	No Forest Land involved. There is no Eco Sensitive Area (ESA) or No Eco Sensitive Zone (ESZ) within 10 km radius of the ML Area.	Not Applicable
5	Transport Permits	Lessee has <b>obtained the required Transport Permits.</b>	There is <b>NO VIOLATION</b> in this regard.
6	Any other Violation	Nil	Nil

The total Ecological/Environmental Damage Cost is **Rs.2,27,074/-, say Rs.2.30 Lakhs**. An amount of **Rs.2.30 Lakhs** toward Remediation Plan and Natural & Community Resource Augmentation Plans is allotted for approval which will be spent within three years (**Table 8.2**).

**Table : 8.2 Summary of Remediation, Natural & Community Resource Augmentation Plan**

Sl. No.	Activity Proposed	Budgetary Provision, Rs. Lakhs			Total, Rs. Lakhs
		I	II	III	
1	Cost of Damage Remediation Plan	0.45	0.45	0.45	1.35
2	Natural Resource Augmentation Plan	0.20	0.20	0.20	0.60
3	Community Resource Augmentation Plan	0.15	0.15	0.05	0.35
<b>Total</b>		<b>0.80</b>	<b>0.80</b>	<b>0.70</b>	<b>2.30</b>

The Remediation Plan shall be completed in 3 years whereas Bank Guarantee shall be for 5 years. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and the entire compensation levied by the Department of Mining & Geology is paid. Credible Action under Section 19 of the E(P) Act shall also be complied.

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