

**REPORT ON CHECKMCDR INSPECTION OF ALANTHURAIYAR KATTALAI LIME STONE  
(38 TMN 38012) MINE OF  
M/S ULTRA TECH CEMENT LTD IN ARIYALUR DIST. TAMIL NADU.**

Name and designation of inspecting officer: V. Jayakrishna Babu  
Controller of Mines (SZ)  
Date of Inspection : 01-06-2022

**1. General information of the mine :**

i Name of mine : Alanthuraiyarkattalai Limestone Mine (ML-9)  
ii Owner : M/s UltraTech Cement Ltd  
iii Nominated owner : Shri. K.C. Jhanwar  
iv Mining Engineer : Shri. Xavier Honestraj  
v Agent : Shri. Sajendra Kumar J A  
vi Mine Manager : Shri. Xavier Honestraj  
vii Lease area : 35.22 Ha  
viii Location : Village: Alanthuraiyarkattalai, District :  
Ariyalur, State : Ariyalur  
ix Lease period : 20 Years  
x Date of Expiry : 31.03.2029  
xi Date of approval of mining plan : 04.05.2007  
xii Date of approval of scheme/RMP : 13.11.2018  
xiii Period of Mining Plan/ Scheme of Mining/RMP : 2019-20 to 2023-24  
xiv Production (last 3 years) : FY 2018-19 : 299926.00 T  
FY 2019-20: 239645.46 T  
FY 2020-21: 94345.570 T  
Mineral rejects generated FY 2020-21: 46158.68 T  
Dispatches FY 2020-21: 94345.570 T

**2. Brief Description of the Mine:**

a) **A brief description of the mine covering location, geology, problems associated with mining of the deposit etc. may be given.**

**Location:** The mining lease area of 35.22 ha is situated in Alanthuraiyarkattalai Village, Ariyalur Taluk & District (Tamil Nadu). The Mining lease area is covered in Survey of India Toposheet No. 58 M/4 bounded by the following co-ordinates:

Latitudes: 11° 2'22.43"N to 11° 2'47.65"N

Longitudes: 79°10'3.18"E to 79°10'35.78"E

**Regional Geology of the Area**

In the Cauvery basin carbonate rock (mostly limestone) forms a sizable part of the stratigraphic column from the Lower Cretaceous to Recent. The rock formation in Ariyalur and Tiruchirapalli districts consists of Uttatur, Trichinopoly and Ariyalur Groups of Upper

Cretaceous and Palaeocene and Cuddalore Formation of Mio-Pliocene. The sedimentary rocks rest over the Archean platforms which are exposed along the western, south-eastern and south-western margins of the basin. The Uttatur and Trichinopoly Groups are folded in the southern part of the basin, whereas, the Ariyalur Group is free of deformation.

Limestone of Cretaceous and early Tertiary formations are exposed in the three principal outcrop areas viz. Trichirapalli, Virudhachalam, and Pondicherry along the western margin of the basin. The western margins of these sediments have a NE- SW trend. Limestone deposits in the region are categorized under four groups namely Uttatur, Trichinopoly, Ariyalur and Niniyur. The deposits falling in Kairulabad, Hastinapuram, Villipirangim, Pudupalayam, Periyagalur, Valajanagaram, Alanthuraiyarkattalai, Reddipalayam, Pudupalayam etc form a part of Pudupalayam formations of Ariyalur group whereas Nakkambadi and Sendurai areas form a part of Niniyur Group.

### **Local Geology**

The area exhibits a plain and a gently sloping surface. The top soil is black in color with 1.0 to 3.0 m in thickness. In some areas the thickness of overburden ranges from 3.0 to 14m and the limestone is observed below, which is hard compact and sometimes friable and soft.

In this area, shell limestone deposits occur as horizontal bedded formation. Limestone occur in depth varying from 10.0 – 14.0 m.

General Lithological Succession as per bore hole data.

0.00 to 3.00 M	- Black cotton top soil
3.00 to 8.00 M	- Sandy Clay/clay
8.00 to 14.00 M	- Soft friable sandstone
14.00 to 28.00 M	- Shell limestone with chert
28.00 to 40.00 M	- Sandstone/marl/clay.

b) Description on deployment of mining machinery given in the following format:

Sl. No	Machineries Deployed	Capacity	No. of units	In use	Ideal	Percent-age of utilization	Brief Description	Remarks
1	2	3	4	5	6	7	8	9
1	Back-Hoe/Bull Clam (Capacity in cubic metres) (a)Diesel	2.1 cu.m	3	3	Nil	100 %	Tata Hitachi	
2	Haulers / Dumpers	25 Tons	16	16	Nil	100 %	Ashok Leyland & Bharat Benz	
3	Rock Breaker PC 200	4 Tons	1	1	Nil	100 %	L&T Komatsu	
4	Dozer	175 HP	1	1	Nil	100%	BEML BD65	

3. Implementation of Mining Plan or Scheme of Mining/RMP:

Sl. No.	Proposals in the approved Mining Plan or Scheme of Mining/RMP	Observations regarding implementation of proposals given in approved Mining Plan or Scheme of Mining	Remarks
1	<b>CONSERVATION OF MINERALS</b>		
a)	<b>Exploration:</b>	A detailed exploration within the lease area was taken up by EMPRES, Chennai during 2008-09. A total of 32 nos. core drill hole has been drilled for a total meterage of 1238 m (16 to 40 m depth) within the lease area. Sufficient exploration is already carried out by drilling 32 Core drill holes, no further exploration proposal is made in the review of mining plan period	
b)	<b>Utilisation of sub-grade mineral:</b>	No sub grade is proposed to be generated as the entire limestone will be utilized for captive use.	
c)	<b>Any other proposal for monitoring</b>	NIL	

2	SCIENTIFIC MINING		
a)	<b>Mine Development and method of mining- Production:</b>	The method of working adopted is non-conventional mechanized mining considering various technical parameters like surface topography, continuation of limestone deposit, quality variations, geo-technical aspects, required rate of production etc,. Mining operation is carried out as per proposal made in the review of mining plan. The bench height will be maintained with a maximum height of about 6 m to match the maximum reach of the loading machine. The average width of the limestone bench is 6.0m. The slope of the individual of bench will be kept as 80°.An overall pit slope has been planned to be maintained at 45°.An approach ramp with a gradient of not less than 1 in 16 is formed. And then the benches are moved along the strike. The top soil material will be removed by excavator. Rock breaker will be utilized for sizing the large size boulders before transportation to the plant. The overburden will be removed completely so as to prevent the contamination with the limestone bench. The excavation of overburden and limestone is being done by deploying hydraulic excavator and dumper combination.	
b)	<b>Handling of Waste/ subgrade material</b>	The total waste generated during mining plan period is utilized for backfilling in the worked out pit	Will be utilized for back filling
c)	<b>Area reclamation &amp; rehabilitation:</b>	Proposal : 1.32 ha Actual - 0 ha	The limestone could not extract fully due to the COVID-19 Pandemic the mine was not operating in full strength. Hence backfilling not done

<b>3 PROTECTION OF ENVIRONMENT</b>			
a)	<b>Afforestation:</b>	<u>2020-21</u> Proposal – 3699 Saplings Actual – 1500 Saplings Nos.	Afforestation is less due to less backfilled area available for plantation as production is less due to COVID-19
b)	<b>Quality of air</b>	The air quality Monitoring is being carried out every month. The environmental monitoring was carried out by JM EnviroNet Pvt. Ltd. which is a NABL accredited lab. Air monitoring station have been fixed in 8 locations covering core zone and the surrounding villages (Buffer zone) and monitoring carried out regularly.	The existing Core zone & Ambient air quality levels for SPM, PM10, PM2.5, SO2 and NOx are within the prescribed limit as per NAAQ standards for work zone environment & Residential, Rural & other areas.
c)	<b>Quality of water</b>	The water quality Monitoring is being carried out every month. The environmental monitoring was carried out by JM EnviroNet Pvt. Ltd. which is a NABL accredited lab. Water samples are collected from 1 mine pit water, 1 surface water and 3 ground water sources (Bore well) situated around the mining lease and analyzed for physical-chemical parameters.	The water quality in general is found to be within permissible limit for mine water & ground water and compliance with the CPCB norms for surface Waters

d)	<b>Noise level</b>	Noise measurements were carried out at 11 locations in core zone and 2 locations in buffer zone. From the analysis it is found that, the day, night equivalent of existing noise level in the core zone area are ranging from 63.5 to 64.4 dB(A), 55.4 to 57.5 dB(A) respectively. While comparing with the DGMS Norm of 85 dB(A) the values were in well within the limits. In the buffer zone, day Equivalent Noise levels were ranging from 52.2 dB(A) to 52.4 dB(A) and night Equivalent Noise levels ranged between 43.2 dB(A) to 43.8 dB(A). While comparing with the MOEF Norm of 55 dB(A) for day time and 45 dB(A) for night time, the monitored ambient noise levels were written the prescribed limit for Residential areas	Under Control
e)	<b>Vibration</b>	Blasting is not carried out. Hence no ground vibration. All the HEMM used in Mining are manufactured by World class Heavy Equipment manufacturers like Tata Hitachi, L&T Komatsu, BEML etc. Hence Ergonomically designed cabins are provided in all the equipment.	--
f)	<b>Any other proposal for monitoring</b>	Nil	--

**4. History of Violations after approval of Mining Plan or Scheme of Mining/RMP for last 3 years:**

<b>Sl.No</b>	<b>Date of inspection</b>	<b>Name of inspecting officer</b>	<b>Violations of MCDR, 2017 observed and pointed out</b>	<b>Rectification of violations</b>	<b>Remarks</b>
1	16.10.2019	Shri. V. Jayakrishna Babu (RCoM)	<p><b>Rule 11(1)</b></p> <p>a). During the inspection it is found that the production and development proposal are lacking behind with that of proposals made in the approved Mining Plan for the year 2018-19 and 2019-20 up to September, 2019. As a result of the backlog work have the cascade effect on the proposals given for the ensuring plan period.</p> <p>b). The Non- Mining lease areas within the mining lease shown in the lease plan, boundary pillars are not properly erected.</p>	<p>a)The production and development for the year 2018-19 is done as per the approved Mining Plan. For the year 2019-20 production and development I s under progress and we will be achieving the quantity as per the approved mining plan at the end of financial year and for the year 2019-20.</p> <p>b) Boundary pillars are erected properly in the non-mining lease area and coordinates are being written on the boundary pillars. The photograph are herewith attached for your reference.</p>	Complied
2	29.01.2021.	Shri. Matiul Islam (ACoM)	<p><b>Rule 11(1)</b></p> <p>No holder of a mining lease shall commence or carry out mining operations in any area except in accordance with the mining plan approved, modified or reviewed by the Indian Bureau of Mines. The deviation observed in mining operations vis-à-vis the approved document is given below:</p> <p>Only 200 numbers of saplings have</p>	<p>Due to incessant rain in the FY 2019-20, the development activity could not be carried out as per the proposal. We could achieve only 2,01,516.41 MT against the proposal quantity of 7,82,134 MT.</p> <p>Due to the above reason, the backfilled area available for plantation was very less. However, in the FY 2020-21 we have done backfilling in 1.20 ha. area and 2100 nos. of saplings has been planted in the backfilled area. The photograph of the same is attached</p>	Complied

			been planted during the year 2019-20 against a proposed 2082 numbers in the approved document.	as																
3	27.09.2021	Shri. G.C. Sethi (RCoM)	<p><b>Rule 11(1)</b></p> <p>Mining operations have not been carried out in accordance with the Approved Review of Mining Plan vide letter no. TN/ALR/LST/ROMP-1519. MDS dated 12.11.2018 to the extent indicated below:</p> <p>(i) There was a proposal to produce 2,99,912 tonnes of Limestone in the year 2020-21, against the approved proposal only 94,345.57 tonnes of limestone has been produced during the said year.</p> <p>(ii) There was a proposal to produce 303,007 tonnes of top soil, 128,534 tonnes of mineral reject and 283,885 tonnes of OB/SB/IB in the year 2020-21 against the approved proposal only 89,316 tonnes of OB/ waste has been generated and no top soil has been produced during the said year.</p> <p>(iii) There was a proposal to undertake under afforestation 3304 number of saplings in the year 2020-21 against the approved proposal carried out only 1500 plantation in the said year.</p> <p>(iv) There was a proposal to backfill an extent of 1.32 hect in the year 2020-21, against the approved proposal no back filling has been carried out in the said year.</p>	<p>Due to the onset of Covid-19 pandemic which started disrupting operations since February 2020 and the unprecedented lockdown declared by the State/Central. Govt. in the last week of March 2020 owing to Covid-19 Pandemic and it continued till December 2020. Therefore, we could not operate the mines with full capacity in the FY 2020-21.</p> <p>(i) The cumulative effect of disruptions and lockdown, we could not able to produce Limestone, Top Soil, OB/SB/IB &amp; Mineral Reject as per proposal given in the Approved Review of Mining Plan for FY.: - 2020-21. The Proposal Vs Achievement for FY:2020-21 is given below</p> <p>(i) &amp; (ii)</p> <table border="1"> <thead> <tr> <th></th> <th>Proposal</th> <th>Actual Production</th> </tr> </thead> <tbody> <tr> <td>Limestone</td> <td>299912</td> <td>94345.57</td> </tr> <tr> <td>Top Soil</td> <td>303007</td> <td>95319</td> </tr> <tr> <td>OB/SB/IB</td> <td>283885</td> <td>89316</td> </tr> <tr> <td>Mineral Reject</td> <td>128534</td> <td>46159</td> </tr> </tbody> </table> <p>The above quantity has been furnished in the Annual Return and Star Rating</p> <p>(iii) The cumulative effect of disruptions and lockdown for COVID 19 pandemic. We were able to plant only 1,500 no's of saplings.</p>		Proposal	Actual Production	Limestone	299912	94345.57	Top Soil	303007	95319	OB/SB/IB	283885	89316	Mineral Reject	128534	46159	Complied
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				<p>However, the backlog of 1804 no's of sapling has already been planted in the present financial year.</p> <p>Hence, we have completed 3304 no's of sapling for the FY2020-21. The photographs for the same is attached for your reference.</p> <p>(iv)The cumulative effect of disruptions and lockdown for COVID 19 pandemic. the limestone has not been completely exhausted in the bottom part of the existing pit. However, backfilling will be carried out after complete exhaustion of limestone at the bottom</p>	
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**5. Socio-Economic Development Plan :**

Sl. No .	Proposed Action Plan towards socio Economic Development	Expenditure proposed (In Rs, Lakh)	Expenditure incurred (in Rs, Lakh)	Remarks
1	General Development in the area			
	i) Housing	Nil	Nil	
	ii) Water Supply	Rs. 1,90,000	Rs. 1,99,000	Provided New Bore well for drinking water in Panangur village
	iii) Sanitation	Nil	Nil	
	iv) Health, Safety and Medical Facilities	Rs. 2,50,000	Rs. 3,16,880	Health Booster distributed to the villagers & School toilet constructed for panchayat school
2	Education and Training	Rs. 25,000	Rs. 28,000	Tailoring Instructor Remuneration
3	Employment to local inhabitants	Rs. 8,46,000	Rs. 8,60,000	6 no's local manpower deployed
4	Public Transportation and communication	Rs. 50,000	Rs. 66,000	Village road repairing
5	Recreation and other sports activities	Nil	Nil	
6	Expenditure for environment management	Rs. 10,00,000 /-		Plantation, Water Sprinkler & Environment monitoring.
7	Other	Nil	Nil	
<b>8</b>	<b>Total</b>	<b>Rs. 23,61,000</b>	<b>Rs. 24,69,880</b>	

**6. Observations/ remarks on the earlier inspection carried out by sub-ordinate officer(s) with specific thrust on systematic and scientific mining, mineral conservation and environmental protection and other sensitive/important aspects pertaining to the mine area or surroundings (CRZ/ Western Ghats/ Wildlife Sanctuaries etc.):**

NIL

Place: Reddipalayam

Signature

Date : 01.06.2022