

By e-mail

**GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES  
OFFICE OF THE REGIONAL CONTROLLER OF MINES, JABALPUR**

No. MCDR-MPC0LST/34/2025-JBP-  
IBM\_RO\_JBP/ROMP-32/2025-26

Dt : 31/10/2025

Shri/M/s. ULTRATECH CEMENT LIMITED ,  
B Wing, Ahura Centre, 2nd Floor Mahakali Caves Road Andheri (East),

**Sub** Approval of Review of Mining Plan in respect of your DALLA Mining Lease Area for Limestone over an area of 751.000 Ha. situated in : Kota Village, Obra Taluka, Sonbhadra District of Uttar Pradesh State.

**Ref :** (i) Your Letter No. NIL dated 10/09/2025 submitting Draft Digital copy of Review Mining Plan in respect of aforesaid M.L.Area.  
(ii) This office letter of even no. dated 01/10/2025.  
(iii) Your Letter No. NIL dated 31/10/2025 submitting final Digital copy of Review of Mining Plan in respect of aforesaid applied ML area.

Sirs,

In exercise of the powers conferred by clause (b) of sub-section (2) of section 5 of the Mines & Minerals (Development & Regulation) Act, 1957 read with Government of India Order No.S.O.445(E) dated 28.04.1987 and S.O. 1857(E) dated 18th May, 2016; I hereby **approve** the above said Review of Mining Plan alongwith Progressive Mine Closure Plan (PMCP). This approval is subject to the following conditions:

**A. General Conditions:**

1. That the Review of Mining Plan is approved without prejudice to any other laws applicable to the mine / area from time to time whether made by the Central Government, State Government or any other authority.
2. That this approval of the Review of Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 or any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 and the rules made there under.
3. That the Review of Mining Plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
4. The provisions of the Mines Act, 1952 and Rules and Regulations made thereunder including submission of notices of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.
5. If anything is found to be concealed as required by the Mines Act in the contents of the mining plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
6. The execution of Review of mining plan shall be subjected to vacations of prohibitory orders / notices, if any.
7. A copy of EIA/EMP Report approved by MOEF, New Delhi should be submitted to this office within one month of its approval alongwith a copy of their approval letter.
8. This approval for proposed mining operation and associated activities is restricted to the mining lease area only from this date. The mining lease area is as shown on the statutory plans by the Lessee/QP/Applicant and Indian Bureau of Mines has not undertaken any survey verification of mining lease boundary on the ground or authentication of DGPS survey submitted.
9. Your attention is invited to the Supreme Court interim order in W.P. (C) No. 202 dated 12.12.1996 for compliance. The approval of above said Mining Plan is therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable.
10. The details of grant / execution of the lease by State Government, whenever such an order is passed may be intimated to this office.
11. This department does not undertake any responsibility regarding correctness of the boundaries of the lease area shown on the ground.
12. At any stage, if it is observed that the information furnished in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.
13. ^^The approval of Review of Mining Plan is subject to the compliance of CCOM's Circular No. 2/2010 regarding submission of Geo-referenced Cadastral Map showing disposition of the lease area certified by competent authority of State Government within 6 months from the date of recognition of the agency by the State Government to undertake such survey or from the date of lease execution whichever is earlier. (^^ If applicable)
14. The Final Mine Closure Plan shall become due two years before the expiry of Mining Lease period.

**B. Special Conditions:**

1. The lessee to keep a separate record of sale of mineral, if any, from the lease and will report such sale in the monthly & annual

Authorised Signatory

- returns to be submitted under the Mineral Conservation & Development Rules, 2017.
2. An Environmental monitoring cell should be constituted to carry out regular monitoring of environmental parameters (Air, Water & Noise level) and quarterly report of Environmental monitoring should be submitted to the Regional Controller of Mines, Indian Bureau of Mines, Jabalpur. Further, daily monitoring report should be displayed on display board near mine/mine office.
  3. The approval is given for the received proposals as applicable from this date for the mining activities to be carried out within the lease area. The earlier instances of irregular mining/ illegal mining, if any, shall not be regularized through the approval of this document.
  4. It shall be mandatory for the project proponent, abstracting ground water, to obtain NO Objection Certificate from Central Ground Water Authority or, the concerned State/Union Territory Ground Water Authority, as the case may be.
  5. That the yearly report in the prescribed format indicating the extent of protective and rehabilitative works carried out as envisaged in the Review of Mining Plans with progressive Mine closure Plan required under Rule 26(2) of Mineral Conservation and Development Rules, 2017 shall be submitted before 1st of July of every year to the Regional office, Indian Bureau of Mines, Jabalpur.
  6. If any technical comments received by state Govt to modify the approved Review mining plan the lessee will have to modify the ROMP as per the comments of state govt in future.

Yours faithfully,

Encl: Digital copy of Approved Review of Mining Plan

MCDR-MPC0LST/34/2025-JBP-IBM\_RO\_JBP/ROMP-32/2025-26

(SALIL SANDIP KUJUR)

Regional Controller of Mines

Copy forwarded for information to Shri Pushendra Mishra Qualified Person

(SALIL SANDIP KUJUR)

Regional Controller of Mines

Not on first two copies:

Copy forwarded for kind information to:

- 1) The Director, Department of Mines & Geology, Government of U.P.
- 2) The Controller of Mines (CZ), Indian Bureau of Mines, NAGPUR.
- 3) The Director of Mines Safety, VARANASI.

(SALIL SANDIP KUJUR)

Regional Controller of Mines



## Chapter 1 : General Information

### 1.1 : Lease Details

IBM Registration Number :	IBM/441/2011
Lease Code :	21404301
Mine Code :	38UPR184001
Name of Lessee :	ULTRATECH CEMENT LIMITED
Address of Lessee :	B Wing, Ahura Centre, 2nd Floor Mahakali Caves Road Andheri (East),
Type of Lessee :	Private
Name of Mining Lease :	Dalla Limestone Mine 370dot365Ha
State :	UTTAR PRADESH
District :	SONBHADRA
Tehsil/ Taluk/ Mandal :	Obra
Village :	Kota
Lease Area (Ha) :	751.000
Forest Area (Ha) :	380.6350
Name of Minerals :	LIMESTONE
Name of associated minerals :	

Type :	Existing Lease
Period of the proposal (FY) from :	2026 - 27
Period of the proposal (FY) to :	2029 - 30
Type of working :	Opencast
Nature of Use :	Captive
Category of Mine :	Category A

**1.1.1 : Initial/subsequent Lease grant details**

Grant	From	To	Lease deed execution date	Lease registration date
Initial Grant	01/05/1976	30/04/1996	01/05/1976	09/08/1976
1st Extension	01/05/1996	30/04/2016	01/04/2008	19/04/2008
2nd Extension	01/05/2016	31/03/2030	30/06/2017	03/07/2017

**1.1.2 : Mining Plan Submission Criteria Details**

Type of Document :	Review Of Mining Plan Under Rule 17(2) Of MCR, 2016
Reason/s For Modification :	Review Of Mining Plan Submission Under Rule 17(2) Of MCR 2016.
Period for which modification is proposed :	2026-2027 to 2029-2030

**1.2 : Land Ownership Details**

View Land Ownership Details Excel	<a href="#">Land_Ownership_Details.xlsx</a>
-----------------------------------	---

**1.3 : Existing Lease**

--	--

Date of Execution :

01/05/1976

**1.3.1 : Approval of earlier Mining Plan & Its Subsequent Review in Chronological Order**

S.N.	Letter Number	Date	Period		Type Of Approved Document	Remark
			From	To		
1	314(3)/96-MCCM(C)/MP/08	24/06/1997	01/04/1996	31/03/2001	Mining Plan	The provided details for the Mine Plan pertain to the 751 Ha Area.
2	314(3)/2007-MCCM(C Z)/MP-S-18/952	28/08/2007	01/04/2006	31/03/2011	Scheme Of Mining	The provided details for the Mine Plan pertain to the 751 Ha Area.
3	MP/Sonebhadra/Limestone/MPLN/MOD-14/2021-22 Jabalpur	13/10/2021	01/04/2021	31/03/2026	Mining Plan	The provided details for the Mine Plan pertain to the 370.365 Ha Area.
4	E 10304 MCDR-MPC0 LST/9/2024-JBP-IBMROJBP	10/07/2024	01/04/2024	31/03/2026	Modification Of Mining Plan	The provided details for the Mine Plan pertain to the 751 Ha Area.

**1.3.2 : Partial Surrenderd Area During Stages of Operations in Chronological Order**

Not Applicable

**1.3.3 : Transfer of Lease Area Subsequent to Grant**

Sr.no	Transfer of lease deed letter number	Date of execution of Transfer lease deed	Name of Transferor	Nature of block transferred		
				Granted through auction	Other than through	Other than through

					auction for captive use	auction for non captive use
1	2192/77-5-2007-348/06	09/10/2007	UP State Mineral Development Corporation Ltd	No	Yes	No
2	1333/86-2017-169/2016	30/06/2017	Jaiprakash Associates Ltd	No	Yes	No

### 1.3.4 : Statutory Compliances

#### 1.3.4.1 : Environment Clearance

Applicable :	Yes
Letter No :	J11011/560/2007/IA II(I)
Date :	29/09/2008
Validity :	31/03/2030
ROM Mineral :	2000000.0000 (Tonnes)

#### 1.3.4.2 : SPCB Approvals

Letter No :	145621/UPPCB/Sonebhadra(UPPCBRO)/CTO/air/SONBHADRA/2021 & 146188/UPPCB/Sonebhadra(UPPCBRO)/CTO/water/SONBHADRA/2021
Approval of :	Consent To Operate
Date :	12/04/2022
Validity :	31/12/2026
ROM Mineral :	100000.0000 (Tonnes)

**1.3.4.3 : Forest Clearance**

Applicable :	Yes
Letter No :	-
Date :	01/01/0001
Validity :	01/01/0001
Area (Ha) :	0.0000

**1.3.4.4 : Land Acquisition Details**

Total Area Acquired in hectare:	12.6060
Total Amount Paid (INR) :	13866600.0000

**1.3.5 : Mine Location Details**

Toposheet Number :	G44X3(63P/3)
--------------------	--------------

**1.3.5.1 : Location of Boundary Pillars**

View Location of Boundary Pillars Excel	<a href="#">lease_boundary.xlsx</a>
---	-------------------------------------

**1.3.6 : Owner/Nominated Owner Details**

Name	PAN of owner / Nominated Owner	Address of owner/ Nominated Owner	Mobile / Contact Number	Email	Please attach Minutes of Board Resolution in case of Nominated Owner
Kailash Chandra Jhanwar	AFBJ4514J	B Wing, Ahura Centre, 2nd FloorMahakali Caves	022-66927800	kailash.jhanwar@adityabirla.com	<a href="#">Declaration - Nominated Owner.pdf</a>

RoadAndheri (East),

**1.3.7 : Qualified Person Details as per M(OAHCEM)CR, 2016**

S.N.	Prefix	Name	PAN of QP	Address	Mobile no.	Qualification	Exp in years as prescribed under the rule	Email
1	Mr	Pushendra Mishra	BWPPM6018N	D/35 Dalla Township Post Office –Dalla 231207 Distt:- Sonebhadra (U.P.)	9407061526	M Sc Geology	14	mishra.pushendra@adityabirla.com
2	Mr	Deepak Suwasiya	FUSPS5958G	D/32 Dalla Township Post Office –Dalla 231207 Distt:- Sonebhadra (U.P.)	7339831726	BE Mining	12	Deepak.Suwasiya@adityabirla.com

## Chapter 2A : Geology & Exploration

### 2A.1 : Geology

#### 2A.1.1 : Topography

Terrain :	Undulating
Highest Level (m) from MSL :	281.1300
Lowest Level (m) from MSL :	161.8100
Average Level (m) from MSL :	196.8100
Drainage Pattern :	Dendritic
Order of Stream :	Order 4 and above
Min Dist of Stream from Lease Area(m) :	0.0000

#### 2A.1.2 : Details of Physiographic features and Infrastructures available in and around the lease/ block area

Description	Location if existing Within the lease/block area	Distance from boundary periphery in kms, if existing outside the lease/block area. (within 5.00Kms)	Remark if any
River/Nallah/Reservoir	Kanhar River and Kota Reservoir	Sone River 0.50 km north of ML.	Kanhar river in the east and Kota reservoir in central part.
Public roads (Tar road, cart road)	Kota - Kone Road adjoining Boundary pillar G.	State Highway 5A (Varanasi - Shaktinagar) - 1.7 km West of ML Boundary.	PMGSY road to Ambatola village passes through the ML.
Railway track	Nil	Howrah-Delhi main railway line passes 3.90 km west of the ML.	Dalla Cement Works railway siding is about 2.50 km west of ML
Human settlements	Kota, Bhaksihwa and Piprahawa village inside ML.	Dalla (1.50 Km west), Billi Markundi (0.75 Km SW), Tilgudwa (2.50 Km SouthWest),	Human settlements mostly in the west and south of ML

		Dahkudandi (0.60 Km South)	
Archaeological monuments/ places of worships/public utilities etc	5 nos. small local temples in and around Kota village, One small local temple to the west of Kanhar River.	Vaishno Devi Temple 3.5 Km North-West, Anchaleshwar Temple (2Km West)	Dalla Bus Station and Chopan Railway Station 2 Km and 6 Km west of MLB respectively
Wild life sanctuaries/ national parks	Nil	Kaimur Wildlife Sanctuary - 0.75 Km North of ML Boundary	-
Coastal Regulation Zone (CRZ)	Nil	Nil	-
Powertransmision lines/telephone lines	11 KV, 33 KV and 400 KV Power Lines in the central part of ML	Many transmission lines supplying power to surrounding villages	-
Firing range	Nil	Nil	-
Ordinance factory	Nil	Nil	-
grazing land/ burial ground or cremation ground	Cremation ground in Kota Village	-	-
Any other specify	Eco Sensitive Zone of Kaimur Wildlife Sanctuary passes through the North-Western and North-Eastern part of the ML	Dudhi and Singrauli Reserve Forests within 5 Km of ML	-

Particulars	Distance from lease boundary in kms
Near by village	Kota Village within the lease area and 1.50 km Dalla (Kajrahat)
Nearest Railway station	6.0 km (Chopan Junction)
Nearest Port	580 km (Paradeep)
Distance of SH/NH from lease area	1.7 km (SH-5)

### 2A.1.3 : Regional Geology

Regional Geology
The Mahakoshal group of rocks and Lower Vindhyan rocks are exposed in the region and covers Survey of India Toposheet No. 63P/3. The Dudhi Granitoid Complex (DGC) occurs in juxtaposition with the rocks of Mahakoshal Group in the north and Gondwanas in the northwestern part of the region. The DGC comprises a number of phases i.e. grey granite, pink granite gneisses, dolerite dyke and quartz reefs with enclaves of meamorphites and veins of pegmatites, aplites and quartz reefs. The Mahakoshal Group includes metasediments with interlayered

metavolcanics and granitic bodies intruding it. This group is divisible into an argillite predominant facies, the Parsoi Formation, overlying the argillite-arenite facies with chemogenic rocks - the Agori Formation. In the region, the Parsoi Formation only exists in tectonic contact with the rocks of Dudhi Granitoid complex. The northern part is occupied by the rocks of the Lower Vindhyan Group i.e. Semri Series. It consists of Limestone, dolomite, porcellanite and small bands of quartzite. The Lower Vindhyan is overlain by the Susnai breccia, which form the unconformity between the rocks of Lower and Upper Vindhyan rocks. The Dhandhraul quartzite, which belong to the basal part of the Kaimur series, forms lowermost part of the Upper Vindhyan. The general trend of DGC and Mahakoshal group of rocks varies from E-W to ENE-WSW and have been involved in folding of at least three generations (Roy and Bandopadhyay, 1990). The Vindhyan strata define a broad, regional syncline trending ENE-WSW. The axis of the syncline is slightly curved and plunges gently towards west. The average dip of southern limb is greater than that of the northern limb rendering the axial plane to dip southerly (Reference - Interim Report on Regional Geochemical Mapping of Toposheet No. 63P/3 and 63P/4 by Geological Survey of India).

## 2A.1.4 : Local Geology & Structure

### 2A.1.4.1 : Local Geological Set-up

Limestone occurring within Dalla (Kajrahat) Limestone Mine forms part of Semri Group of Vindhyan Super group. It is underlain by Arangi Shale Formation and overlain by Chopan Porcellanite Formation. The local geological sequence established by Directorate of Geology and Mining (DGM), Uttar Pradesh during the course of geological mapping, trenching and core drilling carried out in the area and further confirmed by boreholes drilled by Uttar Pradesh Cement Corporation Ltd. (UPCCL) and Jaiprakash Associates Ltd. (JAL). The Arangi Shale exposed in southern part of the area is dirty white, black in color. The Kajrahat Limestone is light to dark grey, bluish grey and dirty yellow in color and microcrystalline to coarsely crystalline in nature. At places, the limestone is intercalated with pink, dark grey to black shales. Prakash and Dalela (1982) have identified 12 litho-units (members) within the Kajrahat Limestone. The member 1 and 2 comprises of thinly to thickly bedded, grey to light grey color limestone with thin to thick shale beds (depicted as LST1 in Surface Geological Plan). The limestone of member 3 and 4 is thickly bedded, grey to light grey color, medium to fine grained with thin shale bands and laminations (depicted as LST2 in the Plan). The member 4 shows mottled grey weathering. The member 5 is thinly bedded, grey to dark grey color limestone with thin to thick shale and shaly limestone beds (depicted as LST3 in the Plan). The member 6 comprises massive, thickly bedded limestone with shale beds and laminations. The limestone of member 6 is high in MgO and depicted as LST4 in the Plan. The member 7 comprises of thinly bedded, grey colored limestone with intercalation of shale bands. The member 8 is massive, light to grey color limestone and dolomitic limestone with fine laminations of shale. The members 9 to 12 are dolomitic limestone, dolostone or dolomite. The members 7 to 12 together are depicted as Dolomite and Dolomite band in Surface Geological Plan.

### 2A.1.4.2 : Structure

The strike of the rock formations is E-W and gradually changes to ENE and N8E-SW. The carbonate rocks form a monoclinial sequence of north dipping beds trending east-west and having moderate to steep inclinations (35o to 65o), the steeper dips are common in the lower part of the sequence while the upper beds have gentler dips. The monoclinally dipping beds also have minor folds. A prominent strike slip fault has been deciphered in the course of geological mapping, near west of boundary pillar G. The fault is aligned in a northwest - southeast direction and has displaced the entire sequence of rocks by about 193 m. Varied disturbances during the depositional sequence created a number of joints and DGM, UP has classified them as very well developed, well developed and poorly developed sets. The strike of very well-developed joint sets trends N-S to NE-SW with dips of 48o to 64o towards E, 70o towards W to vertical.

### 2A.1.4.3 : Lithology, Petrographic & Mineralogical Description for Major, Associated & Indicator Minerals

The lithological sequence of the area from bottom to top are Arangi Shale, Limestone intercalated with thin to thick bands of shale, dolomitic limestone and dolomite. The Arangi shale forms the

foot wall of the area while the dolomite is towards the hanging wall side. The petrographic and mineralogical studies have been carried out by UTCL during the last plan period. The rock sample exhibits a micro crystalline to crypto crystalline texture, indicating it is Micrite Limestone composed mainly of micro crystalline calcite with smaller calcite crystals set in a clayey, carbonaceous matrix. It appears a greenish-gray color and is interpreted to have been deposited in a low-energy marine setting. The rock features larger to smaller anhedral calcite crystals, accessory minerals like limonite and sphene, and moderate fractures filled with limonitic and sideritic material. The key characteristic is the fine-grained nature, with micrite calcite grains lacking sharp boundaries and coated with cementing material.

#### 2A.1.4.4 : Mode of Occurance & Controls of Mineralization

The ridges rising out of the plain comprises essentially of the limestone in central part of the area. The limestone is seen exposed on surface on the ridges and is intercalated with thin to thick bands of shale and patches of dolomitic limestone. The Arangi Shale can be seen exposed towards south of ML area. The northern part of ML mainly comprises of dolomitic limestone and dolomite. Altogether, four bands of limestone viz. Limestone-1, 2, 3 and 4 have been identified within ML. The limestone band 1 (categorized as Member 1 and 2 by Prakash and Dalela, 1982) is thin to thickly bedded with thin to thick shale beds and laminations. The limestone band 2 (categorized as Member 3 and 4 by Prakash and Dalela, 1982) is massive, thickly bedded with minor intercalations of shale. This band also shows mottled weathering on surface. The limestone band 3 (categorized as Member - 5 by Prakash and Dalela, 1982) is thinly bedded with thin to thick beds of shale. The limestone band 4 (categorized as Member-6 by Prakash and Dalela, 1982) is massive limestone with intercalations of dolomitic limestone.

#### 2A.1.4.5 : Extent of Weathering/ Alteration

The limestone band 2 shows mottled weathering at few places. Also, isolated stromatolitic bearing beds can be seen on surface. Pene-contemporaneous brecciation, convolute laminations can be seen both in the outcrop and core samples of limestone at places. Calcite veins and stylolites can also be seen on surface. The limestone of the area has been dolomitized at places, making it unsuitable for cement manufacturing.

#### 2A.1.4.6 : Nature/Form of Mineral

Lump

Specify If any other

Nil

#### 2A.1.4.7 : Extent of Mineralization

The limestone is continuing for entire strike length of about 10 km from east to west. The width of limestone band in average varies from minimum 57 m to maximum 97 m on surface. Most of the forest area are mineralized except few which are near to Northern/ Southern Boundary. (Eco Sensitive Zone of Kaimur Wildlife Sanctuary passes through ML area near BP B and River Kanhar also passes through ML near BP G & D.

#### 2A.1.4.8 : Deposit Type (as per MEMC Rule)



					Form	To	Form	To
1	NIL	0	0.00	0.0000	Nil	Nil	Nil	Nil

**2A.2.1.3: Ground Geophysical Survey**

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					Form	To	Form	To
1	Nil	0	0	0.0000	Nil	Nil	Nil	Nil

**2A.2.1.4: Geochemical Survey**

SI.No.	Type of Sample	No of Samples	Aanalysis report	Area Covered (Ha)
1	Nil	0	Nil	Nil

**2A.2.1.5: Pitting**

Number of Pits															
0															

SI.No.	Year		Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Depth (from)	Depth(to)	Running mtr	Litho units exposed	Name of the radical	Av Grade(in %)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
	From	To											From	To	From	To
1	Nil	Nil	Nil	0.00	0.00	0.00	0.00	0.00	0.00	Nil	Nil	0.00	Nil	Nil	Nil	Nil

**2A.2.1.6: Trenching**

Number of Trenches															
0															

**2A.2.1.6.1: Spacing**

Min (m)	Max (m)	Avg (m)
0.00	0.00	0.00

SI.No.	Year		Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench (m)	Depth (from)	Depth(to)	Running mtr	Litho units exposed	Name of the radical	Av. Grade	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
	From	To											From	To	From	To
1	Nil	Nil	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	Nil	Nil	Nil	Nil

**2A.2.1.7 Exploratory Drilling(Core/non Core)**

SI.No.	Year		Exploration agency	Core holes		Non-core (RC/DTH)		Grand total		Attach log sheet of each borehole in csv/excel format
	From	To		Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	
1	28/04/2023	30/12/2023	M/s. GAIA EXPLORATION SERVICES	104	6288.00	0	0.00	104	6288.00	<a href="#">Log sheet-104 Boreholes by UTCL.xlsx</a>

**2A.2.1.8: Exploratory Mining**

SI.No.	Pit/Adit ID	Length in Mtr	Width in Mtr	Depth in mtrs	Volume (m <sup>3</sup> )
1	NIL	0.00	0.00	0.00	0.00

**2A.2.1.9: Sampling**

SI.No.	Type of sample	No of samples collected	Number of samples analyzed	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remark if any
				From	To	From	To	
1	Drill Core	4555	4555	24:44:67.78	24:45:67.38	83:06:29.05	83:15:08.29	The analysis has been done.

**2A.2.1.10: Chemical Analysis**

SI.No.	Sample ID	Minerals	Radical with garde in %	Name of Agency	Type of agency	Attachment
1	PBH - 1 to PBH 103	Limestone	SiO <sub>2</sub> -6.57%, CaO-43.33%, MgO-2.61%, Fe <sub>2</sub> O <sub>3</sub> -2.39%, LOI-38.07%	BSS Lab	NABL accredited	<a href="#">NABLSample412.xlsx</a>
2	PBH - 1 to PBH 103	Limestone Collar	SiO <sub>2</sub> -14.56%, CaO-41.75%, MgO-2.91%, Fe <sub>2</sub> O <sub>3</sub> -1.09%	UTCL	Inhouse	<a href="#">Chemical Analysis_104_BH.xlsx</a>

\* Chemical analysis of core /non vore samples may be uploaded in CSV file which shall normally include Five files namely collar file, survey file and Geology log file, Assay file & RQD File.

**2A.2.1.11: Petrology & Mineralogical Studies**

SI.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Mineral	1	1	<a href="#">Kajrahat Petrography Study Report.pdf</a>

**2A.2.1.12: Beneficiation Studies**

SI.No.	Type of Beneficiation	Number of Samples	Attach
1	Nil	Nil	Nil

**2A.2.1.13: Bulk Density Study as per M(EMC) Rules, 2015 and SOP of CGPB**

Method adopted for calculating bulk density of ore and waste				
The Bulk density of limestone is tested as per MEMC Rule 2015 and Test Certificate enclosed as Annexure-17.				
SI.No.	Nature of Ore/OB	Mineral	Number of samples	Bulk Density Established (t/m <sup>3</sup> )
1	Ore	Limestone	12	2.50

2	OB	Shale	3	2.51
3	OB	Shale with Soil	3	2.02
4	OB	Soil	3	1.80
5	OB	Dolostone	3	2.51

**2A.2.1.14: Area Covered under Exploration**

Level of exploration	Area in Ha.		Total Area in Ha.
	Forest	Non Forest	
G-1	125.160000	90.220000	215.380000
G-2	0.000000	0.000000	0.000000
G-3	0.000000	0.000000	0.000000
G-4	0.000000	0.000000	0.000000
Area proved as Non-mineralized	188.089000	263.175000	451.264000
Area to be explored	67.386000	16.970000	84.356000
Total	380.635000	370.365000	751.000000

**2A.2.2: Summary of The Previous Exploration (Before Last Plan Period)**

Name of The Agency
DGM, UPSCCL and Jaiprakash AssociatesLtd.(Drilling by Central Drilling Associate)

**2A.2.2.1: Geological Mapping**

SI.No.	Year		Scale	Area Covered (Ha)
	From	To		
1	11/03/1976	15/02/1978	1:5000	751.00

**2A.2.2.2: Airborne Geophysical Survey**

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	NIL	0.00	0.000000	0.00	Nil	Nil	Nil	Nil

**2A.2.2.3: Ground Geophysical Survey**

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	NIL	0.0	0	0.0000	Nil	Nil	Nil	Nil

**2A.2.2.4: Geochemical Survey**

SI.No.	Type of Sample	No of Samples
1	Nil	Nil

**2A.2.2.5: Pitting**

SI.No.	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Litho units exposed	Litho Unit From (m)	Litho Unit To (m)	Average Grade(%)	Running Metres (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
										Form	To	Form	To
1	Nil	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	Nil	Nil	Nil	Nil

**2A.2.2.6: Trenching**

Number of Trenches
0

**Spacing**

Min (m)	Max (m)	Avg (m)
0.00	0.00	0.00

**Area Covered Under Trenching****Co-ordinates****Latitude**

North	Nil

**Longitude**

East	Nil

Sl.No.	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench (m)	Litho Units Exposed	Average Grade	Running mtr	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
								From	To	From	To
1	Nil	0.0000	0.0000	0.0000	0	0	0.0000	Nil	Nil	Nil	Nil

**2A.2.2.7: Exploratory Drilling****2A.2.2.7.1:Core/Non-core Drilling**

Sl.No.	Year	Exploration	Core holes	Non-core (RC/DTH)	Grand total	Attach log sheet
--------	------	-------------	------------	-------------------	-------------	------------------

	From	To	agency	Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Total boreholes	Total mtrs	of each borehole in csv/excel format
1	01/04/1963	31/03/1967	DGM, UP	18	2698.12	0	0.00	18	2698.12	<a href="#">Log sheet - DGM holes 18 nos.xlsx</a>
2	01/04/1975	31/03/1976	UPCCL	24	2306.70	0	0.00	24	2306.70	<a href="#">Log sheet - UPCCL holes 24 nos.xlsx</a>
3	01/04/2006	31/03/2009	Jaiprakash Associates Ltd (Drilling by CDA, Nagpur)	24	2206.85	0	0.00	24	2206.85	<a href="#">Log sheet 24 BH by JAL.xlsx</a>

**2A.2.2.8: Exploratory Mining**

SI.No.	Pit / Adit ID	Volume (m <sup>3</sup> )
1	Nil	0.00

**2A.2.2.9: Sampling**

SI.No.	Type of sample	Number of Samples	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
				From	To	From	To
1	Drill Core	2521	621.04	24:45:26.03	24:45:61.15	83:06:08.08	83:09:03.52

**2A.2.2.10: Chemical Analysis**

SI.No.	Sample ID	Minerals	Radical Analysis	Attachment
1	BH series - DGM Bore Holes	Limestone	LOI, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , CaO and MgO	<a href="#">Assay Collar Survey data - DGM holes 18 nos.xlsx</a>
2	K-IV series - JAL Bore Holes	Limestone	LOI, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , CaO and MgO	<a href="#">Assay Collar Survey data - 24 BH by JAL.xlsx</a>

3	BH series - UPSCCL Bore Holes	Limestone	LOI, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , CaO and MgO	<a href="#">Assay Collar Survey data - UPSC CL_holes_24_nos.xlsx</a>
---	-------------------------------	-----------	---	--

**2A.2.2.11: Petrology & Mineralogical Studies**

SI.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Nil	Nil	Nil	Nil

**2A.2.2.12: Beneficiation Test**

SI.No.	Type of Beneficiation	Number of Samples	Attachment
1	Nil	Nil	Nil

**2A.2.2.13: Bulk Density**

SI.No.	Rock Type	Number of Samples	Minerals	Bulk Density Established (t/m <sup>3</sup> )
1	Limestone	12	Limestone	2.50
2	Dolomitic Limestone/ Dolomite	3	Dolomitic Limestone/ Dolomite	2.51
3	Shale	3	Shale	2.50
4	Shale with Soil	3	Shale with Soil	2.02
5	Soil	3	Soil	1.80

**2A.2.2.14: Area Covered under Exploration**

Level of exploration	Area in Ha.		Total Area in Ha.
	Forest	Non Forest	
G-1	100.2290	3.1310	103.3600
G-2	0.0000	0.0000	0.0000
G-3	0.0000	0.0000	0.0000

G-4	0.0000	0.0000	0.0000
Area proved as Non-mineralized	188.0890	263.1750	451.2640
Area to be explored	92.3170	104.0590	196.3760
Total	380.6350	370.3650	751.0000

SI.No.	Year		Area converted to G1 from G2, G3 & G4	% increase in G-1 Area	Remaining Area % in G2	Remaining Area % in G3	Remaining Area % in G4	Remaining Area in G2	Remaining Area in G3	Remaining Area in G4
	From	To								
1	01/04/1958	31/03/1962	57.40	7.61	0.00	92.35	0.00	0.00	693.60	0.00
2	01/04/1976	31/03/1977	73.80	9.82	0.00	82.53	0.00	0.00	619.80	0.00
3	01/04/2006	31/03/2007	73.54	9.79	0.00	72.74	0.00	0.00	546.26	0.00
4	04/06/2023	30/11/2024	290.49	53.18	0.00	0.00	0.00	0.00	0.00	0.00
Potentially Mineralised area (Ha)										215.38

### 2A.2.3 Ore Body Geometry & Grade

SI.No.	Name of the ore band	General Strike / Trend	Dip Of Mineral Body	Average Strike Length (m)	Average Width (m)	Chemical parameters				
						Average Depth (m)	Name of the radical	Min Grade (%)	Max Grade (%)	Avg Grade (%)
1	Limestone I	NE-SW	NW	10119.00	56.04	80.00	CaO	34.00	46.86	43.05
2	Limestone II	NE-SW	NW	10016.00	97.44	70.00	CaO	34.00	50.67	44.21
3	Limestone III	NE-SW	NW	10139.00	57.08	55.00	CaO	34.00	46.27	41.17
4	Limestone IV	NE-SW	NW	9973.00	82.54	50.00	CaO	34.00	46.70	43.04
5	Limestone I	NE-SW	NW	10119.00	56.04	80.00	MgO	1.22	5.00	2.62
6	Limestone II	NE-SW	NW	10016.00	97.44	70.00	MgO	1.78	5.00	2.95
7	Limestone III	NE-SW	NW	10139.00	57.08	55.00	MgO	1.66	5.00	3.62
8	Limestone IV	NE-SW	NW	9973.00	82.54	50.00	MgO	1.17	5.00	3.41

**2A.2.4: Reserve / Resource Estimation Method****2A.2.4.1: Methodology**

Resource / Reserve Estimation Method
Sectional Area Method
Methodology
The limestone resources of Dalla Limestone Mine has been estimated using cross sectional area method. Based on core drilling carried out in the area extending at every 200 m interval along the strike direction, altogether 43 nos. cross sections have been prepared in N -S direction to cover the entire ML area. Limestone has been categorized into 4 bands based on physical differences however, qualitatively clubbed together as cement grade limestone. The methodology adopted is as follows: Sectional Area : The cross-sectional area for limestone delineated on the section was measured based on information from individual bore holes. Influence Length : Since each section line has been drawn at every 200 m interval the influence of bore hole has been considered for half the distance to the next section. Thus the influence length has been considered as 100 m on either side. Vertical Limit : The vertical limit of a particular cross section has been considered up to the depth of the limestone proved by core drilling. The formula used for resource/reserve estimation is as follows: Tonnage = A x IL x BD, (Where, A = Cross sectional area for litho-unit, IL = Influence Length, BD = Bulk Density). A deduction of 10% from gross in-situ resources has been considered to arrive at net in-situ resources (which was as per the earlier approved Mining Plan), considering unforeseen geological factors i.e. slope factor and cavities/caverns etc. and error factor of estimation. The IBM threshold value of > 34 % CaO and < 5% MgO has been considered for categorization of Mineral and Waste materials. The current level of exploration is 155 MRL, hence the resources & reserves have estimated up to 155 MRL only.

**2A.2.4.2: Resource Calculation**

SI.No.	Cross Section/Block	Section Area/ Block Area(sq mt)	Influence(m)	Depth in mtr	Volume (m <sup>3</sup> )	Bulk Density (t/m <sup>3</sup> )	Resource Quantity (t)	Level of Exploration	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	1 LST1	3302	200.00	0.00	660498.26	2.50	1651245.65000	331	Private & Govt.	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
2	1 LST2	82	200.00	0.00	16489.46	2.50	41223.65000	331	Private & Govt.	CaO MgO	CaO 44.83%, MgO 2.78%	X sectional area method
3	1 LST4	37	200.00	0.00	7442.40	2.50	18606.00000	331	Private & Govt.	CaO MgO	CaO 42.35%, MgO 3.44%	X sectional area method
4	2 LST1	2473	200.00	0.00	494546.32	2.50	1236365.80000	331	Private & Govt.	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method

5	2 LST4	188	200.00	0.00	37555.72	2.50	93889.30000	331	Private & Govt.	CaO MgO	CaO 43.31%, MgO 2.99%	X sectional area method
6	10 LST2	232	200.00	0.00	46312.58	2.50	115781.45000	331	Private & Govt.	CaO MgO	CaO 44.2%, MgO 2.67%	X sectional area method
7	10 LST3	1472	200.00	0.00	294440.00	2.50	736100.00000	331	Private & Govt.	CaO MgO	CaO 42.76%, MgO 3.12%	X sectional area method
8	10 LST4	721	200.00	0.00	144151.42	2.50	360378.55000	331	Private & Govt.	CaO MgO	CaO 41.61%, MgO 4.7%	X sectional area method
9	17 LST1	3000	200.00	0.00	600038.60	2.50	1500096.50000	331	Private & Govt.	CaO MgO	CaO 38.89%, MgO 3.02%	X sectional area method
10	17 LST2	2461	200.00	0.00	492292.24	2.50	1230730.60000	331	Private & Govt.	CaO MgO	CaO 41.65%, MgO 3.11%	X sectional area method
11	18 LST1	3551	200.00	0.00	710102.22	2.50	1775255.55000	331	Private & Govt.	CaO MgO	CaO 41.81%, MgO 3.94%	X sectional area method
12	18 LST2	5545	200.00	0.00	1108965.62	2.50	2772414.05000	331	Private & Govt.	CaO MgO	CaO 39.48%, MgO 4.66%	X sectional area method
13	19 LST1	3733	200.00	0.00	746581.50	2.50	1866453.75000	331	Private & Govt.	CaO MgO	CaO 41.33%, MgO 2.66%	X sectional area method
14	20 LST1	1513	200.00	0.00	302582.48	2.50	756456.20000	331	Private & Govt.	CaO MgO	CaO 39.32%, MgO 4.09%	X sectional area method
15	20 LST2	2464	200.00	0.00	492843.64	2.50	1232109.10000	331	Private & Govt.	CaO MgO	CaO 44.21%, MgO 3.03%	X sectional area method
16	20 LST3	518	200.00	0.00	103566.72	2.50	258916.80000	331	Private & Govt.	CaO MgO	CaO 37.95%, MgO 2.99%	X sectional area method

17	20 LST4	823	200.00	0.00	164634.56	2.50	411586.4000 0	331	Private & Govt.	CaO MgO	CaO 39.13%, MgO 3.89%	X sectional area method
18	21 LST1	1457	200.00	0.00	291446.98	2.50	728617.4500 0	331	Private & Govt.	CaO MgO	CaO 40.44%, MgO 2.89%	X sectional area method
19	21 LST2	1652	200.00	0.00	330443.42	2.50	826108.5500 0	331	Private & Govt.	CaO MgO	CaO 36.68%, MgO 2.69%	X sectional area method
20	21 LST3	846	200.00	0.00	169232.46	2.50	423081.1500 0	331	Private & Govt.	CaO MgO	CaO 40.62%, MgO 3.15%	X sectional area method
21	21 LST4	2040	200.00	0.00	408003.64	2.50	1020009.100 00	331	Private & Govt.	CaO MgO	CaO 40.32%, MgO 2.31%	X sectional area method
22	22 LST1	1567	200.00	0.00	313341.72	2.50	783354.3000 0	331	Private & Govt.	CaO MgO	CaO 44.6%, MgO 3.08%	X sectional area method
23	22 LST2	2025	200.00	0.00	405042.80	2.50	1012607.000 00	331	Private & Govt.	CaO MgO	CaO 43.48%, MgO 3.2%	X sectional area method
24	22 LST3	1336	200.00	0.00	267128.44	2.50	667821.1000 0	331	Private & Govt.	CaO MgO	CaO 41.54%, MgO 3.32%	X sectional area method
25	22 LST4	2077	200.00	0.00	415319.94	2.50	1038299.850 00	331	Private & Govt.	CaO MgO	CaO 43.26%, MgO 3.34%	X sectional area method
26	23 LST1	2786	200.00	0.00	557252.46	2.50	1393131.150 00	331	Private & Govt.	CaO MgO	CaO 42.89%, MgO 3.17%	X sectional area method
27	23 LST2	3378	200.00	0.00	675606.78	2.50	1689016.950 00	331	Private & Govt.	CaO MgO	CaO 43.8%, MgO 3.2%	X sectional area method
28	23 LST3	2269	200.00	0.00	453788.36	2.50	1134470.900 00	331	Private & Govt.	CaO MgO	CaO 43.45%, MgO 3.38%	X sectional area method

29	23 LST4	2740	200.00	0.00	548050.08	2.50	1370125.200 00	331	Private & Govt.	CaO MgO	CaO 42.87%, MgO 2.95%	X sectional area method
30	24 LST1	2982	200.00	0.00	596474.08	2.50	1491185.200 00	331	Private & Govt.	CaO MgO	CaO 42.79%, MgO 2.8%	X sectional area method
31	24 LST2	3063	200.00	0.00	612592.54	2.50	1531481.350 00	331	Private & Govt.	CaO MgO	CaO 43.49%, MgO 2.86%	X sectional area method
32	24 LST3	2142	200.00	0.00	428498.60	2.50	1071246.500 00	331	Private & Govt.	CaO MgO	CaO 43.74%, MgO 2.83%	X sectional area method
33	24 LST4	1801	200.00	0.00	360184.40	2.50	900461.0000 0	331	Private & Govt.	CaO MgO	CaO 43.05%, MgO 2.43%	X sectional area method
34	25 LST1	3698	200.00	0.00	739647.02	2.50	1849117.550 00	331	Private & Govt.	CaO MgO	CaO 43.61%, MgO 2.59%	X sectional area method
35	25 LST2	3394	200.00	0.00	678770.18	2.50	1696925.450 00	331	Private & Govt.	CaO MgO	CaO 44.62%, MgO 2.66%	X sectional area method
36	25 LST3	2784	200.00	0.00	556723.88	2.50	1391809.700 00	331	Private & Govt.	CaO MgO	CaO 43.01%, MgO 2.62%	X sectional area method
37	25 LST4	1738	200.00	0.00	347615.68	2.50	869039.2000 0	331	Private & Govt.	CaO MgO	CaO 43.84%, MgO 2.63%	X sectional area method
38	26 LST1	1551	200.00	0.00	310251.40	2.50	775628.5000 0	331	Private & Govt.	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
39	26 LST3	62	200.00	0.00	12335.50	2.50	30838.75000	331	Private & Govt.	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
40	26 LST4	568	200.00	0.00	113614.38	2.50	284035.9500 0	331	Private & Govt.	CaO MgO	CaO 43.19%,	X sectional area method



52	29 LST4	938	200.00	0.00	187596.96	2.50	468992.4000 0	331	Private & Govt.	CaO MgO	CaO 43.11%, MgO 2.88%	X sectional area method
53	30 LST1	898	200.00	0.00	179592.36	2.50	448980.9000 0	331	Private & Govt.	CaO MgO	CaO 41.1%, MgO 2.81%	X sectional area method
54	30 LST2	1733	200.00	0.00	346656.36	2.50	866640.9000 0	331	Private & Govt.	CaO MgO	CaO 40.8%, MgO 2.81%	X sectional area method
55	30 LST3	3037	200.00	0.00	607454.42	2.50	1518636.050 00	331	Private & Govt.	CaO MgO	CaO 41.3%, MgO 2.74%	X sectional area method
56	30 LST4	3130	200.00	0.00	625974.18	2.50	1564935.450 00	331	Private & Govt.	CaO MgO	CaO 40.13%, MgO 2.76%	X sectional area method
57	31 LST1	837	200.00	0.00	167469.18	2.50	418672.9500 0	331	Private & Govt.	CaO MgO	CaO 40.5%, MgO 2.74%	X sectional area method
58	31 LST2	1285	200.00	0.00	257017.70	2.50	642544.2500 0	331	Private & Govt.	CaO MgO	CaO 41.08%, MgO 2.27%	X sectional area method
59	31 LST3	2132	200.00	0.00	426403.02	2.50	1066007.550 00	331	Private & Govt.	CaO MgO	CaO 41.43%, MgO 2.75%	X sectional area method
60	31 LST4	3730	200.00	0.00	745910.22	2.50	1864775.550 00	331	Private & Govt.	CaO MgO	CaO 39.15%, MgO 2.75%	X sectional area method
61	32 LST1	960	200.00	0.00	192087.72	2.50	480219.3000 0	331	Private & Govt.	CaO MgO	CaO 42.18%, MgO 2.76%	X sectional area method
62	32 LST2	3519	200.00	0.00	703811.36	2.50	1759528.400 00	331	Private & Govt.	CaO MgO	CaO 39.88%, MgO 3.39%	X sectional area method
63	32 LST3	2620	200.00	0.00	523983.88	2.50	1309959.700 00	331	Private & Govt.	CaO MgO	CaO 41.19%, MgO 3.34%	X sectional area method
64	32 LST4	3166	200.00	0.00	633259.78	2.50	1583149.450 00	331	Private & Govt.	CaO MgO	CaO 42.29%,	X sectional area method





88	1 LST1	398	200.00	0.00	79600.00	2.50	199000.0000 0	331	Forest	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
89	1 LST2	6183	200.00	0.00	1236690.72	2.50	3091726.800 00	331	Forest	CaO MgO	CaO 44.83%, MgO 2.78%	X sectional area method
90	1 LST3	3258	200.00	0.00	651697.64	2.50	1629244.100 00	331	Forest	CaO MgO	CaO 41%, MgO 4.93%	X sectional area method
91	1 LST4	5523	200.00	0.00	1104606.66	2.50	2761516.650 00	331	Forest	CaO MgO	CaO 42.35%, MgO 3.44%	X sectional area method
92	2 LST1	1587	200.00	0.00	317440.40	2.50	793601.0000 0	331	Forest	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method
93	2 LST2	7727	200.00	0.00	1545397.50	2.50	3863493.750 00	331	Forest	CaO MgO	CaO 44.63%, MgO 2.84%	X sectional area method
94	2 LST3	1422	200.00	0.00	284474.28	2.50	711185.7000 0	331	Forest	CaO MgO	CaO 43.02%, MgO 3.81%	X sectional area method
95	2 LST4	7790	200.00	0.00	1558056.88	2.50	3895142.200 00	331	Forest	CaO MgO	CaO 43.31%, MgO 2.99%	X sectional area method
96	3 LST1	3688	200.00	0.00	737698.26	2.50	1844245.650 00	331	Forest	CaO MgO	CaO 43.49%, MgO 2.53%	X sectional area method
97	3 LST2	8127	200.00	0.00	1625478.76	2.50	4063696.900 00	331	Forest	CaO MgO	CaO 44.04%, MgO 2.7%	X sectional area method
98	3 LST3	2114	200.00	0.00	422730.22	2.50	1056825.550 00	331	Forest	CaO MgO	CaO 39.72%, MgO 2.69%	X sectional area method
99	3 LST4	5787	200.00	0.00	1157483.78	2.50	2893709.450 00	331	Forest	CaO MgO	CaO 42.55%, MgO 3.54%	X sectional area method

100	4 LST1	2409	200.00	0.00	481855.98	2.50	1204639.950 00	331	Forest	CaO MgO	CaO 39.22%, MgO 2.88%	X sectional area method
101	4 LST2	4274	200.00	0.00	854713.62	2.50	2136784.050 00	331	Forest	CaO MgO	CaO 40.9%, MgO 4.91%	X sectional area method
102	4 LST3	3511	200.00	0.00	702153.06	2.50	1755382.650 00	331	Forest	CaO MgO	CaO 41.66%, MgO 2.98%	X sectional area method
103	4 LST4	5183	200.00	0.00	1036553.90	2.50	2591384.750 00	331	Forest	CaO MgO	CaO 42.76%, MgO 3.15%	X sectional area method
104	5 LST1	3172	200.00	0.00	634381.12	2.50	1585952.800 00	331	Forest	CaO MgO	CaO 42.14%, MgO 2.68%	X sectional area method
105	5 LST2	7166	200.00	0.00	1433148.96	2.50	3582872.400 00	331	Forest	CaO MgO	CaO 43.71%, MgO 3.15%	X sectional area method
106	5 LST3	1686	200.00	0.00	337121.06	2.50	842802.6500 0	331	Forest	CaO MgO	CaO 39.98%, MgO 3.39%	X sectional area method
107	5 LST4	4600	200.00	0.00	920008.56	2.50	2300021.400 00	331	Forest	CaO MgO	CaO 43.6%, MgO 3.28%	X sectional area method
108	6 LST1	3113	200.00	0.00	622547.10	2.50	1556367.750 00	331	Forest	CaO MgO	CaO 42.14%, MgO 2.93%	X sectional area method
109	6 LST2	5833	200.00	0.00	1166512.52	2.50	2916281.300 00	331	Forest	CaO MgO	CaO 44.63%, MgO 2.89%	X sectional area method
110	6 LST3	3507	200.00	0.00	701397.76	2.50	1753494.400 00	331	Forest	CaO MgO	CaO 41.1%, MgO 2.85%	X sectional area method
111	6 LST4	7968	200.00	0.00	1593581.38	2.50	3983953.450 00	331	Forest	CaO MgO	CaO 40.44%, MgO 3.19%	X sectional area method
112	7 LST1	2454	200.00	0.00	490720.08	2.50	1226800.200	331	Forest	CaO MgO	CaO	X sectional

							00				42.48%, MgO 2.53%	area method
113	7 LST2	7062	200.00	0.00	1412392.08	2.50	3530980.200 00	331	Forest	CaO MgO	CaO 44.73%, MgO 2.82%	X sectional area method
114	7 LST3	3109	200.00	0.00	621781.00	2.50	1554452.500 00	331	Forest	CaO MgO	CaO 41.29%, MgO 3.04%	X sectional area method
115	7 LST4	8431	200.00	0.00	1686264.06	2.50	4215660.150 00	331	Forest	CaO MgO	CaO 43.22%, MgO 3.44%	X sectional area method
116	8 LST1	3789	200.00	0.00	757899.64	2.50	1894749.100 00	331	Forest	CaO MgO	CaO 40.36%, MgO 2.51%	X sectional area method
117	8 LST2	8539	200.00	0.00	1707881.62	2.50	4269704.050 00	331	Forest	CaO MgO	CaO 44.17%, MgO 2.78%	X sectional area method
118	8 LST3	2728	200.00	0.00	545652.64	2.50	1364131.600 00	331	Forest	CaO MgO	CaO 42.57%, MgO 3.82%	X sectional area method
119	8 LST4	2532	200.00	0.00	506413.34	2.50	1266033.350 00	331	Forest	CaO MgO	CaO 30.8%, MgO 4.91%	X sectional area method
120	9 LST1	4806	200.00	0.00	961164.54	2.50	2402911.350 00	331	Forest	CaO MgO	CaO 42.05%, MgO 2.4%	X sectional area method
121	9 LST2	9460	200.00	0.00	1892018.88	2.50	4730047.200 00	331	Forest	CaO MgO	CaO 43.78%, MgO 3.41%	X sectional area method
122	9 LST3	1959	200.00	0.00	391828.78	2.50	979571.9500 0	331	Forest	CaO MgO	CaO 41.7%, MgO 3.28%	X sectional area method
123	9 LST4	9957	200.00	0.00	1991436.76	2.50	4978591.900 00	331	Forest	CaO MgO	CaO 41.52%, MgO 4.43%	X sectional area method
124	10 LST1	2400	200.00	0.00	480071.80	2.50	1200179.500	331	Forest	CaO MgO	CaO	X sectional



136	13 LST2	9999	200.00	0.00	1999710.16	2.50	4999275.400 00	331	Forest	CaO MgO	CaO 43.48%, MgO 3.7%	X sectional area method
137	13 LST3	3156	200.00	0.00	631200.24	2.50	1578000.600 00	331	Forest	CaO MgO	CaO 43.19%, MgO 3.12%	X sectional area method
138	13 LST4	7318	200.00	0.00	1463580.64	2.50	3658951.600 00	331	Forest	CaO MgO	CaO 42.75%, MgO 3.75%	X sectional area method
139	14 LST1	3032	200.00	0.00	606480.12	2.50	1516200.300 00	331	Forest	CaO MgO	CaO 41.69%, MgO 3.26%	X sectional area method
140	14 LST2	10693	200.00	0.00	2138608.86	2.50	5346522.150 00	331	Forest	CaO MgO	CaO 44.23%, MgO 3.04%	X sectional area method
141	14 LST3	1615	200.00	0.00	323030.84	2.50	807577.1000 0	331	Forest	CaO MgO	CaO 42.58%, MgO 2.91%	X sectional area method
142	14 LST4	7809	200.00	0.00	1561736.64	2.50	3904341.600 00	331	Forest	CaO MgO	CaO 41.89%, MgO 5.04%	X sectional area method
143	15 LST1	3521	200.00	0.00	704234.86	2.50	1760587.150 00	331	Forest	CaO MgO	CaO 44.51%, MgO 2.77%	X sectional area method
144	15 LST2	9056	200.00	0.00	1811296.44	2.50	4528241.100 00	331	Forest	CaO MgO	CaO 40.81%, MgO 3.28%	X sectional area method
145	15 LST3	1171	200.00	0.00	234283.00	2.50	585707.5000 0	331	Forest	CaO MgO	CaO 40.81%, MgO 3.4%	X sectional area method
146	15 LST4	8576	200.00	0.00	1715162.12	2.50	4287905.300 00	331	Forest	CaO MgO	CaO 39.64%, MgO 3.07%	X sectional area method
147	16 LST1	1588	200.00	0.00	317654.36	2.50	794135.9000 0	331	Forest	CaO MgO	CaO 43.77%,	X sectional area method



159	19 LST2	5524	200.00	0.00	1104897.72	2.50	2762244.300 00	331	Forest	CaO MgO	CaO 42.68%, MgO 3.25%	X sectional area method
160	19 LST3	1966	200.00	0.00	393120.54	2.50	982801.3500 0	331	Forest	CaO MgO	CaO 43.09%, MgO 2.99%	X sectional area method
161	19 LST4	3347	200.00	0.00	669463.16	2.50	1673657.900 00	331	Forest	CaO MgO	CaO 42.67%, MgO 2.72%	X sectional area method
162	26 LST1	3152	200.00	0.00	630489.04	2.50	1576222.600 00	331	Forest	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
163	26 LST2	4644	200.00	0.00	928743.54	2.50	2321858.850 00	331	Forest	CaO MgO	CaO 41.86%, MgO 2.65%	X sectional area method
164	26 LST3	2619	200.00	0.00	523731.04	2.50	1309327.600 00	331	Forest	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
165	26 LST4	15	200.00	0.00	2921.12	2.50	7302.80000	331	Forest	CaO MgO	CaO 43.19%, MgO 2.76%	X sectional area method
166	33 LST2	5396	200.00	0.00	1079109.10	2.50	2697772.750 00	331	Forest	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
167	33 LST3	2104	200.00	0.00	420757.12	2.50	1051892.800 00	331	Forest	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
168	34 LST1	1195	200.00	0.00	238947.66	2.50	597369.1500 0	331	Forest	CaO MgO	CaO 42.28%, MgO 2.26%	X sectional area method
169	34 LST2	2511	200.00	0.00	502200.00	2.50	1255500.000 00	331	Forest	CaO MgO	CaO 41.04%, MgO 2.17%	X sectional area method
170	34 LST3	256	200.00	0.00	51194.38	2.50	127985.9500 0	331	Forest	CaO MgO	CaO 40.83%,	X sectional area method

											MgO 2.51%	
171	35 LST2	200	200.00	0.00	40002.64	2.50	100006.6000 0	331	Forest	CaO MgO	CaO 39.97%, MgO 2.48%	X sectional area method
172	35 LST3	537	200.00	0.00	107391.08	2.50	268477.7000 0	331	Forest	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
173	35 LST4	337	200.00	0.00	67327.76	2.50	168319.4000 0	331	Forest	CaO MgO	CaO 40.89%, MgO 2.84%	X sectional area method
174	36 LST1	159	200.00	0.00	31813.24	2.50	79533.10000	331	Forest	CaO MgO	CaO 42.17%, MgO 3.04%	X sectional area method
175	38 LST1	1698	200.00	0.00	339681.02	2.50	849202.5500 0	331	Forest	CaO MgO	CaO 42.9%, MgO 3.27%	X sectional area method
176	38 LST2	3434	200.00	0.00	686770.92	2.50	1716927.300 00	331	Forest	CaO MgO	CaO 42.57%, MgO 2.98%	X sectional area method
177	38 LST3	5305	200.00	0.00	1061097.58	2.50	2652743.950 00	331	Forest	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
178	38 LST4	9805	200.00	0.00	1960991.48	2.50	4902478.700 00	331	Forest	CaO MgO	CaO 41.74%, MgO 2.65%	X sectional area method
179	39 LST1	2450	200.00	0.00	490058.50	2.50	1225146.250 00	331	Forest	CaO MgO	CaO 41.29%, MgO 2.4%	X sectional area method
180	39 LST2	3126	200.00	0.00	625266.56	2.50	1563166.400 00	331	Forest	CaO MgO	CaO 41.67%, MgO 2.37%	X sectional area method
181	39 LST3	5411	200.00	0.00	1082239.80	2.50	2705599.500 00	331	Forest	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
182	39 LST4	9472	200.00	0.00	1894431.64	2.50	4736079.100	331	Forest	CaO MgO	CaO	X sectional

							00				39.73%, MgO 2.92%	area method
183	40 LST1	424	200.00	0.00	84735.26	2.50	211838.1500 0	331	Forest	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
184	40 LST2	230	200.00	0.00	46035.48	2.50	115088.7000 0	331	Forest	CaO MgO	CaO 41.61%, MgO 3.19%	X sectional area method
185	40 LST4	9112	200.00	0.00	1822415.74	2.50	4556039.350 00	331	Forest	CaO MgO	CaO 40.67%, MgO 2.79%	X sectional area method
Total					123940279.7 8		309850699.4 5000					

#### 2A.2.4.3: Mineral Resource Estimate for Conversion to Mineral Reserve

The resources are estimated by Cross Sectional area method and cross sections have been drawn at an interval of 200 m all along the length of the ML. Only that part of resource which is constraint free has been considered for mining and the constraint free bound to form pits. Benches were drawn with ultimate pit slope of 45o and reserves established. The extent of resources getting blocked have also been estimated.

#### 2A.2.4.4: Threshold value & Cut off Parameters

The threshold and cut-off values for commercial limestone are strictly defined by a CaO content greater than 34% and an MgO content less than 5%. Although the Run-of-Mine (ROM) limestone includes thin, inseparable bands (less than 3 meters thick) of dolomitic limestone and dolomite due to the nature of mechanized mining operations, the overall quality of the resulting ROM consistently meets the required specifications. Therefore, there are no quality issues necessitating pre-processing or rejection. The entire mined material is utilized, meaning no reject is generated with 100% recovery.

#### 2A.2.4.5: Mining Factors or Assumptions

In view of the topography, deposition and grade, production requirement and stripping ratio (Limestone: Reject), open cast mining method has been considered. Based on exploration carried out in part area of ML and old mining pit available in nearby area, complete local geological set-up has been established and resources have been established under G1 and G4 category. In the present assessment, the constraint free areas where formation of mining pit is possible has been considered for estimation. The following factors have been considered for estimation of reserves: a) Constraints: - The area explored under G1 category has been constrained by a nalla and accordingly a 50 m safety zone on either of nala/ river, reservoir and HT line has been considered as constraint. In addition to nala, the limestone shall also be blocked by 7.5 m barrier zone of ML boundary and under pit slope during bench formation. b) Ultimate Pit Slope: - The lateral limit of the

ultimate pit is governed by 7.5 m barrier zone along the ML boundary and safety zone of nala within the G1 level exploration area. The vertical limit is governed by the availability of limestone up to 155 m RL or workable width of the lowermost bench. The individual bench slope of 80 has been considered as the limestone is hard and compact rock. Since, the production benches will be pushed finally up to the ultimate pit limit (UPL), the benches finally left un-mined will have a final configuration of maximum 9 m height and 9 m effective width and the ultimate pit slope shall be  $\leq 45$ . The mining is proposed to be carried out by slicing from top and thereafter the benches shall descend down to form a pit in the area.

#### 2A.2.4.6: Metallurgical Factors or Assumptions

Since, the limestone from ML area shall be used for cement manufacture no metallurgical processing of the mineral "limestone" is envisaged.

#### 2A.2.4.7: Cost & Revenue Factors

a) Capital Cost of Mining Equipment's: Mining is proposed to be carried out by hiring of HEMM and transportation of limestone from mine to crusher shall also be outsourced. Thus, the capital expenditure towards purchase of mining and ancillary equipment shall be Nil. b) Mine Development Cost: A part of the old pit with two benches of about 203 m RL and 212 m RL already exists within the ML area. Presently, the mine development shall involve construction of haul road connecting with the proposed pit. The mine development cost is estimated to be about Rs 20 Lakhs. c) Operating Cost:- The estimated landed cost of RoM limestone delivered at crusher, including royalty, DMF and NMET is estimated to be about Rs. 245.47/ t. The feasibility study (Annexure-14) carried out infers that the limestone operating cost is economically viable.

#### 2A.2.4.8: Market Assessment

The mineral limestone produced from the Dalla (Kajrahat) Limestone Mine will be used for clinker/cement manufacturing in the existing captive cement plant. The cement plant of UTCL is already operating and is having a handsome market share and agents, stockists for sale of cement in the target market. The cement demand in the target market is expected to grow at CAGR (Compound Annual Growth Rate) of 6-7 % pa. The sale price and forecast etc. has been discussed in feasibility Report.

#### 2A.2.4.9: Other Modifying Factors

NIL

#### 2A.2.4.10: Classification

The boreholes were drilled on a 200m×200m grid with core samples taken at 1m intervals, providing sufficient data to classify the deposit at the Detailed Exploration (G1) stage under the Mineral (Evidence of Mineral Content) Rules, 2015. Within the UNFC (United Nations Framework Classification) system, this corresponds to the Measured Mineral Resource category. Applying the economic and feasibility criteria to this highly confident geological data, the deposit has been classified as UNFC Code 111. This code signifies that the resource is currently Economically Viable

(E1), is supported by a Detailed Feasibility Study (F1) confirming technical viability and is a Measured Resource (G1) based on the detailed exploration, collectively establishing a Proved Mineral Reserve ready for production.

#### 2A.2.4.11: Calculation of blocked resources

SI.No.	Reserves blocked due to	Cross section/Block	Sectional area/ block area (in Sq mtr)	Influence (m)	Depth (m)	Volume (m <sup>3</sup> )	Bulk Density (t/m <sup>3</sup> )	Resource Quantity (t)	UNFC code	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	Ultimate Pit Limit	3 LST1	972.67	200.00	0.00	194533.28	2.50	486333.20000	221	Forest	CaO MgO	CaO 43.49%, MgO 2.53%	X sectional area method
2	Ultimate Pit Limit	4 LST1	614.11	200.00	0.00	122821.38	2.50	307053.45000	221	Forest	CaO MgO	CaO 39.22%, MgO 2.88%	X sectional area method
3	Ultimate Pit Limit	5 LST1	519.82	200.00	0.00	103963.74	2.50	259909.35000	221	Forest	CaO MgO	CaO 42.14%, MgO 2.68%	X sectional area method
4	Ultimate Pit Limit	6 LST1	544.50	200.00	0.00	108900.00	2.50	272250.00000	221	Forest	CaO MgO	CaO 42.14%, MgO 2.93%	X sectional area method
5	Ultimate Pit Limit	7 LST1	642.35	200.00	0.00	128469.30	2.50	321173.25000	221	Forest	CaO MgO	CaO 42.48%, MgO 2.53%	X sectional area method
6	Ultimate Pit Limit	7 LST4	16.95	200.00	0.00	3389.92	2.50	8474.80000	221	Forest	CaO MgO	CaO 43.22%, MgO 3.44%	X sectional area method
7	Ultimate Pit Limit	8 LST1	793.31	200.00	0.00	158662.96	2.50	396657.40000	221	Forest	CaO MgO	CaO 40.36%, MgO 2.51%	X sectional area method
8	Ultimate Pit Limit	8 LST4	1245.58	200.00	0.00	249115.76	2.50	622789.40000	221	Forest	CaO MgO	CaO 30.8%, MgO 4.91%	X sectional area method
9	Ultimate Pit Limit	9 LST4	1170.20	200.00	0.00	234039.82	2.50	585099.55000	221	Forest	CaO MgO	CaO 41.52%,	X sectional area method

												MgO 4.43%	
10	Ultimate Pit Limit	10 LST4	1909.56	200.00	0.00	381912.06	2.50	954780.15000	221	Forest	CaO MgO	CaO 41.61%, MgO 4.7%	X sectional area method
11	Ultimate Pit Limit	11 LST4	1945.40	200.00	0.00	389079.86	2.50	972699.65000	221	Forest	CaO MgO	CaO 43.72%, MgO 3.15%	X sectional area method
12	Ultimate Pit Limit	12 LST4	2320.18	200.00	0.00	464035.00	2.50	1160087.50000	221	Forest	CaO MgO	CaO 43.32%, MgO 2.48%	X sectional area method
13	Ultimate Pit Limit	13 LST4	803.92	200.00	0.00	160784.54	2.50	401961.35000	221	Forest	CaO MgO	CaO 42.75%, MgO 3.75%	X sectional area method
14	Ultimate Pit Limit	26 LST2	123.66	200.00	0.00	24731.06	2.50	61827.65000	221	Forest	CaO MgO	CaO 41.86%, MgO 2.65%	X sectional area method
15	Ultimate Pit Limit	26 LST3	484.82	200.00	0.00	96963.94	2.50	242409.85000	221	Forest	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
16	Ultimate Pit Limit	33 LST2	6.64	200.00	0.00	1327.54	2.50	3318.85000	221	Forest	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
17	Ultimate Pit Limit	33 LST3	330.99	200.00	0.00	66197.96	2.50	165494.90000	221	Forest	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
18	Ultimate Pit Limit	38 LST1	59.61	200.00	0.00	11922.86	2.50	29807.15000	221	Forest	CaO MgO	CaO 42.9%, MgO 3.27%	X sectional area method
19	Ultimate Pit Limit	38 LST3	16.33	200.00	0.00	3266.52	2.50	8166.30000	221	Forest	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
20	Ultimate Pit Limit	38 LST4	703.79	200.00	0.00	140758.32	2.50	351895.80000	221	Forest	CaO MgO	CaO 41.74%, MgO 2.65%	X sectional area method
21	Ultimate Pit	39 LST1	200.93	200.00	0.00	40186.78	2.50	100466.950	221	Forest	CaO MgO	CaO	X sectional



33	Ultimate Pit Limit	28 LST2	210.95	200.00	0.00	42189.88	2.50	105474.7000	221	Private & Govt.	CaO MgO	CaO 42.53%, MgO 2.59%	X sectional area method
34	Ultimate Pit Limit	28 LST3	776.72	200.00	0.00	155344.54	2.50	388361.3500	221	Private & Govt.	CaO MgO	CaO 43.22%, MgO 2.62%	X sectional area method
35	Ultimate Pit Limit	28 LST4	398.34	200.00	0.00	79667.84	2.50	199169.6000	221	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
36	Ultimate Pit Limit	29 LST1	269.99	200.00	0.00	53998.72	2.50	134996.8000	221	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
37	Ultimate Pit Limit	29 LST4	28.13	200.00	0.00	5626.06	2.50	14065.15000	221	Private & Govt.	CaO MgO	CaO 43.11%, MgO 2.88%	X sectional area method
38	Ultimate Pit Limit	34 LST3	108.25	200.00	0.00	21649.62	2.50	54124.05000	221	Private & Govt.	CaO MgO	CaO 40.83%, MgO 2.51%	X sectional area method
39	Ultimate Pit Limit	34 LST4	91.40	200.00	0.00	18279.40	2.50	45698.50000	221	Private & Govt.	CaO MgO	CaO 40.39%, MgO 2.48%	X sectional area method
40	Ultimate Pit Limit	35 LST1	12.59	200.00	0.00	2517.30	2.50	6293.25000	221	Private & Govt.	CaO MgO	CaO 40.08%, MgO 2.21%	X sectional area method
41	Ultimate Pit Limit	35 LST2	163.77	200.00	0.00	32753.26	2.50	81883.15000	221	Private & Govt.	CaO MgO	CaO 39.97%, MgO 2.48%	X sectional area method
42	Ultimate Pit Limit	35 LST3	64.71	200.00	0.00	12941.96	2.50	32354.90000	221	Private & Govt.	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
43	Ultimate Pit Limit	36 LST2	6.18	200.00	0.00	1236.28	2.50	3090.70000	221	Private & Govt.	CaO MgO	CaO 39.93%, MgO 2.41%	X sectional area method
44	Ultimate Pit Limit	36 LST4	178.99	200.00	0.00	35798.38	2.50	89495.95000	221	Private & Govt.	CaO MgO	CaO 40.7%, MgO 2.45%	X sectional area method

45	Ultimate Pit Limit	38 LST3	4.76	200.00	0.00	951.94	2.50	2379.85000	221	Private & Govt.	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
46	Ultimate Pit Limit	39 LST3	36.34	200.00	0.00	7267.12	2.50	18167.80000	221	Private & Govt.	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
47	Ultimate Pit Limit	40 LST1	181.28	200.00	0.00	36256.58	2.50	90641.45000	221	Private & Govt.	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
48	River/Nallah/Reservoir	3 LST1	1328.79	200.00	0.00	265758.72	2.50	664396.80000	221	Forest	CaO MgO	CaO 43.49%, MgO 2.53%	X sectional area method
49	River/Nallah/Reservoir	4 LST1	155.96	200.00	0.00	31191.96	2.50	77979.90000	221	Forest	CaO MgO	CaO 39.22%, MgO 2.88%	X sectional area method
50	River/Nallah/Reservoir	6 LST1	373.95	200.00	0.00	74790.42	2.50	186976.05000	221	Forest	CaO MgO	CaO 42.14%, MgO 2.93%	X sectional area method
51	River/Nallah/Reservoir	7 LST1	117.24	200.00	0.00	23448.02	2.50	58620.05000	221	Forest	CaO MgO	CaO 42.48%, MgO 2.53%	X sectional area method
52	River/Nallah/Reservoir	8 LST1	789.86	200.00	0.00	157971.22	2.50	394928.05000	221	Forest	CaO MgO	CaO 40.36%, MgO 2.51%	X sectional area method
53	River/Nallah/Reservoir	1 LST1	116.49	200.00	0.00	23298.26	2.50	58245.65000	221	Private & Govt.	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
54	River/Nallah/Reservoir	2 LST1	84.06	200.00	0.00	16812.32	2.50	42030.80000	221	Private & Govt.	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method
55	River/Nallah/Reservoir	21 LST1	1049.20	200.00	0.00	209839.10	2.50	524597.75000	221	Private & Govt.	CaO MgO	CaO 40.44%, MgO 2.89%	X sectional area method
56	River/Nallah/Reservoir	21 LST2	1100.50	200.00	0.00	220100.50	2.50	550251.25000	221	Private & Govt.	CaO MgO	CaO 36.68%,	X sectional area method

												MgO 2.69%	
57	River/Nallah/Reservoir	21 LST3	548.87	200.00	0.00	109773.72	2.50	274434.3000	221	Private & Govt.	CaO MgO	CaO 40.62%, MgO 3.15%	X sectional area method
58	River/Nallah/Reservoir	21 LST4	1313.86	200.00	0.00	262771.20	2.50	656928.0000	221	Private & Govt.	CaO MgO	CaO 40.32%, MgO 2.31%	X sectional area method
59	River/Nallah/Reservoir	28 LST2	968.96	200.00	0.00	193792.26	2.50	484480.6500	221	Private & Govt.	CaO MgO	CaO 42.53%, MgO 2.59%	X sectional area method
60	River/Nallah/Reservoir	36 LST1	43.57	200.00	0.00	8714.14	2.50	21785.35000	221	Private & Govt.	CaO MgO	CaO 42.17%, MgO 3.04%	X sectional area method
61	River/Nallah/Reservoir	36 LST2	45.07	200.00	0.00	9014.80	2.50	22537.00000	221	Private & Govt.	CaO MgO	CaO 39.93%, MgO 2.41%	X sectional area method
62	Public roads (Tar road, cart road)	33 LST3	152.59	200.00	0.00	30518.82	2.50	76297.05000	221	Forest	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
63	Public roads (Tar road, cart road)	33 LST3	1230.74	200.00	0.00	246147.04	2.50	615367.6000	221	Private & Govt.	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
64	High Tension Lines	26 LST3	482.62	200.00	0.00	96524.74	2.50	241311.8500	221	Forest	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
65	High Tension Lines	26 LST4	14.61	200.00	0.00	2921.12	2.50	7302.80000	221	Forest	CaO MgO	CaO 43.19%, MgO 2.76%	X sectional area method
66	High Tension Lines	35 LST3	222.93	200.00	0.00	44585.66	2.50	111464.1500	221	Forest	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
67	High Tension	35 LST4	297.93	200.00	0.00	59585.92	2.50	148964.8000	221	Forest	CaO MgO	CaO 40.89%,	X sectional area method



79	High Tension Lines	26 LST4	273.60	200.00	0.00	54719.86	2.50	136799.65000	221	Private & Govt.	CaO MgO	CaO 43.19%, MgO 2.76%	X sectional area method
80	High Tension Lines	28 LST1	234.91	200.00	0.00	46982.28	2.50	117455.70000	221	Private & Govt.	CaO MgO	CaO 40.14%, MgO 2.6%	X sectional area method
81	High Tension Lines	29 LST1	669.35	200.00	0.00	133870.32	2.50	334675.80000	221	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
82	High Tension Lines	33 LST4	1161.59	200.00	0.00	232318.44	2.50	580796.10000	221	Private & Govt.	CaO MgO	CaO 40.06%, MgO 2.33%	X sectional area method
83	High Tension Lines	34 LST4	336.49	200.00	0.00	67297.36	2.50	168243.40000	221	Private & Govt.	CaO MgO	CaO 40.39%, MgO 2.48%	X sectional area method
84	High Tension Lines	35 LST4	186.13	200.00	0.00	37226.32	2.50	93065.80000	221	Private & Govt.	CaO MgO	CaO 40.89%, MgO 2.84%	X sectional area method
85	High Tension Lines	36 LST4	132.99	200.00	0.00	26598.66	2.50	66496.65000	221	Private & Govt.	CaO MgO	CaO 40.7%, MgO 2.45%	X sectional area method
86	High Tension Lines	39 LST3	48.51	200.00	0.00	9701.20	2.50	24253.00000	221	Private & Govt.	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
87	High Tension Lines	40 LST1	990.08	200.00	0.00	198015.58	2.50	495038.95000	221	Private & Govt.	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
88	Wildlife S Or Natl Park	8 LST4	101.36	200.00	0.00	20271.20	2.50	50678.00000	221	Forest	CaO MgO	CaO 30.8%, MgO 4.91%	X sectional area method
89	Wildlife S Or Natl Park	9 LST4	1356.40	200.00	0.00	271280.68	2.50	678201.70000	221	Forest	CaO MgO	CaO 41.52%, MgO 4.43%	X sectional area method
90	Wildlife S Or Natl	10 LST4	2992.69	200.00	0.00	598537.46	2.50	1496343.65000	221	Forest	CaO MgO	CaO 41.61%,	X sectional area method

	Park											MgO 4.7%	
91	Wildlife S Or Natl Park	11 LST4	2770.63	200.00	0.00	554125.10	2.50	1385312.75 000	221	Forest	CaO MgO	CaO 43.72%, MgO 3.15%	X sectional area method
92	Human settlements	30 LST1	642.79	200.00	0.00	128557.92	2.50	321394.800 00	221	Private & Govt.	CaO MgO	CaO 41.1%, MgO 2.81%	X sectional area method
93	Human settlements	30 LST2	1295.92	200.00	0.00	259183.96	2.50	647959.900 00	221	Private & Govt.	CaO MgO	CaO 40.8%, MgO 2.81%	X sectional area method
94	Human settlements	30 LST3	2330.37	200.00	0.00	466074.88	2.50	1165187.20 000	221	Private & Govt.	CaO MgO	CaO 41.3%, MgO 2.74%	X sectional area method
95	Human settlements	30 LST4	2357.38	200.00	0.00	471476.46	2.50	1178691.15 000	221	Private & Govt.	CaO MgO	CaO 40.13%, MgO 2.76%	X sectional area method
96	Human settlements	31 LST1	837.35	200.00	0.00	167469.18	2.50	418672.950 00	221	Private & Govt.	CaO MgO	CaO 40.5%, MgO 2.74%	X sectional area method
97	Human settlements	31 LST2	1285.09	200.00	0.00	257017.70	2.50	642544.250 00	221	Private & Govt.	CaO MgO	CaO 41.08%, MgO 2.27%	X sectional area method
98	Human settlements	31 LST3	2132.02	200.00	0.00	426403.02	2.50	1066007.55 000	221	Private & Govt.	CaO MgO	CaO 41.43%, MgO 2.75%	X sectional area method
99	Human settlements	31 LST4	3729.55	200.00	0.00	745910.22	2.50	1864775.55 000	221	Private & Govt.	CaO MgO	CaO 39.15%, MgO 2.75%	X sectional area method
100	Human settlements	32 LST1	960.44	200.00	0.00	192087.72	2.50	480219.300 00	221	Private & Govt.	CaO MgO	CaO 42.18%, MgO 2.76%	X sectional area method
101	Human settlements	32 LST2	3519.06	200.00	0.00	703811.36	2.50	1759528.40 000	221	Private & Govt.	CaO MgO	CaO 39.88%, MgO 3.39%	X sectional area method
102	Human settlements	32 LST3	2619.92	200.00	0.00	523983.88	2.50	1309959.70 000	221	Private & Govt.	CaO MgO	CaO 41.19%, MgO 3.34%	X sectional area method
103	Human	32 LST4	3166.30	200.00	0.00	633259.78	2.50	1583149.45	221	Private &	CaO MgO	CaO	X sectional

	settlements							000		Govt.		42.29%, MgO 3.33%	area method
104	Other	1 LST1	194.25	200.00	0.00	38849.00	2.50	97122.5000 0	221	Forest	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
105	Other	1 LST2	4870.87	200.00	0.00	974173.94	2.50	2435434.85 000	221	Forest	CaO MgO	CaO 44.83%, MgO 2.78%	X sectional area method
106	Other	1 LST3	2470.18	200.00	0.00	494036.72	2.50	1235091.80 000	221	Forest	CaO MgO	CaO 41%, MgO 4.93%	X sectional area method
107	Other	1 LST4	4404.85	200.00	0.00	880969.72	2.50	2202424.30 000	221	Forest	CaO MgO	CaO 42.35%, MgO 3.44%	X sectional area method
108	Other	2 LST1	1192.74	200.00	0.00	238547.80	2.50	596369.500 00	221	Forest	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method
109	Other	2 LST2	6350.71	200.00	0.00	1270141.76	2.50	3175354.40 000	221	Forest	CaO MgO	CaO 44.63%, MgO 2.84%	X sectional area method
110	Other	2 LST3	1176.02	200.00	0.00	235203.14	2.50	588007.850 00	221	Forest	CaO MgO	CaO 43.02%, MgO 3.81%	X sectional area method
111	Other	2 LST4	6700.89	200.00	0.00	1340178.18	2.50	3350445.45 000	221	Forest	CaO MgO	CaO 43.31%, MgO 2.99%	X sectional area method
112	Other	3 LST1	1013.16	200.00	0.00	202632.78	2.50	506581.950 00	221	Forest	CaO MgO	CaO 43.49%, MgO 2.53%	X sectional area method
113	Other	3 LST2	7300.83	200.00	0.00	1460165.56	2.50	3650413.90 000	221	Forest	CaO MgO	CaO 44.04%, MgO 2.7%	X sectional area method
114	Other	3 LST3	1930.33	200.00	0.00	386066.22	2.50	965165.550 00	221	Forest	CaO MgO	CaO 39.72%, MgO 2.69%	X sectional area method

115	Other	3 LST4	5303.82	200.00	0.00	1060764.68	2.50	2651911.70 000	221	Forest	CaO MgO	CaO 42.55%, MgO 3.54%	X sectional area method
116	Other	4 LST1	1379.72	200.00	0.00	275943.00	2.50	689857.500 00	221	Forest	CaO MgO	CaO 39.22%, MgO 2.88%	X sectional area method
117	Other	4 LST2	3826.40	200.00	0.00	765279.76	2.50	1913199.40 000	221	Forest	CaO MgO	CaO 40.9%, MgO 4.91%	X sectional area method
118	Other	4 LST3	3199.70	200.00	0.00	639939.84	2.50	1599849.60 000	221	Forest	CaO MgO	CaO 41.66%, MgO 2.98%	X sectional area method
119	Other	4 LST4	4763.32	200.00	0.00	952663.18	2.50	2381657.95 000	221	Forest	CaO MgO	CaO 42.76%, MgO 3.15%	X sectional area method
120	Other	5 LST1	1919.36	200.00	0.00	383872.52	2.50	959681.300 00	221	Forest	CaO MgO	CaO 42.14%, MgO 2.68%	X sectional area method
121	Other	5 LST2	5604.07	200.00	0.00	1120813.44	2.50	2802033.60 000	221	Forest	CaO MgO	CaO 43.71%, MgO 3.15%	X sectional area method
122	Other	5 LST3	1311.46	200.00	0.00	262292.02	2.50	655730.050 00	221	Forest	CaO MgO	CaO 39.98%, MgO 3.39%	X sectional area method
123	Other	5 LST4	3711.98	200.00	0.00	742395.88	2.50	1855989.70 000	221	Forest	CaO MgO	CaO 43.6%, MgO 3.28%	X sectional area method
124	Other	6 LST1	1124.89	200.00	0.00	224977.12	2.50	562442.800 00	221	Forest	CaO MgO	CaO 42.14%, MgO 2.93%	X sectional area method
125	Other	6 LST2	3728.88	200.00	0.00	745776.82	2.50	1864442.05 000	221	Forest	CaO MgO	CaO 44.63%, MgO 2.89%	X sectional area method
126	Other	6 LST3	2456.83	200.00	0.00	491366.62	2.50	1228416.55 000	221	Forest	CaO MgO	CaO 41.1%, MgO 2.85%	X sectional area method
127	Other	6 LST4	5884.70	200.00	0.00	1176940.08	2.50	2942350.20	221	Forest	CaO MgO	CaO	X sectional

								000				40.44%, MgO 3.19%	area method
128	Other	7 LST1	830.53	200.00	0.00	166105.42	2.50	415263.550 00	221	Forest	CaO MgO	CaO 42.48%, MgO 2.53%	X sectional area method
129	Other	7 LST2	4491.28	200.00	0.00	898255.86	2.50	2245639.65 000	221	Forest	CaO MgO	CaO 44.73%, MgO 2.82%	X sectional area method
130	Other	7 LST3	2262.68	200.00	0.00	452535.86	2.50	1131339.65 000	221	Forest	CaO MgO	CaO 41.29%, MgO 3.04%	X sectional area method
131	Other	7 LST4	6223.27	200.00	0.00	1244653.28	2.50	3111633.20 000	221	Forest	CaO MgO	CaO 43.22%, MgO 3.44%	X sectional area method
132	Other	8 LST1	1459.84	200.00	0.00	291968.64	2.50	729921.600 00	221	Forest	CaO MgO	CaO 40.36%, MgO 2.51%	X sectional area method
133	Other	8 LST2	7194.74	200.00	0.00	1438947.22	2.50	3597368.05 000	221	Forest	CaO MgO	CaO 44.17%, MgO 2.78%	X sectional area method
134	Other	8 LST3	2299.73	200.00	0.00	459945.34	2.50	1149863.35 000	221	Forest	CaO MgO	CaO 42.57%, MgO 3.82%	X sectional area method
135	Other	8 LST4	672.19	200.00	0.00	134437.80	2.50	336094.500 00	221	Forest	CaO MgO	CaO 30.8%, MgO 4.91%	X sectional area method
136	Other	9 LST1	3227.70	200.00	0.00	645539.88	2.50	1613849.70 000	221	Forest	CaO MgO	CaO 42.05%, MgO 2.4%	X sectional area method
137	Other	9 LST2	6669.12	200.00	0.00	1333824.52	2.50	3334561.30 000	221	Forest	CaO MgO	CaO 43.78%, MgO 3.41%	X sectional area method
138	Other	9 LST3	1274.39	200.00	0.00	254878.72	2.50	637196.800 00	221	Forest	CaO MgO	CaO 41.7%, MgO 3.28%	X sectional area method
139	Other	9 LST4	4183.43	200.00	0.00	836686.94	2.50	2091717.35	221	Forest	CaO MgO	CaO	X sectional



151	Other	13 LST1	2426.16	200.00	0.00	485231.58	2.50	1213078.95 000	221	Forest	CaO MgO	CaO 41.12%, MgO 2.99%	X sectional area method
152	Other	13 LST2	7850.01	200.00	0.00	1570002.56	2.50	3925006.40 000	221	Forest	CaO MgO	CaO 43.48%, MgO 3.7%	X sectional area method
153	Other	13 LST3	2522.28	200.00	0.00	504456.26	2.50	1261140.65 000	221	Forest	CaO MgO	CaO 43.19%, MgO 3.12%	X sectional area method
154	Other	13 LST4	5319.84	200.00	0.00	1063967.84	2.50	2659919.60 000	221	Forest	CaO MgO	CaO 42.75%, MgO 3.75%	X sectional area method
155	Other	14 LST1	2226.09	200.00	0.00	445218.46	2.50	1113046.15 000	221	Forest	CaO MgO	CaO 41.69%, MgO 3.26%	X sectional area method
156	Other	14 LST2	8639.62	200.00	0.00	1727923.12	2.50	4319807.80 000	221	Forest	CaO MgO	CaO 44.23%, MgO 3.04%	X sectional area method
157	Other	14 LST3	1290.73	200.00	0.00	258146.08	2.50	645365.200 00	221	Forest	CaO MgO	CaO 42.58%, MgO 2.91%	X sectional area method
158	Other	14 LST4	6395.19	200.00	0.00	1279038.48	2.50	3197596.20 000	221	Forest	CaO MgO	CaO 41.89%, MgO 5.04%	X sectional area method
159	Other	15 LST1	2974.23	200.00	0.00	594846.32	2.50	1487115.80 000	221	Forest	CaO MgO	CaO 44.51%, MgO 2.77%	X sectional area method
160	Other	15 LST2	8114.94	200.00	0.00	1622988.62	2.50	4057471.55 000	221	Forest	CaO MgO	CaO 40.81%, MgO 3.28%	X sectional area method
161	Other	15 LST3	1042.91	200.00	0.00	208581.64	2.50	521454.100 00	221	Forest	CaO MgO	CaO 40.81%, MgO 3.4%	X sectional area method
162	Other	15 LST4	7688.43	200.00	0.00	1537686.08	2.50	3844215.20 000	221	Forest	CaO MgO	CaO 39.64%,	X sectional area method



174	Other	19 LST1	727.45	200.00	0.00	145489.10	2.50	363722.750 00	221	Forest	CaO MgO	CaO 41.33%, MgO 2.66%	X sectional area method
175	Other	19 LST2	4475.49	200.00	0.00	895097.18	2.50	2237742.95 000	221	Forest	CaO MgO	CaO 42.68%, MgO 3.25%	X sectional area method
176	Other	19 LST3	1582.56	200.00	0.00	316512.72	2.50	791281.800 00	221	Forest	CaO MgO	CaO 43.09%, MgO 2.99%	X sectional area method
177	Other	19 LST4	2574.55	200.00	0.00	514910.54	2.50	1287276.35 000	221	Forest	CaO MgO	CaO 42.67%, MgO 2.72%	X sectional area method
178	Other	26 LST1	1833.20	200.00	0.00	366640.58	2.50	916601.450 00	221	Forest	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
179	Other	26 LST2	2874.51	200.00	0.00	574902.62	2.50	1437256.55 000	221	Forest	CaO MgO	CaO 41.86%, MgO 2.65%	X sectional area method
180	Other	26 LST3	942.32	200.00	0.00	188463.52	2.50	471158.800 00	221	Forest	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
181	Other	33 LST1	430.51	200.00	0.00	86101.18	2.50	215252.950 00	221	Forest	CaO MgO	CaO 40.55%, MgO 3.41%	X sectional area method
182	Other	33 LST2	2986.00	200.00	0.00	597200.00	2.50	1493000.00 000	221	Forest	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
183	Other	33 LST3	1104.97	200.00	0.00	220994.62	2.50	552486.550 00	221	Forest	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
184	Other	34 LST1	764.32	200.00	0.00	152863.08	2.50	382157.700 00	221	Forest	CaO MgO	CaO 42.28%, MgO 2.26%	X sectional area method
185	Other	34 LST2	1682.47	200.00	0.00	336493.56	2.50	841233.900 00	221	Forest	CaO MgO	CaO 41.04%,	X sectional area method

												MgO 2.17%	
186	Other	34 LST3	246.87	200.00	0.00	49374.76	2.50	123436.9000	221	Forest	CaO MgO	CaO 40.83%, MgO 2.51%	X sectional area method
187	Other	35 LST3	6.43	200.00	0.00	1285.32	2.50	3213.30000	221	Forest	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
188	Other	38 LST1	326.99	200.00	0.00	65397.04	2.50	163492.6000	221	Forest	CaO MgO	CaO 42.9%, MgO 3.27%	X sectional area method
189	Other	38 LST2	1263.33	200.00	0.00	252665.02	2.50	631662.5500	221	Forest	CaO MgO	CaO 42.57%, MgO 2.98%	X sectional area method
190	Other	38 LST3	314.29	200.00	0.00	62858.22	2.50	157145.5500	221	Forest	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
191	Other	38 LST4	5460.74	200.00	0.00	1092148.56	2.50	2730371.4000	221	Forest	CaO MgO	CaO 41.74%, MgO 2.65%	X sectional area method
192	Other	39 LST1	1071.22	200.00	0.00	214244.24	2.50	535610.6000	221	Forest	CaO MgO	CaO 41.29%, MgO 2.4%	X sectional area method
193	Other	39 LST2	1540.30	200.00	0.00	308059.56	2.50	770148.9000	221	Forest	CaO MgO	CaO 41.67%, MgO 2.37%	X sectional area method
194	Other	39 LST3	404.83	200.00	0.00	80966.74	2.50	202416.8500	221	Forest	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
195	Other	39 LST4	6913.56	200.00	0.00	1382712.30	2.50	3456780.7500	221	Forest	CaO MgO	CaO 39.73%, MgO 2.92%	X sectional area method
196	Other	40 LST1	162.22	200.00	0.00	32444.98	2.50	81112.45000	221	Forest	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
197	Other	40 LST2	139.41	200.00	0.00	27881.26	2.50	69703.1500	221	Forest	CaO MgO	CaO	X sectional

								0				41.61%, MgO 3.19%	area method
198	Other	40 LST3	1040.36	200.00	0.00	208071.46	2.50	520178.650 00	221	Forest	CaO MgO	CaO 40.98%, MgO 3.11%	X sectional area method
199	Other	40 LST4	7517.13	200.00	0.00	1503426.28	2.50	3758565.70 000	221	Forest	CaO MgO	CaO 40.67%, MgO 2.79%	X sectional area method
200	Other	1 LST1 Resource below 164 RL	204.21	200.00	0.00	40842.04	2.50	102105.100 00	221	Forest	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
201	Other	1 LST2 Resource below 164 RL	1312.58	200.00	0.00	262516.80	2.50	656292.000 00	221	Forest	CaO MgO	CaO 44.83%, MgO 2.78%	X sectional area method
202	Other	1 LST3 Resource below 164 RL	788.30	200.00	0.00	157660.92	2.50	394152.300 00	221	Forest	CaO MgO	CaO 41%, MgO 4.93%	X sectional area method
203	Other	1 LST4 Resource below 164 RL	1118.18	200.00	0.00	223636.94	2.50	559092.350 00	221	Forest	CaO MgO	CaO 42.35%, MgO 3.44%	X sectional area method
204	Other	2 LST1 Resource below 164 RL	394.46	200.00	0.00	78892.60	2.50	197231.500 00	221	Forest	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method
205	Other	2 LST2 Resource below 164 RL	1376.27	200.00	0.00	275254.92	2.50	688137.300 00	221	Forest	CaO MgO	CaO 44.63%, MgO 2.84%	X sectional area method
206	Other	2 LST3 Resource below 164 RL	246.36	200.00	0.00	49271.16	2.50	123177.900 00	221	Forest	CaO MgO	CaO 43.02%, MgO 3.81%	X sectional area method

207	Other	2 LST4 Resource below 164 RL	1089.07	200.00	0.00	217814.18	2.50	544535.450 00	221	Forest	CaO MgO	CaO 43.31%, MgO 2.99%	X sectional area method
208	Other	3 LST1 Resource below 164 RL	373.73	200.00	0.00	74746.86	2.50	186867.150 00	221	Forest	CaO MgO	CaO 43.49%, MgO 2.53%	X sectional area method
209	Other	3 LST2 Resource below 164 RL	824.71	200.00	0.00	164941.22	2.50	412353.050 00	221	Forest	CaO MgO	CaO 44.04%, MgO 2.7%	X sectional area method
210	Other	3 LST3 Resource below 164 RL	183.32	200.00	0.00	36664.00	2.50	91660.0000 0	221	Forest	CaO MgO	CaO 39.72%, MgO 2.69%	X sectional area method
211	Other	3 LST4 Resource below 164 RL	483.60	200.00	0.00	96719.10	2.50	241797.750 00	221	Forest	CaO MgO	CaO 42.55%, MgO 3.54%	X sectional area method
212	Other	4 LST1 Resource below 164 RL	259.10	200.00	0.00	51819.04	2.50	129547.600 00	221	Forest	CaO MgO	CaO 39.22%, MgO 2.88%	X sectional area method
213	Other	4 LST2 Resource below 164 RL	447.12	200.00	0.00	89423.02	2.50	223557.550 00	221	Forest	CaO MgO	CaO 40.9%, MgO 4.91%	X sectional area method
214	Other	4 LST3 Resource below 164 RL	310.68	200.00	0.00	62136.28	2.50	155340.700 00	221	Forest	CaO MgO	CaO 41.66%, MgO 2.98%	X sectional area method
215	Other	4 LST4 Resource below 164 RL	418.77	200.00	0.00	83753.24	2.50	209383.100 00	221	Forest	CaO MgO	CaO 42.76%, MgO 3.15%	X sectional area method

216	Other	5 LST1 Resource below 164 RL	730.35	200.00	0.00	146070.00	2.50	365175.000 00	221	Forest	CaO MgO	CaO 42.14%, MgO 2.68%	X sectional area method
217	Other	5 LST2 Resource below 164 RL	1561.68	200.00	0.00	312335.50	2.50	780838.750 00	221	Forest	CaO MgO	CaO 43.71%, MgO 3.15%	X sectional area method
218	Other	5 LST3 Resource below 164 RL	373.32	200.00	0.00	74664.02	2.50	186660.050 00	221	Forest	CaO MgO	CaO 39.98%, MgO 3.39%	X sectional area method
219	Other	5 LST4 Resource below 164 RL	885.60	200.00	0.00	177119.88	2.50	442799.700 00	221	Forest	CaO MgO	CaO 43.6%, MgO 3.28%	X sectional area method
220	Other	6 LST1 Resource below 164 RL	1069.40	200.00	0.00	213879.56	2.50	534698.900 00	221	Forest	CaO MgO	CaO 42.14%, MgO 2.93%	X sectional area method
221	Other	6 LST2 Resource below 164 RL	2103.66	200.00	0.00	420732.52	2.50	1051831.30 000	221	Forest	CaO MgO	CaO 44.63%, MgO 2.89%	X sectional area method
222	Other	6 LST3 Resource below 164 RL	1048.38	200.00	0.00	209675.80	2.50	524189.500 00	221	Forest	CaO MgO	CaO 41.1%, MgO 2.85%	X sectional area method
223	Other	6 LST4 Resource below 164 RL	2083.21	200.00	0.00	416641.16	2.50	1041602.90 000	221	Forest	CaO MgO	CaO 40.44%, MgO 3.19%	X sectional area method
224	Other	7 LST1 Resource below 164 RL	863.49	200.00	0.00	172697.34	2.50	431743.350 00	221	Forest	CaO MgO	CaO 42.48%, MgO 2.53%	X sectional area method

225	Other	7 LST2 Resource below 164 RL	2570.68	200.00	0.00	514136.22	2.50	1285340.55 000	221	Forest	CaO MgO	CaO 44.73%, MgO 2.82%	X sectional area method
226	Other	7 LST3 Resource below 164 RL	846.23	200.00	0.00	169245.16	2.50	423112.900 00	221	Forest	CaO MgO	CaO 41.29%, MgO 3.04%	X sectional area method
227	Other	7 LST4 Resource below 164 RL	2190.82	200.00	0.00	438164.10	2.50	1095410.25 000	221	Forest	CaO MgO	CaO 43.22%, MgO 3.44%	X sectional area method
228	Other	8 LST1 Resource below 164 RL	746.37	200.00	0.00	149274.36	2.50	373185.900 00	221	Forest	CaO MgO	CaO 40.36%, MgO 2.51%	X sectional area method
229	Other	8 LST2 Resource below 164 RL	1344.67	200.00	0.00	268934.40	2.50	672336.000 00	221	Forest	CaO MgO	CaO 44.17%, MgO 2.78%	X sectional area method
230	Other	8 LST3 Resource below 164 RL	428.54	200.00	0.00	85707.30	2.50	214268.250 00	221	Forest	CaO MgO	CaO 42.57%, MgO 3.82%	X sectional area method
231	Other	8 LST4 Resource below 164 RL	512.71	200.00	0.00	102541.24	2.50	256353.100 00	221	Forest	CaO MgO	CaO 30.8%, MgO 4.91%	X sectional area method
232	Other	9 LST1 Resource below 164 RL	1578.12	200.00	0.00	315624.66	2.50	789061.650 00	221	Forest	CaO MgO	CaO 42.05%, MgO 2.4%	X sectional area method
233	Other	9 LST2 Resource below 164 RL	2790.11	200.00	0.00	558022.94	2.50	1395057.35 000	221	Forest	CaO MgO	CaO 43.78%, MgO 3.41%	X sectional area method

234	Other	9 LST3 Resource below 164 RL	684.75	200.00	0.00	136950.06	2.50	342375.150 00	221	Forest	CaO MgO	CaO 41.7%, MgO 3.28%	X sectional area method
235	Other	9 LST4 Resource below 164 RL	3247.15	200.00	0.00	649429.34	2.50	1623573.35 000	221	Forest	CaO MgO	CaO 41.52%, MgO 4.43%	X sectional area method
236	Other	11 LST1 Resource below 164 RL	1612.04	200.00	0.00	322407.50	2.50	806018.750 00	221	Forest	CaO MgO	CaO 41.53%, MgO 3.61%	X sectional area method
237	Other	11 LST2 Resource below 164 RL	3152.06	200.00	0.00	630412.74	2.50	1576031.85 000	221	Forest	CaO MgO	CaO 43.62%, MgO 3.17%	X sectional area method
238	Other	11 LST3 Resource below 164 RL	471.91	200.00	0.00	94381.78	2.50	235954.450 00	221	Forest	CaO MgO	CaO 44.54%, MgO 2.6%	X sectional area method
239	Other	11 LST4 Resource below 164 RL	5641.88	200.00	0.00	1128375.60	2.50	2820939.00 000	221	Forest	CaO MgO	CaO 43.72%, MgO 3.15%	X sectional area method
240	Other	13 LST1 Resource below 164 RL	829.18	200.00	0.00	165835.98	2.50	414589.950 00	221	Forest	CaO MgO	CaO 41.12%, MgO 2.99%	X sectional area method
241	Other	13 LST2 Resource below 164 RL	2148.54	200.00	0.00	429707.60	2.50	1074269.00 000	221	Forest	CaO MgO	CaO 43.48%, MgO 3.7%	X sectional area method
242	Other	13 LST3 Resource below 164 RL	633.72	200.00	0.00	126743.90	2.50	316859.750 00	221	Forest	CaO MgO	CaO 43.19%, MgO 3.12%	X sectional area method

243	Other	13 LST4 Resource below 164 RL	1194.14	200.00	0.00	238828.26	2.50	597070.65000	221	Forest	CaO MgO	CaO 42.75%, MgO 3.75%	X sectional area method
244	Other	14 LST1 Resource below 164 RL	806.27	200.00	0.00	161253.90	2.50	403134.75000	221	Forest	CaO MgO	CaO 41.69%, MgO 3.26%	X sectional area method
245	Other	14 LST2 Resource below 164 RL	2053.43	200.00	0.00	410685.74	2.50	1026714.35000	221	Forest	CaO MgO	CaO 44.23%, MgO 3.04%	X sectional area method
246	Other	14 LST3 Resource below 164 RL	324.41	200.00	0.00	64882.26	2.50	162205.65000	221	Forest	CaO MgO	CaO 42.58%, MgO 2.91%	X sectional area method
247	Other	14 LST4 Resource below 164 RL	1411.48	200.00	0.00	282296.02	2.50	705740.05000	221	Forest	CaO MgO	CaO 41.89%, MgO 5.04%	X sectional area method
248	Other	15 LST1 Resource below 164 RL	546.00	200.00	0.00	109199.10	2.50	272997.75000	221	Forest	CaO MgO	CaO 44.51%, MgO 2.77%	X sectional area method
249	Other	15 LST2 Resource below 164 RL	941.54	200.00	0.00	188307.82	2.50	470769.55000	221	Forest	CaO MgO	CaO 40.81%, MgO 3.28%	X sectional area method
250	Other	15 LST3 Resource below 164 RL	124.89	200.00	0.00	24977.20	2.50	62443.00000	221	Forest	CaO MgO	CaO 40.81%, MgO 3.4%	X sectional area method
251	Other	15 LST4 Resource below 164 RL	887.55	200.00	0.00	177510.50	2.50	443776.25000	221	Forest	CaO MgO	CaO 39.64%, MgO 3.07%	X sectional area method

252	Other	16 LST1 Resource below 164 RL	555.13	200.00	0.00	111026.82	2.50	277567.050 00	221	Forest	CaO MgO	CaO 43.77%, MgO 2.88%	X sectional area method
253	Other	16 LST2 Resource below 164 RL	566.09	200.00	0.00	113217.76	2.50	283044.400 00	221	Forest	CaO MgO	CaO 42.72%, MgO 2.94%	X sectional area method
254	Other	16 LST3 Resource below 164 RL	449.83	200.00	0.00	89965.52	2.50	224913.800 00	221	Forest	CaO MgO	CaO 42.56%, MgO 2.78%	X sectional area method
255	Other	16 LST4 Resource below 164 RL	890.63	200.00	0.00	178125.12	2.50	445312.800 00	221	Forest	CaO MgO	CaO 42.67%, MgO 2.91%	X sectional area method
256	Other	17 LST1 Resource below 164 RL	519.90	200.00	0.00	103980.18	2.50	259950.450 00	221	Forest	CaO MgO	CaO 38.89%, MgO 3.02%	X sectional area method
257	Other	17 LST2 Resource below 164 RL	3526.23	200.00	0.00	705245.90	2.50	1763114.75 000	221	Forest	CaO MgO	CaO 41.65%, MgO 3.11%	X sectional area method
258	Other	17 LST3 Resource below 164 RL	1504.00	200.00	0.00	300799.48	2.50	751998.700 00	221	Forest	CaO MgO	CaO 38.79%, MgO 4.31%	X sectional area method
259	Other	17 LST4 Resource below 164 RL	217.49	200.00	0.00	43498.98	2.50	108747.450 00	221	Forest	CaO MgO	CaO 40.16%, MgO 3.56%	X sectional area method
260	Other	18 LST2 Resource below 164 RL	871.17	200.00	0.00	174233.60	2.50	435584.000 00	221	Forest	CaO MgO	CaO 39.48%, MgO 4.66%	X sectional area method

261	Other	18 LST3 Resource below 164 RL	372.97	200.00	0.00	74593.52	2.50	186483.800 00	221	Forest	CaO MgO	CaO 39.37%, MgO 2.32%	X sectional area method
262	Other	18 LST4 Resource below 164 RL	798.41	200.00	0.00	159681.18	2.50	399202.950 00	221	Forest	CaO MgO	CaO 41.32%, MgO 2.37%	X sectional area method
263	Other	19 LST1 Resource below 164 RL	373.17	200.00	0.00	74634.82	2.50	186587.050 00	221	Forest	CaO MgO	CaO 41.33%, MgO 2.66%	X sectional area method
264	Other	19 LST2 Resource below 164 RL	1049.00	200.00	0.00	209800.52	2.50	524501.300 00	221	Forest	CaO MgO	CaO 42.68%, MgO 3.25%	X sectional area method
265	Other	19 LST3 Resource below 164 RL	383.03	200.00	0.00	76606.56	2.50	191516.400 00	221	Forest	CaO MgO	CaO 43.09%, MgO 2.99%	X sectional area method
266	Other	19 LST4 Resource below 164 RL	772.74	200.00	0.00	154547.72	2.50	386369.300 00	221	Forest	CaO MgO	CaO 42.67%, MgO 2.72%	X sectional area method
267	Other	26 LST1 Resource below 164 RL	1319.93	200.00	0.00	263985.14	2.50	659962.850 00	221	Forest	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
268	Other	26 LST2 Resource below 164 RL	1645.55	200.00	0.00	329109.86	2.50	822774.650 00	221	Forest	CaO MgO	CaO 41.86%, MgO 2.65%	X sectional area method
269	Other	26 LST3 Resource below 164 RL	708.89	200.00	0.00	141778.16	2.50	354445.400 00	221	Forest	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method

270	Other	33 LST1 Resource below 164 RL	682.50	200.00	0.00	136500.26	2.50	341250.650 00	221	Forest	CaO MgO	CaO 40.55%, MgO 3.41%	X sectional area method
271	Other	33 LST2 Resource below 164 RL	2402.76	200.00	0.00	480551.92	2.50	1201379.80 000	221	Forest	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
272	Other	33 LST3 Resource below 164 RL	515.21	200.00	0.00	103042.92	2.50	257607.300 00	221	Forest	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
273	Other	34 LST1 Resource below 164 RL	429.44	200.00	0.00	85888.34	2.50	214720.850 00	221	Forest	CaO MgO	CaO 42.28%, MgO 2.26%	X sectional area method
274	Other	34 LST2 Resource below 164 RL	828.44	200.00	0.00	165687.38	2.50	414218.450 00	221	Forest	CaO MgO	CaO 41.04%, MgO 2.17%	X sectional area method
275	Other	34 LST3 Resource below 164 RL	9.10	200.00	0.00	1819.62	2.50	4549.05000	221	Forest	CaO MgO	CaO 40.83%, MgO 2.51%	X sectional area method
276	Other	35 LST2 Resource below 164 RL	200.01	200.00	0.00	40002.64	2.50	100006.600 00	221	Forest	CaO MgO	CaO 39.97%, MgO 2.48%	X sectional area method
277	Other	35 LST3 Resource below 164 RL	314.03	200.00	0.00	62805.40	2.50	157013.500 00	221	Forest	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
278	Other	35 LST4 Resource below 164 RL	38.71	200.00	0.00	7742.00	2.50	19355.0000 0	221	Forest	CaO MgO	CaO 40.89%, MgO 2.84%	X sectional area method

279	Other	36 LST1 Resource below 164 RL	159.07	200.00	0.00	31813.24	2.50	79533.1000 0	221	Forest	CaO MgO	CaO 42.17%, MgO 3.04%	X sectional area method
280	Other	37 LST1 Resource below 164 RL	561.66	200.00	0.00	112331.38	2.50	280828.450 00	221	Forest	CaO MgO	CaO 43.1%, MgO 2.38%	X sectional area method
281	Other	37 LST2 Resource below 164 RL	706.90	200.00	0.00	141380.46	2.50	353451.150 00	221	Forest	CaO MgO	CaO 42.97%, MgO 3.24%	X sectional area method
282	Other	37 LST3 Resource below 164 RL	781.20	200.00	0.00	156240.68	2.50	390601.700 00	221	Forest	CaO MgO	CaO 42.57%, MgO 2.62%	X sectional area method
283	Other	38 LST1 Resource below 164 RL	1307.37	200.00	0.00	261474.86	2.50	653687.150 00	221	Forest	CaO MgO	CaO 42.9%, MgO 3.27%	X sectional area method
284	Other	38 LST2 Resource below 164 RL	2170.53	200.00	0.00	434105.90	2.50	1085264.75 000	221	Forest	CaO MgO	CaO 42.57%, MgO 2.98%	X sectional area method
285	Other	38 LST3 Resource below 164 RL	3556.36	200.00	0.00	711271.80	2.50	1778179.50 000	221	Forest	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
286	Other	38 LST4 Resource below 164 RL	3421.43	200.00	0.00	684286.62	2.50	1710716.55 000	221	Forest	CaO MgO	CaO 41.74%, MgO 2.65%	X sectional area method
287	Other	39 LST1 Resource below 164 RL	1175.66	200.00	0.00	235131.32	2.50	587828.300 00	221	Forest	CaO MgO	CaO 41.29%, MgO 2.4%	X sectional area method

288	Other	39 LST2 Resource below 164 RL	1581.16	200.00	0.00	316231.26	2.50	790578.150 00	221	Forest	CaO MgO	CaO 41.67%, MgO 2.37%	X sectional area method
289	Other	39 LST3 Resource below 164 RL	2890.14	200.00	0.00	578027.58	2.50	1445068.95 000	221	Forest	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
290	Other	39 LST4 Resource below 164 RL	2557.43	200.00	0.00	511485.82	2.50	1278714.55 000	221	Forest	CaO MgO	CaO 39.73%, MgO 2.92%	X sectional area method
291	Other	40 LST1 Resource below 164 RL	172.92	200.00	0.00	34584.28	2.50	86460.7000 0	221	Forest	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
292	Other	40 LST2 Resource below 164 RL	90.77	200.00	0.00	18154.22	2.50	45385.5500 0	221	Forest	CaO MgO	CaO 41.61%, MgO 3.19%	X sectional area method
293	Other	40 LST3 Resource below 164 RL	552.78	200.00	0.00	110556.56	2.50	276391.400 00	221	Forest	CaO MgO	CaO 40.98%, MgO 3.11%	X sectional area method
294	Other	40 LST4 Resource below 164 RL	1594.95	200.00	0.00	318989.46	2.50	797473.650 00	221	Forest	CaO MgO	CaO 40.67%, MgO 2.79%	X sectional area method
295	Other	1 LST1 Resource below 164 RL	531.16	200.00	0.00	106232.20	2.50	265580.500 00	221	Private & Govt.	CaO MgO	CaO 43.18%, MgO 2.55%	X sectional area method
296	Other	1 LST4 Resource below 164 RL	37.21	200.00	0.00	7442.40	2.50	18606.0000 0	221	Private & Govt.	CaO MgO	CaO 42.35%, MgO 3.44%	X sectional area method

297	Other	2 LST1 Resource below 164 RL	308.97	200.00	0.00	61793.20	2.50	154483.000 00	221	Private & Govt.	CaO MgO	CaO 42.29%, MgO 3.05%	X sectional area method
298	Other	2 LST4 Resource below 164 RL	83.35	200.00	0.00	16670.12	2.50	41675.3000 0	221	Private & Govt.	CaO MgO	CaO 43.31%, MgO 2.99%	X sectional area method
299	Other	16 LST2 Resource below 164 RL	460.97	200.00	0.00	92194.86	2.50	230487.150 00	221	Private & Govt.	CaO MgO	CaO 42.72%, MgO 2.94%	X sectional area method
300	Other	17 LST1 Resource below 164 RL	1357.53	200.00	0.00	271506.20	2.50	678765.500 00	221	Private & Govt.	CaO MgO	CaO 38.89%, MgO 3.02%	X sectional area method
301	Other	17 LST2 Resource below 164 RL	770.32	200.00	0.00	154063.96	2.50	385159.900 00	221	Private & Govt.	CaO MgO	CaO 41.65%, MgO 3.11%	X sectional area method
302	Other	18 LST1 Resource below 164 RL	1104.72	200.00	0.00	220944.30	2.50	552360.750 00	221	Private & Govt.	CaO MgO	CaO 41.81%, MgO 3.94%	X sectional area method
303	Other	18 LST2 Resource below 164 RL	1227.66	200.00	0.00	245532.20	2.50	613830.500 00	221	Private & Govt.	CaO MgO	CaO 39.48%, MgO 4.66%	X sectional area method
304	Other	19 LST1 Resource below 164 RL	981.45	200.00	0.00	196290.80	2.50	490727.000 00	221	Private & Govt.	CaO MgO	CaO 41.33%, MgO 2.66%	X sectional area method
305	Other	20 LST1 Resource below 164 RL	699.82	200.00	0.00	139963.90	2.50	349909.750 00	221	Private & Govt.	CaO MgO	CaO 39.32%, MgO 4.09%	X sectional area method

306	Other	20 LST2 Resource below 164 RL	1175.20	200.00	0.00	235040.54	2.50	587601.350 00	221	Private & Govt.	CaO MgO	CaO 44.21%, MgO 3.03%	X sectional area method
307	Other	20 LST3 Resource below 164 RL	99.12	200.00	0.00	19824.74	2.50	49561.8500 0	221	Private & Govt.	CaO MgO	CaO 37.95%, MgO 2.99%	X sectional area method
308	Other	20 LST4 Resource below 164 RL	479.28	200.00	0.00	95856.94	2.50	239642.350 00	221	Private & Govt.	CaO MgO	CaO 39.13%, MgO 3.89%	X sectional area method
309	Other	21 LST1 Resource below 164 RL	403.29	200.00	0.00	80658.54	2.50	201646.350 00	221	Private & Govt.	CaO MgO	CaO 40.44%, MgO 2.89%	X sectional area method
310	Other	21 LST2 Resource below 164 RL	551.71	200.00	0.00	110341.58	2.50	275853.950 00	221	Private & Govt.	CaO MgO	CaO 36.68%, MgO 2.69%	X sectional area method
311	Other	21 LST3 Resource below 164 RL	297.29	200.00	0.00	59458.64	2.50	148646.600 00	221	Private & Govt.	CaO MgO	CaO 40.62%, MgO 3.15%	X sectional area method
312	Other	21 LST4 Resource below 164 RL	722.92	200.00	0.00	144584.50	2.50	361461.250 00	221	Private & Govt.	CaO MgO	CaO 40.32%, MgO 2.31%	X sectional area method
313	Other	22 LST1 Resource below 164 RL	692.37	200.00	0.00	138474.00	2.50	346185.000 00	221	Private & Govt.	CaO MgO	CaO 44.6%, MgO 3.08%	X sectional area method
314	Other	22 LST2 Resource below 164 RL	875.19	200.00	0.00	175038.48	2.50	437596.200 00	221	Private & Govt.	CaO MgO	CaO 43.48%, MgO 3.2%	X sectional area method

315	Other	22 LST3 Resource below 164 RL	581.63	200.00	0.00	116326.96	2.50	290817.400 00	221	Private & Govt.	CaO MgO	CaO 41.54%, MgO 3.32%	X sectional area method
316	Other	22 LST4 Resource below 164 RL	918.95	200.00	0.00	183790.72	2.50	459476.800 00	221	Private & Govt.	CaO MgO	CaO 43.26%, MgO 3.34%	X sectional area method
317	Other	23 LST1 Resource below 164 RL	1310.23	200.00	0.00	262046.52	2.50	655116.300 00	221	Private & Govt.	CaO MgO	CaO 42.89%, MgO 3.17%	X sectional area method
318	Other	23 LST2 Resource below 164 RL	1551.33	200.00	0.00	310265.76	2.50	775664.400 00	221	Private & Govt.	CaO MgO	CaO 43.8%, MgO 3.2%	X sectional area method
319	Other	23 LST3 Resource below 164 RL	1040.40	200.00	0.00	208079.68	2.50	520199.200 00	221	Private & Govt.	CaO MgO	CaO 43.45%, MgO 3.38%	X sectional area method
320	Other	23 LST4 Resource below 164 RL	1283.95	200.00	0.00	256790.80	2.50	641977.000 00	221	Private & Govt.	CaO MgO	CaO 42.87%, MgO 2.95%	X sectional area method
321	Other	24 LST1 Resource below 164 RL	1266.93	200.00	0.00	253385.30	2.50	633463.250 00	221	Private & Govt.	CaO MgO	CaO 42.79%, MgO 2.8%	X sectional area method
322	Other	24 LST2 Resource below 164 RL	1366.00	200.00	0.00	273200.00	2.50	683000.000 00	221	Private & Govt.	CaO MgO	CaO 43.49%, MgO 2.86%	X sectional area method
323	Other	24 LST3 Resource below 164 RL	1003.24	200.00	0.00	200647.42	2.50	501618.550 00	221	Private & Govt.	CaO MgO	CaO 43.74%, MgO 2.83%	X sectional area method

324	Other	24 LST4 Resource below 164 RL	859.52	200.00	0.00	171904.46	2.50	429761.150 00	221	Private & Govt.	CaO MgO	CaO 43.05%, MgO 2.43%	X sectional area method
325	Other	25 LST1 Resource below 164 RL	1339.31	200.00	0.00	267862.82	2.50	669657.050 00	221	Private & Govt.	CaO MgO	CaO 43.61%, MgO 2.59%	X sectional area method
326	Other	25 LST2 Resource below 164 RL	1328.90	200.00	0.00	265779.48	2.50	664448.700 00	221	Private & Govt.	CaO MgO	CaO 44.62%, MgO 2.66%	X sectional area method
327	Other	25 LST3 Resource below 164 RL	1093.98	200.00	0.00	218796.02	2.50	546990.050 00	221	Private & Govt.	CaO MgO	CaO 43.01%, MgO 2.62%	X sectional area method
328	Other	25 LST4 Resource below 164 RL	657.65	200.00	0.00	131529.36	2.50	328823.400 00	221	Private & Govt.	CaO MgO	CaO 43.84%, MgO 2.63%	X sectional area method
329	Other	26 LST1 Resource below 164 RL	373.94	200.00	0.00	74787.18	2.50	186967.950 00	221	Private & Govt.	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
330	Other	26 LST3 Resource below 164 RL	61.68	200.00	0.00	12335.50	2.50	30838.7500 0	221	Private & Govt.	CaO MgO	CaO 40.23%, MgO 2.95%	X sectional area method
331	Other	26 LST4 Resource below 164 RL	294.47	200.00	0.00	58894.52	2.50	147236.300 00	221	Private & Govt.	CaO MgO	CaO 43.19%, MgO 2.76%	X sectional area method
332	Other	27 LST1 Resource below 164 RL	1266.79	200.00	0.00	253358.24	2.50	633395.600 00	221	Private & Govt.	CaO MgO	CaO 41.57%, MgO 2.63%	X sectional area method

333	Other	27 LST2 Resource below 164 RL	1337.28	200.00	0.00	267455.16	2.50	668637.900 00	221	Private & Govt.	CaO MgO	CaO 42.73%, MgO 2.7%	X sectional area method
334	Other	27 LST3 Resource below 164 RL	1080.33	200.00	0.00	216065.56	2.50	540163.900 00	221	Private & Govt.	CaO MgO	CaO 42.97%, MgO 2.66%	X sectional area method
335	Other	27 LST4 Resource below 164 RL	450.16	200.00	0.00	90031.28	2.50	225078.200 00	221	Private & Govt.	CaO MgO	CaO 43.22%, MgO 2.7%	X sectional area method
336	Other	28 LST1 Resource below 164 RL	1168.74	200.00	0.00	233748.66	2.50	584371.650 00	221	Private & Govt.	CaO MgO	CaO 40.14%, MgO 2.6%	X sectional area method
337	Other	28 LST2 Resource below 164 RL	1244.89	200.00	0.00	248978.94	2.50	622447.350 00	221	Private & Govt.	CaO MgO	CaO 42.53%, MgO 2.59%	X sectional area method
338	Other	28 LST3 Resource below 164 RL	899.81	200.00	0.00	179961.14	2.50	449902.850 00	221	Private & Govt.	CaO MgO	CaO 43.22%, MgO 2.62%	X sectional area method
339	Other	28 LST4 Resource below 164 RL	437.68	200.00	0.00	87536.92	2.50	218842.300 00	221	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
340	Other	29 LST1 Resource below 164 RL	1937.81	200.00	0.00	387561.30	2.50	968903.250 00	221	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
341	Other	29 LST2 Resource below 164 RL	2827.95	200.00	0.00	565590.36	2.50	1413975.90 000	221	Private & Govt.	CaO MgO	CaO 42.98%, MgO 2.8%	X sectional area method

342	Other	29 LST3 Resource below 164 RL	1876.91	200.00	0.00	375382.04	2.50	938455.100 00	221	Private & Govt.	CaO MgO	CaO 43.12%, MgO 2.76%	X sectional area method
343	Other	29 LST4 Resource below 164 RL	531.85	200.00	0.00	106369.88	2.50	265924.700 00	221	Private & Govt.	CaO MgO	CaO 43.11%, MgO 2.88%	X sectional area method
344	Other	30 LST1 Resource below 164 RL	254.92	200.00	0.00	50983.46	2.50	127458.650 00	221	Private & Govt.	CaO MgO	CaO 41.1%, MgO 2.81%	X sectional area method
345	Other	30 LST2 Resource below 164 RL	437.36	200.00	0.00	87471.10	2.50	218677.750 00	221	Private & Govt.	CaO MgO	CaO 40.8%, MgO 2.81%	X sectional area method
346	Other	30 LST3 Resource below 164 RL	706.88	200.00	0.00	141376.58	2.50	353441.450 00	221	Private & Govt.	CaO MgO	CaO 41.3%, MgO 2.74%	X sectional area method
347	Other	30 LST4 Resource below 164 RL	772.49	200.00	0.00	154497.72	2.50	386244.300 00	221	Private & Govt.	CaO MgO	CaO 40.13%, MgO 2.76%	X sectional area method
348	Other	33 LST2 Resource below 164 RL	1382.27	200.00	0.00	276454.32	2.50	691135.800 00	221	Private & Govt.	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
349	Other	33 LST3 Resource below 164 RL	1821.27	200.00	0.00	364253.86	2.50	910634.650 00	221	Private & Govt.	CaO MgO	CaO 41.86%, MgO 2.39%	X sectional area method
350	Other	33 LST4 Resource below 164 RL	1621.45	200.00	0.00	324290.40	2.50	810726.000 00	221	Private & Govt.	CaO MgO	CaO 40.06%, MgO 2.33%	X sectional area method

351	Other	34 LST2 Resource below 164 RL	11.33	200.00	0.00	2266.78	2.50	5666.95000	221	Private & Govt.	CaO MgO	CaO 41.04%, MgO 2.17%	X sectional area method
352	Other	34 LST3 Resource below 164 RL	1012.30	200.00	0.00	202460.64	2.50	506151.600 00	221	Private & Govt.	CaO MgO	CaO 40.83%, MgO 2.51%	X sectional area method
353	Other	34 LST4 Resource below 164 RL	296.39	200.00	0.00	59277.82	2.50	148194.550 00	221	Private & Govt.	CaO MgO	CaO 40.39%, MgO 2.48%	X sectional area method
354	Other	35 LST1 Resource below 164 RL	301.45	200.00	0.00	60289.40	2.50	150723.500 00	221	Private & Govt.	CaO MgO	CaO 40.08%, MgO 2.21%	X sectional area method
355	Other	35 LST2 Resource below 164 RL	3404.31	200.00	0.00	680862.88	2.50	1702157.20 000	221	Private & Govt.	CaO MgO	CaO 39.97%, MgO 2.48%	X sectional area method
356	Other	35 LST3 Resource below 164 RL	2875.04	200.00	0.00	575007.98	2.50	1437519.95 000	221	Private & Govt.	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
357	Other	35 LST4 Resource below 164 RL	483.39	200.00	0.00	96677.02	2.50	241692.550 00	221	Private & Govt.	CaO MgO	CaO 40.89%, MgO 2.84%	X sectional area method
358	Other	36 LST1 Resource below 164 RL	1825.08	200.00	0.00	365015.40	2.50	912538.500 00	221	Private & Govt.	CaO MgO	CaO 42.17%, MgO 3.04%	X sectional area method
359	Other	36 LST2 Resource below 164 RL	1036.37	200.00	0.00	207274.14	2.50	518185.350 00	221	Private & Govt.	CaO MgO	CaO 39.93%, MgO 2.41%	X sectional area method

360	Other	36 LST3 Resource below 164 RL	1977.66	200.00	0.00	395531.82	2.50	988829.550 00	221	Private & Govt.	CaO MgO	CaO 40.46%, MgO 3.18%	X sectional area method
361	Other	36 LST4 Resource below 164 RL	5015.30	200.00	0.00	1003060.30	2.50	2507650.75 000	221	Private & Govt.	CaO MgO	CaO 40.7%, MgO 2.45%	X sectional area method
362	Other	37 LST3 Resource below 164 RL	1787.21	200.00	0.00	357442.52	2.50	893606.300 00	221	Private & Govt.	CaO MgO	CaO 42.57%, MgO 2.62%	X sectional area method
363	Other	37 LST4 Resource below 164 RL	775.37	200.00	0.00	155073.54	2.50	387683.850 00	221	Private & Govt.	CaO MgO	CaO 42.31%, MgO 3.49%	X sectional area method
364	Other	38 LST3 Resource below 164 RL	794.45	200.00	0.00	158890.00	2.50	397225.000 00	221	Private & Govt.	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
365	Other	39 LST3 Resource below 164 RL	601.17	200.00	0.00	120233.70	2.50	300584.250 00	221	Private & Govt.	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
366	Other	40 LST1 Resource below 164 RL	1422.95	200.00	0.00	284589.02	2.50	711472.550 00	221	Private & Govt.	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
Total						111689435. 88		279223589. 70					

**2A.2.4.12: Calculation of Reserves - I**

SI.No.	Cross section/Bloc	Sectional area/ block	Influence (m)	Depth (m)	Volume (m <sup>3</sup> )	Bulk Density (t/m <sup>3</sup> )	Resource Quantity (t)	UNFC code	Type of Land	Name of the radical	Grade (%)	Method used for resource
--------	-----------------------	--------------------------	------------------	-----------	--------------------------	-------------------------------------	--------------------------	-----------	-----------------	------------------------	-----------	-----------------------------



12	18 (LST1)	2445.79	200.00	0.00	489157.94	2.50	1222894.85	111	Private & Govt.	CaO MgO	CaO 41.81%, MgO 3.94%	X sectional area method
13	18 (LST2)	4317.17	200.00	0.00	863433.42	2.50	2158583.55	111	Private & Govt.	CaO MgO	CaO 39.48%, MgO 4.66%	X sectional area method
14	19 (LST1)	2751.45	200.00	0.00	550290.46	2.50	1375726.15	111	Private & Govt.	CaO MgO	CaO 41.33%, MgO 2.66%	X sectional area method
15	20 (LST1)	813.09	200.00	0.00	162618.60	2.50	406546.50	111	Private & Govt.	CaO MgO	CaO 39.32%, MgO 4.09%	X sectional area method
16	20 (LST2)	1289.02	200.00	0.00	257803.08	2.50	644507.70	111	Private & Govt.	CaO MgO	CaO 44.21%, MgO 3.03%	X sectional area method
17	20 (LST3)	418.68	200.00	0.00	83736.48	2.50	209341.20	111	Private & Govt.	CaO MgO	CaO 37.95%, MgO 2.99%	X sectional area method
18	20 (LST4)	343.89	200.00	0.00	68777.62	2.50	171944.05	111	Private & Govt.	CaO MgO	CaO 39.13%, MgO 3.89%	X sectional area method
19	22 (LST1)	872.48	200.00	0.00	174496.58	2.50	436241.45	111	Private & Govt.	CaO MgO	CaO 44.6%, MgO 3.08%	X sectional area method
20	22 (LST2)	1142.7	200.00	0.00	228539.04	2.50	571347.60	111	Private & Govt.	CaO MgO	CaO 43.48%, MgO 3.2%	X sectional area method
21	22 (LST3)	747.92	200.00	0.00	149583.50	2.50	373958.75	111	Private & Govt.	CaO MgO	CaO 41.54%, MgO 3.32%	X sectional area method
22	22 (LST4)	1155.28	200.00	0.00	231055.52	2.50	577638.80	111	Private & Govt.	CaO MgO	CaO 43.26%, MgO 3.34%	X sectional area method
23	23 (LST1)	53.63	200.00	0.00	10725.98	2.50	26814.95	111	Private & Govt.	CaO MgO	CaO 42.89%, MgO 3.17%	X sectional area method

24	23 (LST2)	1794.55	200.00	0.00	358909.72	2.50	897274.30	111	Private & Govt.	CaO MgO	CaO 43.8%, MgO 3.2%	X sectional area method
25	23 (LST3)	1225.68	200.00	0.00	245136.28	2.50	612840.70	111	Private & Govt.	CaO MgO	CaO 43.45%, MgO 3.38%	X sectional area method
26	23 (LST4)	1455.05	200.00	0.00	291010.82	2.50	727527.05	111	Private & Govt.	CaO MgO	CaO 42.87%, MgO 2.95%	X sectional area method
27	24 (LST1)	1305.01	200.00	0.00	261002.70	2.50	652506.75	111	Private & Govt.	CaO MgO	CaO 42.79%, MgO 2.8%	X sectional area method
28	24 (LST3)	638.57	200.00	0.00	127713.52	2.50	319283.80	111	Private & Govt.	CaO MgO	CaO 43.74%, MgO 2.83%	X sectional area method
29	24 (LST4)	940	200.00	0.00	188000.06	2.50	470000.15	111	Private & Govt.	CaO MgO	CaO 43.05%, MgO 2.43%	X sectional area method
30	25 (LST1)	695.86	200.00	0.00	139172.34	2.50	347930.85	111	Private & Govt.	CaO MgO	CaO 43.61%, MgO 2.59%	X sectional area method
31	25 (LST2)	755.71	200.00	0.00	151141.68	2.50	377854.20	111	Private & Govt.	CaO MgO	CaO 44.62%, MgO 2.66%	X sectional area method
32	25 (LST3)	135.15	200.00	0.00	27029.72	2.50	67574.30	111	Private & Govt.	CaO MgO	CaO 43.01%, MgO 2.62%	X sectional area method
33	25 (LST4)	1072.42	200.00	0.00	214484.08	2.50	536210.20	111	Private & Govt.	CaO MgO	CaO 43.84%, MgO 2.63%	X sectional area method
34	26 (LST1)	1176.32	200.00	0.00	235264.24	2.50	588160.60	111	Private & Govt.	CaO MgO	CaO 42.97%, MgO 2.61%	X sectional area method
35	27 (LST1)	1187.26	200.00	0.00	237451.54	2.50	593628.85	111	Private & Govt.	CaO MgO	CaO 41.57%, MgO 2.63%	X sectional area method

36	27 (LST2)	1353.58	200.00	0.00	270715.22	2.50	676788.05	111	Private & Govt.	CaO MgO	CaO 42.73%, MgO 2.7%	X sectional area method
37	27 (LST3)	1364.79	200.00	0.00	272957.96	2.50	682394.90	111	Private & Govt.	CaO MgO	CaO 42.97%, MgO 2.66%	X sectional area method
38	27 (LST4)	642.31	200.00	0.00	128461.56	2.50	321153.90	111	Private & Govt.	CaO MgO	CaO 43.22%, MgO 2.7%	X sectional area method
39	28 (LST1)	1256.36	200.00	0.00	251272.30	2.50	628180.75	111	Private & Govt.	CaO MgO	CaO 40.14%, MgO 2.6%	X sectional area method
40	28 (LST2)	535.92	200.00	0.00	107183.48	2.50	267958.70	111	Private & Govt.	CaO MgO	CaO 42.53%, MgO 2.59%	X sectional area method
41	29 (LST1)	294.19	200.00	0.00	58837.74	2.50	147094.35	111	Private & Govt.	CaO MgO	CaO 43.07%, MgO 2.61%	X sectional area method
42	29 (LST2)	4410.17	200.00	0.00	882034.40	2.50	2205086.00	111	Private & Govt.	CaO MgO	CaO 42.98%, MgO 2.8%	X sectional area method
43	29 (LST3)	1829.91	200.00	0.00	365982.42	2.50	914956.05	111	Private & Govt.	CaO MgO	CaO 43.12%, MgO 2.76%	X sectional area method
44	29 (LST4)	378	200.00	0.00	75600.98	2.50	189002.45	111	Private & Govt.	CaO MgO	CaO 43.11%, MgO 2.88%	X sectional area method
45	33 (LST2)	1294.15	200.00	0.00	258829.64	2.50	647074.10	111	Private & Govt.	CaO MgO	CaO 39.79%, MgO 2.14%	X sectional area method
46	34 (LST3)	1447.02	200.00	0.00	289404.14	2.50	723510.35	111	Private & Govt.	CaO MgO	CaO 40.83%, MgO 2.51%	X sectional area method
47	34 (LST4)	58.45	200.00	0.00	11690.24	2.50	29225.60	111	Private & Govt.	CaO MgO	CaO 40.39%,	X sectional area method

											MgO 2.48%	
48	35 (LST1)	9.58	200.00	0.00	1915.20	2.50	4788.00	111	Private & Govt.	CaO MgO	CaO 40.08%, MgO 2.21%	X sectional area method
49	35 (LST2)	2278.84	200.00	0.00	455768.82	2.50	1139422.05	111	Private & Govt.	CaO MgO	CaO 39.97%, MgO 2.48%	X sectional area method
50	35 (LST3)	662.97	200.00	0.00	132593.04	2.50	331482.60	111	Private & Govt.	CaO MgO	CaO 40.11%, MgO 2.88%	X sectional area method
51	36 (LST2)	40.56	200.00	0.00	8112.58	2.50	20281.45	111	Private & Govt.	CaO MgO	CaO 39.93%, MgO 2.41%	X sectional area method
52	36 (LST3)	82.5	200.00	0.00	16500.84	2.50	41252.10	111	Private & Govt.	CaO MgO	CaO 40.46%, MgO 3.18%	X sectional area method
53	36 (LST4)	2090.16	200.00	0.00	418031.26	2.50	1045078.15	111	Private & Govt.	CaO MgO	CaO 40.7%, MgO 2.45%	X sectional area method
54	37 (LST3)	180.87	200.00	0.00	36173.18	2.50	90432.95	111	Private & Govt.	CaO MgO	CaO 42.57%, MgO 2.62%	X sectional area method
55	37 (LST4)	741.53	200.00	0.00	148305.54	2.50	370763.85	111	Private & Govt.	CaO MgO	CaO 42.31%, MgO 3.49%	X sectional area method
56	38 (LST3)	166.92	200.00	0.00	33384.10	2.50	83460.25	111	Private & Govt.	CaO MgO	CaO 42.68%, MgO 2.56%	X sectional area method
57	39 (LST3)	201.67	200.00	0.00	40334.82	2.50	100837.05	111	Private & Govt.	CaO MgO	CaO 41.06%, MgO 3.8%	X sectional area method
58	40 (LST1)	1037.3	200.00	0.00	207459.28	2.50	518648.20	111	Private & Govt.	CaO MgO	CaO 41.32%, MgO 3.13%	X sectional area method
Total					12250775.10		30626937.75					

**2A.2.4.13: Calculation of Reserves -II**

Mineral	LIMESTONE
Reserves/ Resources estimated as on	01/04/2025
UNIT of estimation	tonnes

**A. Mineral Reserve**

Classification	Code	Quantity			Grade		Remark
		Forest	Non Forest	Total	Forest	Non Forest	
1. Proved Mineral Reserve (A)	111	0.00	30626937.75	30626937.75	CaO 41.7%, MgO 3.28%	CaO 44.2%, MgO 2.67%	Nil
2. Probable Mineral Reserve (A)	121	0.00	0.00	0.00	0	0	Nil
3. Probable Mineral Reserve (A)	122	0.00	0.00	0.00	0	0	Nil

**B. Remaining Resources**

Classification	Code	Quantity			Grade		Remark
		Forest	Non Forest	Total	Forest	Non Forest	
1. Feasibility Mineral Resource (B)	211	0.00	0.00	0.00	0	0	Nil
2. Prefeasibility Mineral Resource (B)	221	217514842.10	61708747.65	279223589.75	CaO 42.78%, MgO 3.34%	CaO 40.61%, MgO 3.22%	Nil
3. Prefeasibility Mineral Resource (B)	222	0.00	0.00	0.00	0	0	Nil
4. Measured Mineral Resource (B)	331	0.00	0.00	0.00	0	0	Nil
5. Indicated Mineral Resource (B)	332	0.00	0.00	0.00	0	0	Nil

6. Inferred Mineral Resource (B)	333	0.00	0.00	0.00	0	0	Nil
7. Reconnaissance Mineral Resource (B)	334	0.00	0.00	0.00	0	0	Nil
Total Mineral Resources (A+B) :					309850527.50		

**2A.2.4.13: Calculation of Reserves -III**

No associate minerals are available!

**2A.2.5: Future Exploration Proposal****2A.2.5.1: Geological Mapping**

SI.N.	Year	Scale	Area Covered (Ha)
1	2026-2027	1:5000	370.37

**2A.2.5.2: Ground Geophysical Survey**

SI.No.	Year	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
						From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	

**2A.2.5.3: Pitting**

Number of Pits									
0									

SI.No.	Year	Land Type	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To

1	Nil									
---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

**2A.2.5.4: Trenching**

Number of Trenches
Nil

**2A.2.5.4.1: SPACING**

Min (m)	Max (m)	Avg (m)
Nil	Nil	Nil

**2A.2.5.4.2: Area Covered Under Trenching****Co-ordinates**

Sl.No.	Year	Land Type	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**2A.2.5.5: Exploratory Drilling****2A.2.5.5.1: Core Drilling & Non-Core Drilling**

Sl.No.	Year	In Forest Area				In Non Forest Area				Total Borehole	Total Meter
		No. of Borehole	Total Mtr	Type Borehole	Grid Interval	No. of Borehole	Total Mtr	Type Borehole	Grid Interval		
1	2027-2028	56	4855.00	Core	200.00	4	350.00	Core	200.00	60	5205.00

**2A.2.5.6: Exploratory Mining**

SI.No.	Year	Pit ID	Length in meter	Width in meter	Depth in meter	Volume (m <sup>3</sup> )
1	Nil	Nil	Nil	Nil	Nil	Nil

**2A.2.5.7: Sampling**

SI.No.	Year	Type of Sample	Number of Samples Proposed	Area Covered(Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	2027-2028	Drill Core	5205	145.65	24:27:09.21	24:27:21.60	83:03:47.38	83:09:05.29

**2A.2.5.8 Petrographic & Mineralgraphic Studies**

SI.No.	Year	Type of Sample	Number of Samples Proposed
1	Nil	Nil	Nil

# **Chapter 2B : Geology & Exploration UG : NA**

Approved

### Chapter 3: Mineral Beneficiation / Processing

Name of The Ore/Mineral	Limestone
-------------------------	-----------

#### 3.1: Mineralogy of the ROM ore/ Mineral

SI.No	Valuable Mineral Name	Approx. Mineral %	Gangue Mineral/s name	Approx. Mineral Gangue %
1	Limestone	100.0000	Shale and Interstitial Clay	0.0000

#### 3.2: Complete Chemical Analysis of the ROM Ore/Mineral

SI.No	Radical	Wt%
1	SiO <sub>2</sub>	14.5600
2	Al <sub>2</sub> O <sub>3</sub>	2.8100
3	Fe <sub>2</sub> O <sub>3</sub>	1.3300
4	CaO	41.7500
5	MgO	3.1400
6	LOI	33.8100

#### 3.3: Crushing Section

##### 3.3.1: Primary Crushing

Not Applicable

**3.3.2: Secondary Crushing**

Not Applicable

**3.3.3: Tertiary Crushing**

Not Applicable

**3.4: Grinding Section**

**3.4.1: Dry Grinding**

Not Applicable

**3.4.2: Wet Grinding**

Not Applicable

**3.5: Dry Processing**

**3.5.1: Screening and Classification**

Not Applicable

Approved





**3.6.7: Product Quality (wet processing)**

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	Nil	Nil	Nil	Nil
Sub-grade	Nil	Nil	Nil	Nil
Rejects	Nil	Nil	Nil	Nil

**3.7: Overall Product Quality (Dry cum Wet Processing)**

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	0.0000	0.0000	0.00	0
Sub-grade	0.0000	0.0000	0.00	0
Rejects	0.0000	0.0000	0.00	0

**3.8: Disposal Method for tailing/ rejects**

a) Explain the disposal method for tailing or reject from processing plant with detail chemical / mineral analysis of tailing	<a href="#">Nil01.pdf</a>
b) Size and capacity of tailing pond, toxic effect of such tailings, process adopted to neutralise its effect (if any)	Nil
c) Any other data (if available)	Nil

**3.9: Overall water requirement of mining and mineral processing**

Indicate quantity, source of supply, disposal of water and extent of recycling and chemical analysis of water	<a href="#">Water Balance.pdf</a>
---	-----------------------------------

**3.10: Flow sheets and charts**

Material balance chart of mineral processing plant(s) (each stage of process)	<a href="#">Nil02.pdf</a>
Attach flow sheet of beneficiation of plant(s)	<a href="#">Nil03.pdf</a>
Any other data (if applicable)	<a href="#">Nil04.pdf</a>

Approved

## Chapter 4A: Mining Operations

<b>4A.1.1: Existing Method of Mining</b>		Mechanized		
Choose one or more	HEMM with deephole drilling	Combination of loaders and tippers	None	None
<b>4A.1.2: Proposed Method of Mining</b>		Mechanized		
Choose one or more	HEMM with deephole drilling	Combination of loaders and tippers	None	None
Reasons for Proposed Changes		No Changes in Existing and Proposed Method of Mining		

### 4A.2: Operational Parameters

#### 4A.2.1: Inventory of Existing Pits & Dumps

##### 4A.2.1.1: Pits

SI.No.	Pit ID	Pit Status	Area Covered by Pit(Ha)	Pit Dimensions(L*W*D)
1	Pit-1	Active	1.9400	195.0*99.5*25
2	Pit-2	Active	9.8700	545.5*180.9*6
3	Pit-3	Active	14.3500	841.0*170.7*25
4	Pit-4	Active	12.2800	664.7*184.7*22

##### 4A.2.1.2: Dumps and Stacks

**4A.2.1.2.1: Dump Details**

SI.No.	Dump ID	Dump Status	Type of Dump	Total of Dump Quantity(t)	Area Covered by Dump(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	WD-1	Active	Waste	312840.00	1.61	22.00	24:27:06.18	24:27:03.56	83:03:41.24	83:03:48.90
2	WD-2	Dead	Waste	100.00	1.21	0.41	24:27:07.09	24:27:04.52	83:04:14.85	83:04:22.64
3	WD-3	Dead	Waste	120.00	1.17	0.46	24:27:06.49	24:27:02.37	83:04:33.69	83:04:38.21
4	WD-4	Active	Waste	124200.00	0.92	15.00	24:27:05.16	24:26:58.91	83:04:36.29	83:04:42.16
5	WD-5	Dead	Waste	145.00	2.44	0.27	24:27:07.85	24:27:02.01	83:04:44.82	83:04:51.59

**4A.2.1.2.2: Stack Details**

SI.No.	Stack ID	Type of Stack	Total Stack of Quantity(t)	Area Covered by Stack(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
						From	To	From	To
1	Mineral Storage	Stack for mineral	7175	0.37	1.92	24:27:04.98	24:27:06.94	83:03:51.41	83:03:54.81

**4A.2.1.3: Details of stabilised dumps**

SI.No.	Dump ID	Number of Terraces	Average Height of Terraces(m)	Lenght of Toe Wall(m)	Lenght of Garland Drain(m)	Area Stablized(Ha)	Method of Stablization
1	Nil	Nil	0.00	0.00	0.00	0.00	NA

**4A.2.2: Opencast Mining****4A.2.2.1: Bench Parameters**

Pit ID	Year	Max Height of the	Min Width of the Benches in	Slope of the Bench in Over	Max Height of the	Minimum Width of the	Slope of the Bench in Mineral	Overall Slope of Pit	Number of Benches in Top Soil	Number of Benches in Over	Number of Benches in Mineral	Max Depth of Workings	Depth of Water Table	Max Slope Angle of Haul
--------	------	-------------------	-----------------------------	----------------------------	-------------------	----------------------	-------------------------------	----------------------	-------------------------------	---------------------------	------------------------------	-----------------------	----------------------	-------------------------

		Benches in Over Burden (m)	Over Burden (m)	Burden (degree)	Benches in Mineral (m)	Benches in Mineral (m)	(degree)	(degree)		Burden		(m)	(mRL)	Roads (1xx in)
Pit-1	2026-2027	0.00	0.00	0.00	9.00	9.00	80.00	45.00	0	0	2	17.00	161.00	1:16
Pit-1	2027-2028	0.00	0.00	0.00	9.00	9.00	80.00	45.00	0	0	3	17.00	161.00	1:16
Pit-1	2028-2029	0.00	0.00	0.00	9.00	9.00	80.00	45.00	0	0	3	26.00	161.00	1:16
Pit-1	2029-2030	0.00	0.00	0.00	9.00	9.00	80.00	45.00	0	0	3	26.00	161.00	1:16

#### 4A.2.2.2: Yearwise Opencast Development - I Continue

Sl.No.	Year	Pit ID	Bench	Direction	Bulk Density of Overburden (BD1) (ton/m <sup>3</sup> )	Bulk Density of Mineral (BD2) (tonn/m <sup>3</sup> )	Top Soil Volume (Length x Width x Height) (m <sup>3</sup> )	Over Burden Volume (Length x Width x Height) (m <sup>3</sup> )	Over Burden Quantity (t)	ROM Volume (Length x Width x Height) (m <sup>3</sup> )	ROM Quantity (t)	Recovery	Mineral Reject (t)	Production Main (t)	Production Associated (t)	OB Ratio to Ore (m <sup>3</sup> /ton)
1	2026-2027	Pit-1	1st - 209 RL	NW	2.00	2.50	0.00	0.00	0.00	15404.32	38510.80	1.00000	0.00	38510.80	0.00	Nil
2	2026-2027	Pit-1	2nd - 200 RL	N	2.00	2.50	0.00	0.00	0.00	21826.13	54565.33	1.00000	0.00	54565.33	0.00	Nil
3	2027-2028	Pit-1	2nd - 200 RL	NE	2.00	2.50	0.00	0.00	0.00	25547.25	63868.11	1.00000	0.00	63868.11	0.00	Nil
4	2027-2028	Pit-1	2nd - 200 RL	NW	2.00	2.50	0.00	0.00	0.00	11689.96	29224.91	1.00000	0.00	29224.91	0.00	Nil
5	2028-2029	Pit-1	2nd - 200 RL	NW	2.00	2.50	0.00	0.00	0.00	7742.84	19357.11	1.00000	0.00	19357.11	0.00	Nil
6	2028-2029	Pit-1	3rd - 191 RL	N	2.00	2.50	0.00	0.00	0.00	29615.13	74037.82	1.00000	0.00	74037.82	0.00	Nil
7	2029-2030	Pit-1	3rd - 191 RL	N	2.00	2.50	0.00	0.00	0.00	30112.02	75280.05	1.00000	0.00	75280.05	0.00	Nil
Total									0.00		354844.1		0.00	354844.1	0.00	

			3			3	
--	--	--	---	--	--	---	--

#### 4A.2.2.2 Yearwise Opencast Development - I End

SI.No.	Year	Pit ID	Total Topsoil Volume (m <sup>3</sup> )	Total Over Burden Volume (m <sup>3</sup> )	Total Over Burden Quantity (t)	Total ROM Volume (m <sup>3</sup> )	Total ROM Quantity (t)
1	2026-2027	Pit-1	0.00	0.00	0.00	37230.45	93076.13
2	2027-2028	Pit-1	0.00	0.00	0.00	37237.20	93093.02
3	2028-2029	Pit-1	0.00	0.00	0.00	37357.97	93394.93
4	2029-2030	Pit-1	0.00	0.00	0.00	30112.02	75280.05
Total			0.00	0.00	0.00	141937.64	354844.13

#### 4A.2.2.3: Transportation & Hauling Equipment

SI.No.	Type	Make	Capacity (m <sup>3</sup> )	No. of Equipments
1	Tipper	MAN	12.00	4

#### 4A.3: Material Handling Summary

##### 4A.3.1: Studies Undertaken

Title	Study Undertaken	Attachment (only pdf allowed)
Blast Vibration Study Report	Yes	<a href="#">Ground Vibration Report of Dalla (Kajrahat).pdf</a>
Slope Stability Study Report	No	Nil
Recovery Study Report	No	Nil
Hydrological Study Report	No	Nil
Mineral Beneficiation Study Report	No	Nil
Subsidence Study Report	No	Nil

Geotechnical Study Report	No	Nil
Any Other Study Report	Yes	<a href="#">Petrographic &amp; Mineralogical Studies Dalla (Kajrahat) LS Mine 2025.pdf</a>
Bulk Density Study Report	Yes	<a href="#">Dalla Cement (Bulk Density).pdf</a>

**4A.3.2: Insitu Mining**

SI.No.	Year	Waste Quantity(t)	ROM Quantity(t)	Total Handling (t)	ROM Quantity Saleable Mineral (t)	ROM Quantity Mineral Reject (t)	OB Ratio to Ore (Waste Quantity / ROM Quantity )	Grade Range (%)
1	2026-2027	0.00	93076.13	93076.13	93076.13	0.00	0.00	CaO: 41.76 44.84%, MgO: 1.39- 4.0%
2	2027-2028	0.00	93093.02	93093.02	93093.02	0.00	0.00	CaO: 41.76 44.84%, MgO: 1.39- 4.0%
3	2028-2029	0.00	93394.93	93394.93	93394.93	0.00	0.00	CaO: 41.76 44.84%, MgO: 1.39- 4.0%
4	2029-2030	0.00	75280.05	75280.05	75280.05	0.00	0.00	CaO: 41.76 44.84%, MgO: 1.39- 4.0%
5	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total	0.00	354844.13	354844.13	354844.13	0.00		

**4A.3.3: Dump workings**

SI.No.	Year	Dump ID	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Area (m2)	Avg Height of Dump (m)	Volume (m <sup>3</sup> )	Total Dump Quantity (t)	Proposed Dump Handling Quantity (t) (A)	Proposed Recovery of Saleable Mineral (t)(B)	Proposed Waste Quantity (t) (A-B)	Grade Range (%)	Justification
			From	To	From	To									

1	2026-2027	NIL													
2	2027-2028	NIL													
3	2028-2029	NIL													
4	2029-2030	NIL													

#### 4A.3.4: Calculation Summary

Year	2026-2027	2027-2028	2028-2029	2029-2030	Total
(A) Total ROM quantity (t)	93076.13	93093.02	93394.93	75280.05	354844.13
(B) Saleable ore from ROM (t)	93076.13	93093.02	93394.93	75280.05	354844.13
(C) Proposed Dump Handling Quantity (t)	0.00	0.00	0.00	0.00	0.00
(D) Saleable Ore recovered from dump workings (t)	0.00	0.00	0.00	0.00	0.00
(E) Total Saleable Ore (t)(=B+D)	93076.13	93093.02	93394.93	75280.05	354844.13
(F) Total Quantity Handled (t)(=A+C)	93076.13	93093.02	93394.93	75280.05	354844.13

#### 4A.4: Machine Calculation

##### 4A.4.1: Machine Requirement Summary

Number of Average Working Days in One Year (A)	300
Number of Shifts per Day (B)	1

Material Handling Required per Day (t) ((D)=Largest of (Q1,Q5)/(A))	311.32
Material to be Handled per Shift (t) ((E)=(D)/(B))	311.32
Handling Required per Hour (t) ((F)=(E)/8 hours)	51.89
Effective Shift Time	6 hrs 00 mins

#### 4A.4.2: Shovel / Excavator Requirement

Effective Shift Time		6 hrs						00 mins						
SI.No.	Type	Bucket Capacity (m <sup>3</sup> )(A)	Bucket Fill Factor (B)	Swell Factor (C)	Tonnage Factor (t/m <sup>3</sup> ) (D)	Machine Utilization Factor (%) (U)	Efficiency (%) (E)	Cycle time (sec) (F)	(G) TPH =TPH (G) =((3600 x A x B x C x D x E x U) / F)	Total Hours (H) =Number of working days x Number of shifts/day x Effective shift hours	Yearly handling by one Excavator (t) (I)=(G x H)	Maximum handling of the material by this machine during the block period (t) (J)	Number of excavator machines required (K) = (J / I)	Standby excavator (L)
1	Hydraulic	1.40	0.85	0.6	0.90	1.40	0.65	30	70.17	1800	126306.00	93394.93	0.74	0

#### 4A.4.3: Dumper Requirement

Effective Shift Time		6 hrs						00 mins						
SI.No.	Total Hour s=Number of working days (W)x Number of shifts/day x Effective shift hours	Capacity of Dumpers (t) (B)	Speed of the dumper (KMPH) (i)	Lead Distance (KM) (ii)	Time taken to cover distance in minutes(iii) =(ii/i) x 60	Queuing, Loading Time at Shovel (min) (iv)	Queuing, Unloading Time during unloading (min) (v)	Total Time to complete one trip(vi) = (iii + iv + v )	No. of Trips / hr = (60 / vi)	Total transportation per hour =( B X vii)	Yearly handling by one dumper (ix) = A x TPH	Maximum handling of the material by this machine during the block	Number of dumpers will be (xi) =( x / ix)	Plus Standby dumper (xii)

	(Machine Requirement Summary) (A)											period (t) (x)		
1	1800	25.00	15.00	8.50	34.00	4.50	1.00	39.50	1	38	68400.00	93394.93	1	2

#### 4A.4.4: Drill Machine Requirement

Effective Shift Time	6 hrs	00 mins
----------------------	-------	---------

SI.No.	Type of Drill	Depth of Hole(including Sub-grade Drilling (m)	Spacing (m)	Burden (m)	Bulk Density of Waste (t/m <sup>3</sup> )	Bulk Density of Mineral (t/m <sup>3</sup> )	Yield per Hole (t)	Yield per Meter (t/m) = Yield per Hole (t)/Depth of Hole(including Sub-grade Drilling (m))	Annual Target Known (t)	Drilling Requirement per Day (m) = (Annual Target Known (t) / Yield per Meter (t/m) )/Number of Average Working Days in One Year (A)	Drilling Requirement per Shift(m)	Rate of Drilling per Hours (m/hr) = Drilling Requirement per Shift (m)/Effective Shift Time	Required No. of drills (m/c) = Required rate of drilling in meters per hr./ Actual rate of drilling in meters per hr of the machine deployed	Stand by Drill
1	Hydraulic	9.00	4.00	3.00	2.00	2.50	270.00	30.00	93394.93	10.38	10.38	1.73	0.17	0

#### 4A.4.5: Machine Deployment Details

##### 4A.4.5.1: Excavator & Loading Equipment

SI.No.	Type	Make	Capacity (m <sup>3</sup> )	No. of Equipments
--------	------	------	----------------------------	-------------------

1	Hydraulic	Hyundai	1.40	1
---	-----------	---------	------	---

**4A.4.5.2: Dozers Details**

SI.No.	Type	Make	Capacity (hp)	No. of Equipments
1	Hydraulic	CAT	324.00	1

**4A.4.5.3: Drilling Details**

SI.No.	Type	Make	Capacity (m/hr)	Diameter of Hole(mm)
1	Hydraulic	Epiroc	10.00	165.00

**4A.5 Blasting Requirement****4A.5.1: Blasting & Explosive Requirement in Waste/Development**

SI.No.	Drill Pattern / Spacing of Holes (m)	Burden of Holes (m)	Number of Rows / Rings	Yield per Holes in Waste (m <sup>3</sup> )	Frequency of Blasting in a Week	Maximum Number of Holes Blasted in a Round	Charge per Hole (kg)	Charge per Round (kg)	Explosive Requirement Per Month in Development (kg)	Powder Factor in Development / Waste (t/kg)	Depth Of Hole
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**4A.5.2: Blasting & Explosive Requirement in Mineral / Ore**

Type of Explosive	Type of Explosives used / to be Used
Ammonium Nitrate Fuel Oil Mixture	NIL

SI.No.	Total ROM proposed to be	Total ROM proposed to be	Spacing of Holes (m)	Burden of Holes (m)	Number of Rows	Yield per Holes in	Frequency of Blasting in a	Maximum Number of	No of Holes Required to be	Charge per Hole (kg)	Charge per Round (kg)	Explosive Requirement Per	Powder Factor in Ore (t/kg)	Pop Shooting (no of Boulder)	Plaster Shooting (no of Boulder)	Use of Rockbreaker	Capacity	Secondary Blasting Require	Depth Of Hole
--------	--------------------------	--------------------------	----------------------	---------------------	----------------	--------------------	----------------------------	-------------------	----------------------------	----------------------	-----------------------	---------------------------	-----------------------------	------------------------------	----------------------------------	--------------------	----------	----------------------------	---------------

	handled in CU M/annum	handled in CUM/day				ROM Zone (m <sup>3</sup> )	Week	Holes Blasted in a Round	Blasted per Round			Month for ROM Zone Blasting (kg)	s)	s)			ments		
1	37357.97	124.5	4	3	3	108	1	15	7	45	315	1260	6.17	0	0	Yes	8	0	9

#### 4A.6: Man Power Deployment

##### 4A.6.1: Managerial

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	1st Class	0	0	0	1	1
2	Mining Engineer	0	0	0	1	1
3	Geologist	0	0	0	1	1

##### 4A.6.2: Supervisory

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Foreman	0	0	0	1	1
2	Blaster	0	0	0	1	1
3	Mine-mate	0	0	0	1	1

##### 4A.6.3: Skilled Workers / Operators

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day

1	Drill Operator	0	0	0	1	1
2	Operator	0	0	0	1	1
3	Dumper Operator	0	0	0	3	3
4	Dozer/Grader Operator	0	0	0	1	1
5	Technician	0	0	0	1	1
6	Other	0	0	0	1	1

**4A.6.4: Semi-skilled Workers**

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	0	0	0	1	1

**4A.6.5: Unskilled Workers**

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	0	0	0	1	1

**4A.6.6: Others Specify**

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	other	0	0	0	0	0

**4A.6.7: No of Persons Engaged Per Day**

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
--------	------------------------------	------------------------------	------------------------------	------------------------------------	------------------------------



Sl.No.	Year	Dump Id	Type of Dump	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Dump Quantity (m <sup>3</sup> )	Existing Dump Location
						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**4A.7.2: New Dump**

Sl.No.	Year	Dump Id	Type of Dump	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Dump Quantity (m <sup>3</sup> )	New Dump Location
						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**4A.7.3: Existing Stack**

Sl.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m <sup>3</sup> )	Existing Stack Location
						From	To	From	To		
1	2026-2027	Mineral Storage	Stack for mineral	1.00	3.00	24:27:03.38	24:27:07.14	83:03:50.14	83:03:55.17	18900.00	During this year, existing 0.37 ha area and additional 0.63 ha fresh area will be used for mineral stacking. Total 1.0 ha area will be use for mineral stacking.
2	2027-2028	Mineral Storage	Stack for mineral	1.00	4.00	24:27:03.38	24:27:07.14	83:03:50.14	83:03:55.17	40000.00	Future stacking will be contained within the existing 1 Ha area, as no extra area is

											required.
3	2028-2029	Mineral Storage	Stack for mineral	1.00	6.00	24:27:03.38	24:27:07.14	83:03:50.14	83:03:55.17	60000.00	Future stacking will be contained within the existing 1 Ha area, as no extra area is required.
4	2029-2030	Mineral Storage	Stack for mineral	1.00	8.00	24:27:03.38	24:27:07.14	83:03:50.14	83:03:55.17	80000.00	Future stacking will be contained within the existing 1 Ha area, as no extra area is required.

**4A.7.4: New Stack**

Sl.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m <sup>3</sup> )	New Stack Location
						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**4A.8: Mineral Waste Handling To Utilize As Minor Mineral**

Sl.No.	Year	Dump ID	Type of Dump	Proposed Area (ha)	Quantity Handled (t)	Quantity Recovered (t)	Name Of Minor Mineral	Alternative Waste Utilization (m <sup>3</sup> )
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

**4A.9: Use of Minerals**

Sl.No.	Proposed Use Of Mineral	Name Of Mineral	Relevant Use Of Mineral	Physical Specifications	Chemical Specifications
1	Captive use in Own Industry	LIMESTONE	Cement manufacturing	Grey to light grey colour, fine	CaO: 41.75%, SiO <sub>2</sub> : 14.56%,

				to coarse grained, compact and hard, bears intercalation of shale and interstitial clay.	Al <sub>2</sub> O <sub>3</sub> : 2.81%, Fe <sub>2</sub> O <sub>3</sub> : 1.33%, MgO: 3.14%
--	--	--	--	--	---

\* Choose among these:

1. Captive use in own industry

2. Direct Selling

3. Selling Post-Beneficiation /Up-gradation

\*Select more than one, if applicable

Approved

# **Chapter 4 B : Mining Operations UG : NA**

Approved

## Chapter 5: Sustainable Mining

### 5.1: Sustainable Mining and SDF Implementations in Compliance of Rule 35 of MCDR'2017

The mine operation has been carrying out after approval of mine plan and obtaining other approvals for mine operation from various statutory authorities. With the start of mine operations, the lessee has already monitored the mining and allied activities as per the notified template of star rating in the format prescribed by IBM, from time to time and submitting online self-assessment report before the 1st day of July every year for the previous financial year, along with the soft copy (in the standard format) drone survey data DSM, DTM, DEM, GCPs data and orthomosaic data, shp file, RMSE report, contour data as on the 31st day of March for that financial year, covering the mining lease and 100 metre buffer from the lease boundary, to the Regional Controller of the Indian Bureau of Mines as per Rule 35(2) of MCDR'2017.

(Total 200 characters)

Compliance of Vishakha Committee Guidelines for prevention of women harassment at workplace	Implemented
---	-------------

### 5.2: CSR INITIATIVES

#### 5.2.1: 2026-2027

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
<b>5.2.1.1: Area to be Developed for Recreation</b>	
Area (Ha)	Area (Ha)
0.00	0.00
<b>5.2.1.2: Area for Water Storage &amp; Recharge Facility</b>	
Area (Ha)	Area (Ha)
0.00	0.00
<b>5.2.1.3: Efforts Made towards Housing for Local Communities</b>	

Number of Houses	Number of Houses
0	0

**5.2.1.4: Efforts Made towards Providing Transport to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.1.5: Efforts Made towards Providing Healthcare to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
50	50

**5.2.1.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
25	25

**5.2.1.7: Efforts Made towards Skill Development Programs to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	40

**5.2.1.8: Efforts Made to Promote Education & Knowledge Based Initiatives**

Number of Beneficiaries	Number of Beneficiaries
100	130

**5.2.1.9: Communication Facilities Provided to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.1.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	160

<b>5.2.1.11: Adoption of ODF</b>		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	15

<b>5.2.1.12: Awareness Program among Mine Workers for Swatchata</b>	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	6

<b>5.2.1.13: Efforts for green energy</b>	
Total energy consumption (KWh)	Green energy consumption (% of total)
5090.00	0.00

<b>5.2.1.14: Water &amp; recycled use</b>	
Total water consumption (KLD)	Water recycled (% of total)
28.40	0.00

**5.2.2: 2027-2028**

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
<b>5.2.2.1: Area to be Developed for Recreation</b>	
Area (Ha)	Area (Ha)
0.00	0.00

<b>5.2.2.2: Area for Water Storage &amp; Recharge Facility</b>	
Area (Ha)	Area (Ha)
0.00	0.00

<b>5.2.2.3: Efforts Made towards Housing for Local Communities</b>	
Number of Houses	Number of Houses
0	0

**5.2.2.4: Efforts Made towards Providing Transport to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.2.5: Efforts Made towards Providing Healthcare to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
50	100

**5.2.2.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
25	50

**5.2.2.7: Efforts Made towards Skill Development Programs to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	50

**5.2.2.8: Efforts Made to Promote Education & Knowledge Based Initiatives**

Number of Beneficiaries	Number of Beneficiaries
100	230

**5.2.2.9: Communication Facilities Provided to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.2.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	170

**5.2.2.11: Adoption of ODF**

Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	15

**5.2.2.12: Awareness Program among Mine Workers for Swatchata**

Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	7

**5.2.2.13: Efforts for green energy**

Total energy consumption (KWh)	Green energy consumption (% of total)
5090.00	0.00

**5.2.2.14: Water & recycled use**

Total water consumption (KLD)	Water recycled (% of total)
28.40	0.00

**5.2.3: 2028-2029**

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
<b>5.2.3.1: Area to be Developed for Recreation</b>	
Area (Ha)	Area (Ha)
0.00	0.00

**5.2.3.2: Area for Water Storage & Recharge Facility**

Area (Ha)	Area (Ha)
0.00	0.00

**5.2.3.3: Efforts Made towards Housing for Local Communities**

Number of Houses	Number of Houses
0	0

**5.2.3.4: Efforts Made towards Providing Transport to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.3.5: Efforts Made towards Providing Healthcare to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
50	150

**5.2.3.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
25	75

**5.2.3.7: Efforts Made towards Skill Development Programs to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	60

**5.2.3.8: Efforts Made to Promote Education & Knowledge Based Initiatives**

Number of Beneficiaries	Number of Beneficiaries
100	330

**5.2.3.9: Communication Facilities Provided to Local Communities**

Number of Beneficiaries	Number of Beneficiaries
0	0

**5.2.3.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities**

Number of Beneficiaries	Number of Beneficiaries
10	180

**5.2.3.11: Adoption of ODF**

Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	15

**5.2.3.12: Awareness Program among Mine Workers for Swatchata**

Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	8

<b>5.2.3.13: Efforts for green energy</b>	
Total energy consumption (KWh)	Green energy consumption (% of total)
5090.00	0.00

<b>5.2.3.14: Water &amp; recycled use</b>	
Total water consumption (KLD)	Water recycled (% of total)
28.40	0.00

**5.2.4: 2029-2030**

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
<b>5.2.4.1: Area to be Developed for Recreation</b>	
Area (Ha)	Area (Ha)
0.00	0.00

<b>5.2.4.2: Area for Water Storage &amp; Recharge Facility</b>	
Area (Ha)	Area (Ha)
0.00	0.00

<b>5.2.4.3: Efforts Made towards Housing for Local Communities</b>	
Number of Houses	Number of Houses
0	0

<b>5.2.4.4: Efforts Made towards Providing Transport to Local Communities</b>	
Number of Beneficiaries	Number of Beneficiaries
0	0

<b>5.2.4.5: Efforts Made towards Providing Healthcare to Local Communities</b>	
Number of Beneficiaries	Number of Beneficiaries
50	200

<b>5.2.4.6: Efforts Made towards Providing Hygiene &amp; Sanitation to Local Communities</b>		
Number of Beneficiaries	Number of Beneficiaries	
25	100	
<b>5.2.4.7: Efforts Made towards Skill Development Programs to Local Communities</b>		
Number of Beneficiaries	Number of Beneficiaries	
10	70	
<b>5.2.4.8: Efforts Made to Promote Education &amp; Knowledge Based Initiatives</b>		
Number of Beneficiaries	Number of Beneficiaries	
100	430	
<b>5.2.4.9: Communication Facilities Provided to Local Communities</b>		
Number of Beneficiaries	Number of Beneficiaries	
0	0	
<b>5.2.4.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities</b>		
Number of Beneficiaries	Number of Beneficiaries	
10	190	
<b>5.2.4.11: Adoption of ODF</b>		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	15
<b>5.2.4.12: Awareness Program among Mine Workers for Swatchata</b>		
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held	
1	9	
<b>5.2.4.13: Efforts for green energy</b>		
Total energy consumption (KWh)	Green energy consumption (% of total)	
5090.00	0.00	

5.2.4.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
28.40	0.00

### 5.3: Rehabilitation & Resettlement of Affected Persons

Particular	2026-2027	2027-2028	2028-2029	2029-2030
Proposed Number of Project Affected Persons(PAP)	0	0	0	0
Proposed Number of Person for Alternate Arrangement for Sustainable Livelihood	0	0	0	0
Proposed Number of Person for Skill Training	0	0	0	0
Proposed Number of Person Likely to get Direct Employment	0	0	0	0
Proposed Number of Person Likely to get Indirect Employment	0	0	0	0
Proposed Project Affected Families Skilled and Absorbed	0	0	0	0
Proposed Number of Project Affected Families	0	0	0	0

## Chapter 6: Progressive Mine Closure Plan

### 6.1: Status of Land

Total Area Degraded				Total mined out area Reclaimed and Rehabilitated			Other Areas Reclaimed and Rehabilitated		
Total area under excavation in the lease		Area under Dumps(in hect)	Area under utility services(in hect)	Area under Stack yards(in hect)	Mined out Area Reclaimed but not rehabilitated(in hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabilized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)
Area under mining operation	Mined Out area in the lease								
38.49	0.00	7.35	19.10	0.37	0.00	0.00	0.00	0.00	685.69

### 6.2: Progressive Reclamation and Rehabilitation Plan

#### 6.2.1: Backfilling

Quantity of Waste / Fill Material Available at Site (m <sup>3</sup> )	178343.00
Availability of Top Soil for Spreading (m <sup>3</sup> )	0.00
Proposed Spread Area (m <sup>2</sup> )	0.00

#### 6.2.1.1: Year Wise Proposal

SI.No	Year	Pit ID	Area (m <sup>2</sup> )	Top RL	Bottom RL	Estimated Expenditure (₹ INR)
1	Nil	Nil	Nil	Nil	Nil	Nil

**6.2.2: Water Reservoir**

Average Rainfall of The Area (mm)	950.00
Proposed Area under Water Storage	0

**6.2.2.1: Preparations For Ground Water Recharging**

<b>6.2.2.1.1: Drilling Holes</b>	
Year	Proposed no of Holes to be Drilled
2026-2027	0.00
2027-2028	0.00
2028-2029	0.00
2029-2030	0.00

<b>6.2.2.1.2:Preparation of Course Gravel Bed</b>	
Year	Proposed Area of Bed (LxW)
2026-2027	0
2027-2028	0
2028-2029	0
2029-2030	0

Please specify, if others
Nil

**6.2.2.2: Protective measures (Please specify running meter)**

<b>6.2.2.2.1: Fencing</b>					
Year	Proposed Fencing Length (m)	Latitude(dd:mm:ss.ss)		Longitude(dd:mm:ss.ss)	
		From	To	From	To
2026-2027	0	Nil	Nil	Nil	Nil

2027-2028	0	Nil	Nil	Nil	Nil
2028-2029	0	Nil	Nil	Nil	Nil
2029-2030	0	Nil	Nil	Nil	Nil

**6.2.2.2: Retaining Wall**

Year	Proposed Wall Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2026-2027	114.14	24:27:05.16	24:27:03.72	83:03:40.11	83:03:43.05
2027-2028	144.65	24:27:03.72	24:27:03.82	83:03:43.05	83:03:48.12
2028-2029	99.15	24:27:08.06	24:27:07.75	83:03:29.01	83:03:42.38
2029-2030	0	Nil	Nil	Nil	Nil

**6.2.2.2.3: Garland Drains**

Year	Proposed Bund Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2026-2027	130.23	24:27:04.98	24:27:03.79	83:03:40.26	83:03:43.05
2027-2028	143.31	24:27:03.79	24:27:03.86	83:03:43.05	83:03:48.09
2028-2029	124.09	24:27:08.10	24:27:07.79	83:03:39.03	83:03:42.25
2029-2030	174	24:27:07.24	24:27:07.25	83:03:48.67	83:03:54.51

**6.2.3: Green Belt Development****6.2.3.1: Cumulative work done (upto end of previous block of five years)**

SI.No	Total Expenditure Incurred up to Last Year (INR)	Area Covered (Ha)	Number of Plants	Survival Rate (%)
1	816000.00	5.49	8160	90.00

**6.2.3.2: Year Wise Proposal**

SI.No	Year	Green Belt Location (s)	Area Proposed to be Covered (Ha)	Number of Plants Proposed	Expected Survival Rate (%)	Estimated Expenditure (₹ INR)
1	2026-2027	708876E to 708902E 2705594N to 2705622N	0.05	250	90	25000
2	2027-2028	708896E to 708920E 2705594N to 2705624N	0.05	250	90	25000
3	2028-2029	708913E to 708936E 2705594N to 2705625N	0.05	250	90	25000
4	2029-2030	708929E to 708952E 2705593N to 2705627N	0.05	250	90	25000

**6.2.4: Use of Shallow Pits****6.2.4.1: Cumulative Work Done (upto end of previous block of five years)**

SI.No	Pit ID	Work Done	Area covered (m <sup>2</sup> )	Total Expenditure Incurred (up to last five year block) (₹ INR)
1	No Shallow Pit exists in ML	0	0.00	0.00

**6.2.4.2: Year Wise Proposal**

SI.No	Year	Pit ID	Total Area(Ha)	Area Proposed for Crops (Ha)	Suitable Crops	Area Proposed for Grass (Ha)	Total Proposed Expenditure (₹ INR)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remarks
								From	To	From	To	
1	2026-2027	No Proposal for Plan Period	0.00	0.00	0	0.00	0.00	Nil	Nil	Nil	Nil	Nil
2	2027-2028	No Proposal	0.00	0.00	0	0.00	0.00	Nil	Nil	Nil	Nil	Nil

		for Plan Period										
3	2028-2029	No Proposal for Plan Period	0.00	0.00	0	0.00	0.00	Nil	Nil	Nil	Nil	Nil
4	2029-2030	No Proposal for Plan Period	0.00	0.00	0	0.00	0.00	Nil	Nil	Nil	Nil	Nil

**6.2.5: Pisciculture**

<b>6.2.5.1: Total Expenditure incurred as on Date (INR)</b>	0
---	---

**6.2.5.2: Cumulative work done as on Date**

SI.No	Pit ID	Area (m <sup>2</sup> )	Expenditure (₹ INR)
1	0	0.00	0.00

**6.2.5.3: Year Wise Proposal**

SI.No	Year	Pit ID	Area (m <sup>2</sup> )	Estimated Expenditure (₹ INR)
1	2026-2027	0	0.00	0.00
2	2027-2028	0	0.00	0.00
3	2028-2029	0	0.00	0.00
4	2029-2030	0	0.00	0.00

<b>6.2.5.4: Source of Water for Pisciculture</b>	Not Applicable
--	----------------

<b>6.2.5.5: Whether the quality of water has been assessed &amp; found to be suitable for Pisciculture</b>	No
--	----

**6.2.6: Recreational Facility**

<b>6.2.6.1: Total Expenditure Incurred (up to last five year block) (INR)</b>	0.00
---	------

**6.2.6.2: Cumulative work done as on Date**

SI.No	Pit ID	Area (m <sup>2</sup> )	Expenditure (₹ INR)
1	0	0.00	0.00

**6.2.6.3: Year Wise Proposal**

SI.No	Year	Type of Recreational Facility	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Estimated Expenditure (INR)
				From	To	From	To	
1	2026-2027	Not Applicable, as the proposed pit will extend laterally and will descend down after receipt of Forest Clearance of remaining 380.665 Ha area, which is under progress.	Nil	Nil	Nil	Nil	Nil	Nil
2	2027-2028	Not Applicable, as the proposed pit will extend laterally and will descend down after receipt of Forest Clearance of remaining 380.665 Ha area, which is under progress.	Nil	Nil	Nil	Nil	Nil	Nil
3	2028-2029	Not Applicable, as the proposed pit	Nil	Nil	Nil	Nil	Nil	Nil

		will extend laterally and will descend down after receipt of Forest Clearance of remaining 380.665 Ha area, which is under progress.							
4	2029-2030	Not Applicable, as the proposed pit will extend laterally and will descend down after receipt of Forest Clearance of remaining 380.665 Ha area, which is under progress.	Nil						

#### 6.2.7: Dump Area Stabilization & Development

Sl.No	Year	Dump ID	No of Terraces	Average Height of Terraces (m)	Length of Toe Wall (m)	Length of Garland Drain (m)	Area Stabilized (Ha)	Method of Stabilization	Estimated Expenditure (₹ INR)	No of Check Dams
1	2026-2027	WD-1	2	8.00	114.14	130.23	0.22	Maintaining optimum slope angle and proper benching and terracing. Construction of garland drainage and retaining wall at toe of dump .	432047.50	Nil
2	2027-2028	WD-1	2	8.00	144.65	143.31	0.48	Maintaining optimum slope angle and	542102.50	Nil

								proper benching and terracing. Construction of garland drainage and retaining wall at toe of dump .		
3	2028-2029	WD-1	2	8.00	99.15	124.09	0.19	Maintaining optimum slope angle and proper benching and terracing. Construction of garland drainage and retaining wall at toe of dump .	378047.50	Nil
4	2029-2030	WD-1	2	8.00	0.00	174.00	0.00	Maintaining optimum slope angle and proper benching and terracing. Construction of garland drainage and retaining wall at toe of dump .	43500.00	Nil

### 6.2.8: Other Form of Reclaiming the Area

#### 6.2.8.1: Cumulative work done as on Date

Sl.No	Total Expenditure incurred as on Date (INR)	Work Done
1	0.00	No work done as the benches shall extend laterally and descend

down.

**6.2.8.2: Year Wise Proposal**

SI.No	Year	Work Proposals	Estimated Expenditure (INR)
1	2026-2027	Nil	0.00
2	2027-2028	Nil	0.00
3	2028-2029	Nil	0.00
4	2029-2030	Nil	0.00

**6.2.9: TopSoil Management****6.2.9.1: Cummulative Work Done as on Date**

SI.No	Top Soil Generated (m <sup>3</sup> )	Top Soil Utilized (m <sup>3</sup> )	Topsoil Stored (m <sup>3</sup> )	Total expenditure incurred as on date (₹)
1	0.00	0.00	0.00	0.00

**6.2.9.2: Year Wise Proposal**

SI.No	Year	Topsoil Generated (m <sup>3</sup> ) (A)	Topsoil Utilized (m <sup>3</sup> ) (B)	Topsoil Stored (m <sup>3</sup> ) (A-B)	Estimated Expenditure (INR)
1	2026-2027	0.00	0.00	0.00	0.00
2	2027-2028	0.00	0.00	0.00	0.00
3	2028-2029	0.00	0.00	0.00	0.00
4	2029-2030	0.00	0.00	0.00	0.00

**6.2.10: Tailings Dam Management**

SI.No	Year	Yearly generation of Tailing (m <sup>3</sup> ) (A)	Total capacity of Tailing Pond (m <sup>3</sup> )	Measures Proposed for Periodic Desilting	Yearly Utilization of Tailing (m <sup>3</sup> ) (B)	Disposal of Tailing to Tailing Pond (m <sup>3</sup> ) (A-B)	Tailing Dam Design	Structural Stability Studies
1	2026-2027	0.00	0.00	0	0.00	0.00	Nil	Nil
2	2027-2028	0.00	0.00	0	0.00	0.00	Nil	Nil
3	2028-2029	0.00	0.00	0	0.00	0.00	Nil	Nil
4	2029-2030	0.00	0.00	0	0.00	0.00	Nil	Nil

#### 6.2.11: Land Use of Lease Area at the Expiry of Lease Period

Total Area Degraded				Non Degraded area	Total mined out area Reclaimed and Rehabilitated			Other Areas Reclaimed and Rehabilitated			
Mined Out area in the lease	Area under Dumps(in hect)	Area under the Tailing Dam	Area under utility services(in hect)	Area undisturbed/virgin	Mined out Area Reclaimed but not rehabilitated(in hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabilized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)	Rehabilitated Area under utility services(in hect)	Rehabilitated Area under Tailing dam (in hect)
38.59	7.35	0.00	13.11	691.95	0.00	0.00	0.00	0.00	5.49	0.00	0.00

**Chapter 7: Financial Assurance/ Performance Surety (AREA PUT TO USE)****2026-2027**

Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	38.49	0.04	38.53
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	7.35	0.00	7.35
4	Mineral Storage	0.37	0.63	1.00
5	Infrastructure (Workshop, Administrative Building etc.)	4.76	0.00	4.76
6	Roads	8.80	0.00	8.80
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	5.54	0.02	5.56
	Total	65.31	0.69	66.00

**2027-2028**

Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	38.53	0.06	38.59
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	7.35	0.00	7.35
4	Mineral Storage	1.00	0.00	1.00
5	Infrastructure (Workshop, Administrative Building etc.)	4.76	0.00	4.76
6	Roads	8.80	0.00	8.80
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	5.56	0.02	5.58
	Total	66.00	0.08	66.08

**2028-2029**

## Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	38.59	0.00	38.59
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	7.35	0.00	7.35
4	Mineral Storage	1.00	0.00	1.00
5	Infrastructure (Workshop, Administrative Building etc.)	4.76	0.00	4.76

6	Roads	8.80	0.00	8.80
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	5.58	0.02	5.60
	Total	66.08	0.02	66.10

**2029-2030**

## Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	38.59	0.00	38.59
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	7.35	0.00	7.35
4	Mineral Storage	1.00	0.00	1.00
5	Infrastructure (Workshop, Administrative Building etc.)	4.76	0.00	4.76
6	Roads	8.80	0.00	8.80
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	5.60	0.02	5.62
	Total	66.10	0.02	66.12

## Financial Assurance

**Financial Assurance****Category A Mining Lease**

Total Area Proposed to be put to use in hect(Year 1 to 5)	Amount of Bank Gurantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Gurantee as attachment
66.12	330.60	31/03/2030	<a href="#">Finalcial_Assurance.pdf</a>

**Category B Mining Lease**

SI.No	Total Area Proposed to be put to use in hect(Year 1 to 5)	Amount of Bank Gurantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Gurantee as attachment
1	Nil	Nil	Nil	Nil

## Chapter 8: Review of Previous Proposals (Not applicable for fresh grant)

### 8.1: General

#### 8.1.1: Lease Area Utilization

Sl. No.	Type of land use (in ha)	Area at the beginning of the proposal period	Area proposed under activity	Actual Area utilized in the proposal period	Deviation	Reasons for deviation
1	Mining	37.64	0.85	38.49	0	Mine operations could not be started as the matter was in Honble NGT court. Out of total ML of 751.0 Ha, presently only 370.365 Ha has been executed and Forest Clearance has been applied for remaining 380.635 Ha.
2	Mineral storage	0.00	0.37	0.37	0	Nil
3	Mineral Beneficiation plant	0.00	0.00	0.00	0	Nil
4	Township	0.00	0.00	0.00	0	Nil
5	Tailing Pond	0.00	0.00	0.00	0	Nil
6	Railways	0.00	0.00	0.00	0	Nil
7	Roads	8.45	0.35	8.80	0	Mines is under development stage and production is also very less.
8	Infrastructure (Workshop, administrative building)	4.76	0.00	4.76	0	Mines is under development stage and

	etc.)					production is also very less.
9	OB/waste dump	7.35	0.00	7.35	0	Due to variation in OB generation during the course of mining. The current pit is developing in the top of hill, hence minimum reject is generated and this is being dumped in WD-1.
10	Top soil preservation	0.00	0.00	0.00	0	Nil
11	Others	5.07	0.47	5.54	0	Nil
12	Total area put to use	63.27	1.67	65.31	0	Nil
13	Excavated area reclaimed	0.00	0.00	0.00	0	Nil
14	Waste dump area reclaimed	0.00	0.00	0.00	0	Nil
15	Undisturbed Area	687.73	0.00	685.69	0	Nil
	Total	751.00	0.00	751.00	0	

### 8.1.2: SDF and CSR Expenditures

Activity	Proposals		Achievement	Deviation	Reasons for deviation
Total expenditure incurred for implementation of SDF at mine level including - Environment Protection - CSR & other welfare activities in peripheral area (Explanation: Expenditure is not over and above the statutory levies imposed by the Government; However, THIS EXCLUDES CONTRIBUTION TO DMF & NMET and is over and	10% of Royalty (a)	Total Expenditure for SDF implementation (b)			

above the statutory levies imposed by the Government.)					
CSR (Corporate Social Responsibility) spending at the mine level in Proposal Period (as per Companies Act, 2013 or otherwise)	7.98	33.66	33.66	0.00	No deviation in the spend. The data provided covers the planning period 2021-22 through 2024-25.

## 8.2: Technical Details

### 8.2.1: Exploration

Particulars	Proposals			Achievement			Deviation			Reasons for deviation
	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	
Number of Boreholes/ Pits/ Trenches	104	0	0	104	Nil	Nil	Nil	Nil	Nil	The data covers the planning period from FY 2021-22 to FY 2024-25.
Boreholes Meterage (If Boreholes selected in first row) (m)	6375			6288			-87			Few bore holes closed earlier than proposed depth as it encountered non-mineralized zone. The data covers the planning period from FY 2021-22 to FY 2024-25.
Grid	200			200			0			The data covers the planning period from FY 2021-22 to FY 2024-25.

				2024-25.
G Axis upgradation during Proposal Period as per guidelines of MEMC Rule 2015)	1	1	0	The data covers the planning period from FY 2021-22 to FY 2024-25.
Area converted under G1 from G2/G3	176.53	176.53	0	The data covers the planning period from FY 2021-22 to FY 2024-25.

### 8.2.2: Mine Development (Opencast/ Underground/ Both/ Dump Mining)

Particulars	Proposals	Actual	Deviation	Reasons for deviation
8.2.2.1: Generation of Ore/Waste While Development				
Ore	209279	88307.32	-120971.68	The data spans FY 2021-22 to FY 2024-25. No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
Waste	55	49	-6	Face reject. Negligible deviation. The data covers the planning period from FY 2021-22 to FY 2024-25.
Generated Waste while ROM recovery	7095	11439.30	4344.30	Screen rejects generated more than anticipated. The data covers the planning period from FY 2021-22 to FY 2024-25.
Dumping Site (For Surface)	0	0	0	Nil
Removal of waste/ over burden in cubic meters	0	0	0	Nil
8.2.2.2: Excavation				

Lateral extent	182.25	180.25	00	The data covers the planning period from FY 2021-22 to FY 2024-25.
Vertical extent	15	12	3	The planning data spans FY 2021-22 to FY 2024-25. No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).

**8.2.3: Mining operation: Dump Mining**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Handling of Material	0	0	0	0
Waste Generated post recovery	0	0	0	0
Dumping site for waste	0	0	0	0

**8.2.4: Zero Waste Mining**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Alternative use / Disposal of Waste Generated (excluding top soil)	0.00	0.00	0.00	0

**8.2.5: Backfilling**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Site (Co-ordinates)	0	0	0	0
Area	0	0	0	0
Depth	0	0	0	0
Volume Backfilled (CuM)	0	0	0	0
Backfilled Area available for Reclamation and Rehabilitation	0	0	0	0

Backfilled Area Reclaimed and Rehabilitated	0	0	0	0
Balance Backfilled Area	0	0	0	0

**8.2.6: Production of Mineral(s)**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
8.2.6.1: ROM				
Opencast	216374.0000	99746.6200	-116627.3800	The planning data spans FY 2021-22 to FY 2024-25. No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
8.2.6.2: Cleaned Ore				
Opencast	209279.0000	88307.3250	-120971.6750	The planning data spans FY 2021-22 to FY 2024-25. No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
Dump Mining	0.0000	0.0000	0.0000	Nil
Recovery from Mineral Rejects or Tailings	0.0000	0.0000	0.0000	Nil
Total	209279.0000	88307.3250	-120971.6750	The planning data spans FY 2021-22 to FY 2024-25. No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).

**8.2.7: Handling of Mineral Rejects/ Sub-Grade**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
-------------	-----------	-------------	-----------	-----------------------

Generation of mineral rejects				
Opencast	55	49	-6	The data covers the planning period from FY 2021-22 to FY 2024-25.
Dump Mining	0	0	0	Nil
Other recovery	0	0	0	Nil
Stacking of mineral rejects/ sub-grade mineral (Dump Id)	0	0	0	Nil
Blending of mineral reject / sub-grade	0	0	0	Nil

**8.2.8: Environment Compliances**

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
<b>8.2.8.1: Top soil</b>				
Generation	0	0	0	Nil
Utilization	0	0	0	Nil
Stacking (Dump Id)	0	0	0	Nil
Reclamation	0	0	0	Nil
Rehabilitation	0	0	0	Nil
<b>8.2.8.2: Afforestation (Dumps/Benches/Backfilled Area etc.)</b>				
2021 - 2022	0	0	0	Nil
2022 - 2023	0	0	0	Nil
2023 - 2024	0	0	0	Nil
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
<b>8.2.8.3: Afforestation (Green Belt)</b>				

2021 - 2022	200	0	-200	No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
2022 - 2023	200	200	0	Nil
2023 - 2024	200	200	0	Nil
2024 - 2025	200	200	0	Nil
Nil	Nil	Nil	Nil	Nil
Construction of check dams	Nil	Nil	Nil	Nil
Construction of Garland Drain (in meter)	710	420	-290	No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
Construction of Retaining Walls (in meter)	555	340	-215	No operations took place in 2021-22 (due to a lack of CTO and DGMS permission), and operations were on hold in 2024-25 (while waiting for a Transit Pass).
<b>8.2.8.4: Tailings</b>				
Generation	0	0	0	Nil
Utilization	0	00	0	Nil
Disposal	0	0	0	Nil

### 8.3: Socio-Economic Review

#### 8.3.1: Rehabilitation & Resettlement for Project Affected People

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
-------------	-----------	-------------	-----------	-----------------------

No. of Project Affected People (PAP)	0.0000	0.0000	0.0000	Nil
%age of PAP for whom alternate arrangements made for sustained livelihood	0.0000	0.0000	0.0000	Nil
% of project affected families given employment	0.0000	0.0000	0.0000	Nil
% of project affected families who have been skilled by the lessee and absorbed (% of total employment given to affected families)	0.0000	0.0000	0.0000	Nil

**8.3.2 : Grievance Redressal**

Grievances Received	2020 - 2021	2021 - 2022	2023 - 2024	2024 - 2025	2025 - 2026
	0	0	0	0	0
Grievances Redressed	0	0	0	0	0

**8.3.3: Welfare and socio-economic development programs for local communities**

Particulars	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	Nil
<b>8.3.3.1 Support for Drinking Water &amp; Agriculture</b>					
No. of Water Storage Tanks constructed	0	2	0	0	Nil
Drinking Water Facilities provided (Bore wells/ Pumps etc.)	0	0	0	1	Nil
Irrigation Support provided (Canals/ Pumps etc.)	0	0	0	1	Nil
No. of Water tanks De-silted	0	0	0	0	Nil
Water Treatment facilities provided (A/NA)	0	0	0	0	Nil
Amount of Water treated (in	Nil	Nil	Nil	Nil	Nil

kL) (if selected A in above)					
<b>8.3.3.2 Support to Health &amp; Medical Services</b>					
No. of persons identified from Occupational health diseases	0	0	0	0	Nil
No. of Health Camps/ Medicine Camps Organized	0	1	1	1	Nil
<b>8.3.3.3 Support to Skill development &amp; Education</b>					
Vocational Training Provided/ Support Provided					
No. of employees undergone Vocational training	0	2	2	2	Nil
No. of other persons undergone Vocational training	0	0	0	0	Nil
Number of Literacy & Education Camps held/ Supported	0	0	0	1	Nil
<b>8.3.3.4 Support to Transportation Services &amp; Infrastructure</b>					
Expenditure on Transportation Services & Infrastructure	0	4	5	4	Nil
Road development (m) in the peripheral area (not lease area)	0	0	0	0	Nil
No. of Public transport support provided (Ambulance/Buses/ School Vans etc)	0	5	5	4	Nil
<b>8.3.3.5 Swatchata Programs: Creating/providing sanitation and healthy condition in and around the mine area</b>					
Adoption of ODF within mining lease area					
No. of Toilets built in the Lease Area	0	1	0	0	Nil
Adoption of ODF in nearby villages					
No. Of Toilets built in the villages	0	0	0	1	Nil
Provision for greenage recreational facility (Within Lease Area/ Outside)					

Recreational Area Type (Picnic Spot/ tracks/Park Etc)	0	0	0	0	Nil
Area covered (For within Lease Area only)	0	0	0	0	Nil
Awareness program among Mine workers for Swatchata					
No. of Swatchchta Programmes held	0	1	1	1	Nil

Approved

# Chapter 9 : Impact Assessment (NA)

Approved

## Chapter 10: Annexures

### 1. Upload Document

#### 1.1 Upload Document

Sl.No.	Title	Is Upload	Document (only pdf allowed)
1	Letter of Intent /Letter of lease grant	Nil	<a href="#">Annexure 1 (A-E).pdf</a>
2	Copy of lease deed executed	Nil	<a href="#">Annexure 2.pdf</a>
3	Copy of Declaration of Owner/Nominated Owner in case of Company/partnership firm	Nil	<a href="#">Annexure 3 Resolution for Nomination of Owner.pdf</a>
4	ID & Address Proof of Owner/ Nominated Owner	Nil	<a href="#">Annexure 4 Address Proof owner.pdf</a>
5	Copy of Environment and Forest Clearence, Consent to Establish, Consent to Operate	Nil	<a href="#">Annexure 5 (A-B).pdf</a>
6	Copy of Registration of Company (RoC)/Partnership firm (Registration) & Deed	Nil	<a href="#">Annexure 6.pdf</a>
7	Consent letter for Qualified Person	Nil	<a href="#">Annexure 7 Consent.pdf</a>
8	Experience & Qualification Details of Qualified Person	Nil	<a href="#">Annexure 8.pdf</a>
9	Certificate from QP	Nil	<a href="#">Annexure 9 Certificate from QP.pdf</a>
10	Copy of Bank Guarantee	Nil	<a href="#">Finalcial Assurance-Annexure 10.pdf</a>
11	Copy of Performance Surety	Nil	<a href="#">Annexure 11.pdf</a>
12	Copy of MDPA (as applicable)	Nil	<a href="#">Annexure 12.pdf</a>
13	Exploration details	Nil	<a href="#">Annexure 13 BOREHOLE LOGS DGM, U PSCCL, JAL &amp; UTCL.pdf</a>
14	Copy of feasibility Report	Nil	<a href="#">Feasibility Report Annexure 14.pdf</a>

15	Copy of Study reports conducted as per Para 4.3.1	Nil	<a href="#">Annexure_15_Bulk_Density_&amp;_Petrographic_Study.pdf</a>
16	Chemical and Mineralogical analysis report	Nil	<a href="#">Annexure_16.pdf</a>
17	Any other Report or Certification as required in the submitted Document.	Nil	<a href="#">Annexure_17_DGPS_Survey_Report.pdf</a>
18	Copy of Scale relaxation approval granted(if applicable)	Yes	<a href="#">Annexure_18_Scale_Relaxation_Dalla.pdf</a>
19	Mineral processing flowsheet with stage wise recovery	Nil	<a href="#">Annexure_19_NIL.pdf</a>
20	Any Other (1)	Yes	<a href="#">Annexure_20.pdf</a>
21	Any Other (2)	Yes	<a href="#">Annexure_21.pdf</a>

Approved

## Chapter 11: Plates (OC)

### 1. Upload Document

#### 1.1 Upload Document

S.N.	Title	Is Upload	Document
1	Lease sketch plan;	Nil	<a href="#">1_Lease_Map_2021.pdf</a>
2	Surface Plan (.KMZ format)(Georeferenced); A statutory plan as per MCDR, 2017. The Plan should be submitted showing different color codes for:(1) Active Pits & Excavation area(2) Excavated area reclaimed & rehabilitated (3)Active dumps (4) Stabilized & rehabilitated dump area , (5) Green belt (6) Mineral Stacks (7) Utilities such as plant, buildings etc (8) Lease boundary along with other details.)	Nil	<a href="#">Surface_Plan.kmz</a>
3	Surface Geological Plan of the lease (.KMZ format)(Georeferenced); The Plan should be submitted showing different color codes for : (1) Lithological/Geological Occurance (2) Area under G1,G2,G3 & G4 (3) Active pits & Excavation area (4) Dump Area (5) Mineral Stacks (6) Lease boundary along with other details.)	Nil	<a href="#">Geological_Plan.kmz</a>
4	Surface Geological sections (in Pdf format); Geological sections with different color coding depicting all the features shown in Surface Geological Plan. )	Nil	<a href="#">Geological_Plan_and_Section.pdf</a>
5	Five year Production and Development plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color coding for: (1) Active Pit and Excavation area ,	Nil	<a href="#">YEAR_WISE_WORKING_PLAN.kmz</a>

	(2) Year wise excavation proposal for year I to V (3) Active dump and yearwise dump proposal for year I to V (4) Year wise Dump working proposal for year I to V (6) Lease boundary (with reference to chapter 4) along with other details.)		
6	Five year Production and Development sections (in pdf fromat); Year wise excavation and dumping proposals with different color coding depicting all the features as shown in the Five year Production and development plan.)	Nil	<a href="#">Working_section.pdf</a>
7	Progressive Mine Closure Plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color coding for : (1) Yearwise excavated area Reclaimed & rehabilitated for year I to V (2) Year wise dump area to be stabilized and dump area to be rehabilitatd for year I to V (3) Year wise Green area proposed from year I to V.(4) Any other reclamation and rehabilitation measures proposed.(5) Lease boundary ( with reference to chapter 6) along with other details.)	Nil	<a href="#">PMCP.kmz</a>
8	Progressive mine Closure sections (in pdf format); Year wise Progressive mine clouser sections showing all the yearwise reclamation, rehabilitaion proposals as depicted in the Progessive mine clouser plan.)	Nil	<a href="#">PMCP &amp; Section.pdf</a>
9	Conceptual Plan (.KMZ format)(Georeferenced); The Plan should depict the staus of lease area as envisaged at the end of life of Mine showing all the details. Status of land use shall be depicted by different color coding.)	Nil	<a href="#">Conceptual_plan.kmz</a>
10	Conceptual Sections (pdf) format;	Nil	<a href="#">Conceptual Plan &amp; Section.pdf</a>
11	Geo referenced Cadastral Plan; Duly certified by the State Government)	Nil	<a href="#">Lease Map.pdf</a>
12	Financial Assurance Plan (KMZ);	Nil	<a href="#">FA_plan.kmz</a>

13	Environmental Plan (.KMZ format)(Georeferenced); As per MCDR, 2017 indicating all the details.)	Nil	<a href="#">ENVIRONMENTAL_PLAN.kmz</a>
14	Any other plan/section as deemed necessary by approving authority;	Yes	<a href="#">Key_Surface_Environment_FA.pdf</a>
15	Five Year Production and Development sections (in pdf format);	Yes	<a href="#">Year wise Development Plan &amp; Section.pdf</a>
16	LEVEL WISE SLICE PLAN; LEVEL WISE SLICE PLAN (PDF FORMAT IN VISIBLE SCALE))	No	Nil
17	Zipped shp file of the lease boundary; Upload a single zipped file of the lease boundary)	Nil	<a href="#">Lease_Boundary.zip</a>
18	Zipped shp file of the boundary pillars; Enter a single zipped file of the boundary pillars.)	Nil	<a href="#">boundarypillar.zip</a>
19	Zipped shp file of the Production and Development plan for respective proposal year - 2026-2027; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	<a href="#">Working_26-27.zip</a>
20	Zipped shp file of the Production and Development plan for respective proposal year - 2027-2028; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	<a href="#">working_27-28.zip</a>
21	Zipped shp file of the Production and Development plan for respective proposal year - 2028-2029; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	<a href="#">Working_28-29.zip</a>
22	Zipped shp file of the Production and Development plan for respective proposal year - 2029-2030; Upload a zipped shape file indicating a separate production and	Nil	<a href="#">Working_29-30.zip</a>

	development plan for each respective proposal year)		
23	Zipped shp file of the Dump plan for respective proposal year - 2026-2027; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	Nil
24	Zipped shp file of the Dump plan for respective proposal year - 2027-2028; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	Nil
25	Zipped shp file of the Dump plan for respective proposal year - 2028-2029; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	Nil
26	Zipped shp file of the Dump plan for respective proposal year - 2029-2030; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	Nil
27	Other Zip File for UG Mines - 2026-2027; Zipped file containing stope and ore boundary, block model, and boreholes in any ore modelling software (.dm, .gmdl, .ddd)	Nil	Nil
28	Other Zip File for UG Mines - 2027-2028; Zipped file containing stope and ore boundary, block model, and boreholes in any ore modelling software (.dm, .gmdl, .ddd)	Nil	Nil
29	Other Zip File for UG Mines - 2028-2029; Zipped file containing stope and ore boundary, block model, and boreholes in any ore modelling software (.dm, .gmdl, .ddd)	Nil	Nil
30	Other Zip File for UG Mines - 2029-2030; Zipped file containing stope and ore boundary, block model, and boreholes in any ore modelling software (.dm, .gmdl, .ddd)	Nil	Nil

# Chapter 11 : Plates(UG) : NA

Approved