

Indian Bureau of Mines
Minerals Development and Regulation Division
MCDR Inspection Report
Hyderabad Regional Office.

Mine File No: AP/KNL/LST-218/HYD

Mine Code: 38APR11186

1) Name of Inspecting officer:	Shri. M.K. Kalmata
2) Designation	Regional Mining Geologist
3) Accompanying mine official with designation	Mr. E.Vasudevan, GM (Mines) Mr. N.Narayana Reddy, Mines Manager Mr. R.Guru Bhaskar , Geologist
4) Date of Inspection	14.06.2024(F/N)
5) Date of previous inspection	08-08-2023

Part-I: General

S.No.	Particulars	Details
1	Name of the Mine	My home Palkur Limestone mine
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	149.392 Ha. (Non-forest)(Govt.Land)
3	Mine code	38APR11186
4	IBM Registration Number under rule 45 of	IBM/12134/2012
5	Name of the lessee, Address, phone, email and fax number	M/s Sree Jayajothi Cements Private Limited, My Home hub, Block-3, 9th Floor, Madhapur, Hyderabad-500081, Telangana.
6	Village	Palkur
7	Taluka/Mandal	Banaganapalli
8	District	Nandyal (Earlier in Kurnool district)
9	Pin code	518124
10	State	Andhra Pradesh
11	Post office	Palkur
12	Nearest police station	Banaganapalli
13	Nearest Railway station	Betamcherla
14	Date of Grant of Mining Lease	16.12.2016
15	Date of Execution	02.01.2017 for 50 years
16	Lease validity	01.01.2067

17	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Sri. Chandra Shekhar Pandey, M/s Sree Jayajothi Cements Private Limited, My Home hub,Block-3, 9th Floor, Madhapur, Hyderabad-500081, Telangana – 500 081. Phone: 040-66929696 Email : cs.pandey@myhomeindustries.in
18	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Sri. B.C. Gurivi Reddy, D.O.A.:15.03.2018 M/s Sree Jayajothi Cements Private Limited, Yanakandla (V), Banaganapalli (M), Nandyal District, Andhra Pradesh – 518 124. Mob-+91-7660013042 Email : b.gurivireddy@myhomeindustries.in
19	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines, qualification	Sri N.Narayana Reddy, D.O.A.: 26.10.2020 H.No.C-402,Sreenagar colony,M/s Sree Jayajothi Cements Private Limited, Yanakandla (V), Banaganapalli (M), Nandyal District, Andhra Pradesh – 518 124. Mob-+91-8096508118
20	Name of the Mining Engineer & Geologist, Qualification and date of appointment in mine,	Mining Engineer : N.Narayana Reddy,, Qualification: AMII Mining with First Class Mines Manager Certificate. D.O.A.: 15.02.202 Geologist : Mr.R.Guru Bhaskar, Qualification:- Msc, Geology. DOA : 08.02.2020
21	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	1) Mining Plan:- AP/KNL/MP/Lst-139/Hyd, dated:- 07-09-2015. For the period 2016-17 to 2020-21. 2) Review of Mining Plan:- AP/KNL/MP/Lst-139/Hyd. Approved on 25-11-2020 for the block period 2021-22 to 2025-26.
22	Name of the Mineral	Limestone
23	Method of Mining(Opencast, Underground)	Opencast
24	Category (Fully Mechanized, Others or Manual)	Category – A (Fully Mechanized)
25	Captive/Non Captive	Captive

PART-II**Exploration :**

Sl. No.	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year	None in the year 2023-24.	No exploration is carried out in the year 2023-24.	Entire Mineralized area is explored under G-1 level by drilling 70 exploratory boreholes so far.
1b	Exploration over lease area for geological axis 1 or 2	None in the year 2023-24.	No exploration is carried out in the year 2023-24.	Entire Mineralized area is explored under G-1 level by drilling 70 exploratory boreholes so far.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	None in the year 2023-24.	None in the year 2023-24.	Total 70 boreholes drilled in the lease area and expenditure incurred for drilling 70 exploratory bore holes is Rs 15409020
1d	Balance area to be explored to bring Geological axis in 1 or 2	None in the year 2023-24.	None in the year 2023-24.	Total lease area is 149.392Ha and entire area is explored under G-1 level by drilling 70 exploratory boreholes to a total meterage of 4068.

1e	Balance reserves as on 01/04/2024	Reserves/resources as per approved document dated 25.11.2020 are as follows. (as on sep 2020) (in million tonnes) Proved Mineral Reserves (111) - 9.840. Feasibility M Resources (211) - 4.897. Measured m Resources (33) - 74.721 Indicated M Resources (332) - 11.673 Total:- 101.131	Reserves/resources as on 01.04.2024 are as follows.(In million tonnes) Proved Mineral Reserves (111) - 8.891 Feasibility M Resources (211) - 4.897. Measured m Resources (33) - 74.721 Indicated M Resources (332) - 11.673 Total:- 100.182	Reserves/resources are updated by depleting 0.9495 million tonnes of production carried out from October 2020 to 31.03.2024.
1f	General remarks of inspecting officers on geology, exploration etc.		The subject area forms part of the Narji limestone formation located in the Kurnool sub-basin of cuddapah basin. The lithology of the lease area is soil cover, Quartzite, Sale, Limestone. The General strike of the formation is WNW to ESE with NNE dip. The dip of the formation varies from 5 to 8 degree.	Total lease area is 149.392Ha and entire area is explored under G-1 level by drilling 70 exploratory boreholes to a total meterage of 4068.
Development :				

Sl.No.	Item	Proposals	Actual Work	Remarks
2a	Location of development w.r.t. lease area	In the year 2023-24, there was a proposal to work between the co-ordinates N1704995 to 1705235 & E 199610 to E 200055.	Working has been carried out between the co-ordinates:- N1705010 to 1705215 and E 199600 to 200055.	Working is almost carried out within the proposed area only. However, it appears some working is extended up to the boundary of the non leased area without leaving 7.5 mtr safety zone. Vijayawada office may issue Violation letter for the same under Rule 11(1) of MCDR 2017.
2b	Separate benches in topsoil, overburden and minerals (Rule-15)	Benches were proposed in mineral only.	Benches exist in ore only.	Topsoil is removed by scarping.
2c	Stripping ratio of ore to OB ratio	1:0	1:0	
2d	Quantity of topsoil generation in m ³	8208 in the year 2023-24.	3000 in the year 2023-24	
2e	Quantity of overburden generation in m ³	None in the year 2023-24.	None in the year 2023-24.	
2f	General remarks of inspecting		Within the lease area of Shree Jayajothi cements many minor	

<p>officers on development of pit w.r.t. type of deposit etc.</p>	<p>mineral leases /non-leased areas are also exists. So, it is difficult to extend the benches. During field visit it is observed that pits are extended beyond the minor mineral leases/non-leased areas and extended working is in lease area of Shree Jayajothi cements. Advised lessee to inform the same in writing to State Government for necessary action. Further, lessee has developed two pits within the lease area. The bench parameters are maintained within the proposed limits. However in some parts it appears benches are extended up to the lease boundary of Non-leased/minor mineral leases. Vijayawada office may issue Violation letter for the same under Rule 11(1) of MCDR 2017</p>	
<p>Exploitation :</p>		

Sl.N o.	Item	Proposals	Actual Work	Remarks
3a	Number of pit proposed for production	One pit (Pit No.-2) in the year 2023-24.	Production has been carried out from Pit No-2 in the year 2023-24.	<p>In some portions it is observed that working has been extended up to the boundary of minor mineral leases/non-leased areas and Vijayawada office may issue the Violation letter for the same under Rule 11(1) of MCDR 2017. Further, it is also observed that working has been extended beyond the lease boundary of minor mineral leases/non -leased areas and benches are extended in the lease area of Shree jayajothi cements by the operators of minor mineral leases. Advised Lessee (Shree Jayajothi Cements) to inform the same to State Government in</p>

				writing for necessary action.
3b	Quantity of ROM mineral production proposed	400000 tonnes in the year 2023-24.	301000 tonnes in the year 2023-24.	75% production is achieved in the year 2023-24.
3c	Recovery of saleable / usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	None in the year 2023-24.	None in the year 2023-24.	
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable.	Not applicable.	
3f	Quantity of sub-grade mineral generation.	None in the year 2023-24.	None in the year 2023-24.	
3g	Grade of sub-grade mineral generation.	Not applicable	Not applicable	
3h	Manual / Mechanized method adopted for segregating from ROM	None in the lease area.	None.	Sending ROM to the crushing and screening plant existing outside the lease area and crushed material is sending to cement plant for feeding.

3i	Any analysis or beneficiation study proposed and carried out for sub-grade mineral and rejects	None.	None.	
3j	Provision of drilling and blasting in mineral benches	Yes proposed.	Drilling and blasting is carried out as per the proposal.	Using drilling machine of 115mm dia for drilling blast holes and loose ammonium nitrate and slurry explosive for blasting.
3k	Provision of mining machineries in mineral benches	Yes proposed.	Lessee is using combination of excavator and tippers for production and development. Rock drilling machine for drilling blast holes.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposed 8.00 mtr bench height in the mineral and no OB bench is proposed.	Maintained bench height of 6.00 to 7.50 mtrs.	Bench parameters are maintained within the proposed limits.
3m	Total area covered under excavation /	Area under Mining:- 15.18Ha in the present block period	Area under Mining:- 14.252Ha, Area under	

	pits	up to 31.03.2026.		
3n	Ore to OB ratio for the pit/mine during the year.	1:0	1:0	
3o	Total area put in use under different heads at the end of year	Area under mining:- 15.18Ha, Waste dumps:-15.007Ha, 5.54Ha, Green belt: 2.76Ha.	Area under Mining:- 14.252Ha, Area under dumps:-17.65Ha, Infrastructure:- 3.04Ha.Green belt:- 2.692.	Area under waste dump is more than the proposal and Vijayawada office may issue the Violation letter for the same under Rule 11(1) of MCDR 2017.
3p	Production of ROM mineral during the last five year period as applicable	2023-24 - 400000T 2022-23 - 300000T, 2021-22 - 200000T 2020-21 -318508T 2019-20 - 400037T	2023-24 - 301000T 2022-23 - 283500T 2021-22 - 200000T 2020-21 - 285000T 2019-20 - 380000T	
3q	General remarks of inspecting officers on method of mining etc.		The Method of mining adopted is fully mechanized with combination of excavator and tippers. Lessee is doing drilling and blasting for loosening of the strata benches are maintained as per the proposal.	In some portions it is observed that working has been extended up to the boundary of minor mineral leases/non-leased areas and Vijayawada office may issue the Violation letter for the same under

				<p>Rule 11(1) of MCDR 2017. Further, it is also observed that working has been extended beyond the lease boundary of minor mineral leases/non -leased areas and benches are extended in the lease area of Shree jayajothi cements by the operators of minor mineral leases. Advised Lessee (Shree Jayajothi Cements) to inform the same to State Government in writing for necessary action.</p>
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Solid Waste Management - Dumping :

Sl.No.	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32, 33)	Only re-handling of existing old Mineral reject dump is proposed.(Shifting of the dumps for advancement of benches)	Material existing in dump no 6 (N 1705195 to 1705233 to E 199880 to 199992) is shifted for advancement of benches.	Re-handled material is dumped in the Eastern part of the lease area i.e between the co-ordinates, N 1705475 to 1705560 & E

				201430 to 201470.
4b	Location of topsoil, OB and mineral reject dumps	Only re-handling of existing old Mineral reject dump is proposed in the present block period.(Shifting of the dumps for advancement of benches) In the year 2023-24 proposal was given to dump re-handled material(mineral reject) between the co-ordinates N 1705505 to 1705527 & E 201430 to 201470.	Re-handled material is dumped in the Eastern part of the lease area i.e between the co-ordinates, N 1705475 to 1705560 & E 201430 to 201470.	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area exist within the lease area of Shree Jayajothi cements and few dumps are existing in the 100 mtr buffer zone from the lease boundary. Advised lessee to inform the same to State Government for necessary action.
4c	Number of dumps within lease area and outside of lease area	One in the year 2023-24.	One in the year 2023-24.	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area exist within the lease area of Shree Jayajothi cements and few dumps are existing

				in the 100 mtr buffer zone from the lease boundary. Advised lessee to inform the same to State Government for necessary action.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL	Presently outside the UPL	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area exist within the lease area of Shree Jayajothi cements and few dumps are existing in the 100 mtr buffer zone from the lease boundary. Advised lessee to inform the same to State Government for necessary action. Further most of the dumps made by lessees of minor mineral quarry/non leased areas are existing within the UPL and

				present lessee Shree Jayajothi cements is shifting the same by re-handling for advancement of benches.
4e	Number of active and alive dumps.	One in the year 2023-24.	One in the year 2023-24.	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area are existing within the lease area of Shree Jayajothi cements and few dumps are existing in the 100 mtr buffer zone from the lease boundary. Advised lessee to inform the same to State Government for necessary action. Further most of the dumps made by lessees of minor mineral quarry/non leased areas are existing within the UPL and present lessee

				Shree Jayajothi cements is shifting the same by re-handling for advancement of benches.
4f	Number of dead dumps.	None.	None.	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area exist within the lease area of Shree Jayajothi cements and few dumps are existing in the 100 mtr buffer zone from the lease boundary. Advised lessee to inform the same to State Government for necessary action. Further most of the dumps made by lessees of minor mineral quarry/non leased areas are existing within the UPL and present lessee Shree Jayajothi

				cements is shifting the same by re-handing for advancement of benches.
4g	Number of dumps established.	None in the year 2023-24.	None.	
4h	Whether retaining wall or garland drain all along dumps are there.	None in the year 2023-24.	None.	
4i	Length of retaining wall or garland drain all along dumps.	Not applicable.	Not applicable.	
4j	Number of settling ponds	None in the year 2023-24.	None.	
4k	Specific comments of inspecting officers on waste dump management .		In the year 2023-24 only shifting of dump is proposed for advancement of benches. Accordingly lessee has shifted dump to proposed location.	Additionally scattered mineral reject dumps made by lessees of minor mineral leases/non-leased area are existing within the lease area of Shree Jayajothi cements and few dumps are existing in the 100 mtr buffer zone

				from the lease boundary. Advised lessee to inform the same to State Government for necessary action. Further most of the dumps made by lessees of minor mineral quarry/non leased areas are existing within the UPL and present lessee Shree Jayajothi cements is shifting the same by re-handing for advancement of benches.
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Solid Waste Management - Backfilling :

Sl.N o.	Item	Proposals	Actual Work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling	Not proposed.	Nil	No backfilling is proposed in the present plan period.
5b	Area under backfilling of mined out area	Not proposed.	Nil	
5c	Concurrent use of	Not proposed.	Nil	

	topsoil for restoration or rehabilitation of mined out area (Rule 32)			
5d	Total area fully reclaimed and rehabilitated	Not proposed.	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Present working is not reached up to the proved depth and no proposals were made for reclamation and rehabilitation in the present plan period.	

Progressive Mine Closure Plan :

Sl.No.	Item	Proposals	Actual Work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 26(2)	Before 1st July of every year.	Yes, submitted PMCP report for the year 2023-24 along with the annual returns submitted for the year 2022-23.	Submitted report on 29.06.2024.
6b	Area available for rehabilitation (ha)	None.	None.	
6c	Afforestation done (ha)	0.2Ha in the year 2023-24	0.2Ha in the year 2023-24.	
6d	No. of saplings planted	200 Saplings in the year 2023-24.	Planted 279 saplings in the year 2023-24.	

	during the year			
6e	Cumulative no. of plants	800 saplings in the present plan period up to 2023-24	Planted 2632 saplings in the present block period up to 2023-24.	Total plantation made so far is 4125 saplings covering an area of 2.69Ha.
6f	Any other method of rehabilitation	None.	None.	
6g	Cost incurred on watch and care during the year	50000/year	4.33Lakhs in the year 2023-24.	Includes saplings, watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (LxBxD)	None.	None.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	None.	None.	
6j	Compliance on reclamation and	None.	None.	

	rehabilitation by backfilling (iii) Afforestation on backfilled area			
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	None.	None.	
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	None.	None.	
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	None.	None.	
6n	Compliance of rehabilitation of waste land within	None.	None.	

	lease (ii) Area rehabilitatio n (ha)			
6o	Compliance of rehabilitatio n of waste land within lease (ii) Method of rehabilitatio n	None.	None.	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes, Air, Water and Noise monitoring was proposed in Core and Buffer zone.	Lessee is regularly monitoring air, water and noise and all the parameters are within permissible limits.	Lawn enviro associates, Hyderabad is doing the Environmental monitoring.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Only plantation was proposed Under the PMCP and in the year 279 saplings was planted against the proposal of 200. Total plantation made so far within the lease area is 4125. Further, lessee has carried out environmental monitoring in the core and buffer zone and results are within permissible limits.	
Mineral Conservation :				
Sl.N o.	Item	Proposals	Actual Work	Remarks

7a	ROM mineral dispatch or grade wise sorting within lease area	Proposed dispatch of Cement grade ROM to Captive Cement Plant.	Lessee is dispatching Cement grade ROM to Captive plant as proposed.	Lessee is not doing any processing at mine site.
7b	Method of grade wise mineral sorting i.e. manual or mechanical	No sorting within the lease area	None.	Sending ROM to the crushing and screening plant existing outside the lease area.
7c	Different grade of mineral sorted out at mines	Cement Grade.	Cement Grade.	
7d	Any beneficiation process at mines	None.	None.	
7e	General remarks of inspecting officers on mineral conservation and beneficiation issues.		Sending ROM to the crushing and screening plant existing outside the lease area. After crushing and screening. The ore will be sent to Captive Cement plant through belt conveyor.	

Environment :

Sl.No.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes proposed.	Yes topsoil is removed separately by scraping	About 3000 CUM topsoil is removed in the year 2023-24 and utilized for

				plantation within the lease area.
8b	Concurrent use or storage of topsoil	Concurrent use.	Concurrent use.	About 3000 CUM topsoil is removed in the year 2023-24 and utilized for plantation within the lease area.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed re-handling of existing mineral reject dump formed during slab quarry mining.	None.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed.	None.	
8e	Phased restoration, reclamation and rehabilitation of land affected by mining operations (pits, dumps etc.)	None.	None.	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Baseline information was furnished in the mining plan. Additional plantation proposals are being given in the Mining Plan documents.	Additionally lessee has planted about 4125 saplings within the lease area.	
8g	Survival rate	None	75 to 80%	
8h	Water sprinkling on roads to control airborne dust	Yes proposed.	Lessee is spraying water on haul road and in the working area for suppression of dust.	Using one water tanker of 16000 ltr capacity for the said purpose.
8i	General remarks of inspecting officers on aesthetic beauty in and around mine areas.		The lease area is irregular in shape and many non -leased areas are existing within the lease area. Due to non-leased areas it is difficult to lessee to work properly and ore is blocking due to non-leased areas. The benches were made systematically and plantation is made in the 7.5 mtr safety zone.	
Compliance of Rule 45 :				
Sl.No.	Item	Proposals	Actual Work	Remarks

9a	Status of submission of monthly and annual returns	A monthly return shall be submitted before the tenth day of every month in respect of the preceding month and an annual return shall be submitted before the 1st day of July each year for the preceding financial year.	Lessee is Regularly submitting Monthly and Annual returns.	Submitted Annual returns for the year 2023-24 within time. Annual returns submitted on 29.06.2024.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The details of Mining Engineer and Geologist as mentioned in the AR submitted for the year 2023-24 is as follows. Mining Engineer & Manager :- N Narayan Reddy, Geologist:-R.Guru Bhaskar.	The details furnished in the Annual returns are found correct.	Lessee has sent notice of appointment to this office.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under current workings:- 11.75Ha, Used for waste disposal:- 14.717Ha, Infrastructure:- 3.040Ha, Green belt:- 2.692Ha.	Area under Mining:- 14.252Ha, Area under dumps:-17.65Ha, Infrastructure:- 3.04Ha. Green belt:- 2.692.	The details furnished are mismatching. Vijayawada-office may issue the show-cause notice for the same under Rule 45(7) of MCDR-2017.

9d	Scrutiny of Annual return on afforestation	279 saplings with survival rate 80%	The details furnished in the annual returns are found correct.	However, for total plantation at the end of the year figures of 80% of plantation made in 2023-24 is given instead of total plantation made so far from start of the lease to present. Vijayawada office may issue the show-cause notice for the same under Rule 45(7) of MCDR 2017.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	None in the year 2023-24.	None in the year 2023-24.	No OB is generated in the year 2023-24, however the material- shifted by re-handling for advancement of the pit is shown under OB generation at part V(5) of AR submitted for the year 2023-24. Vijayawada office may issue the show-cause notice for the same under

				Rule 45(7) of MCDR 2017.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM:- Opening and closing stock:- 0, production:-301000T. Cement Grade:- Opening and closing stock-0 and production and dispatch:-301000T	The details furnished in the annual returns submitted for the year 2023-24 is found correct.	
9g	Scrutiny of Annual return on Sale value, Ex Mine price and production cost	Sale Value, Ex-mine price and cost of production is mentioned :- Rs 171.22/tonnes	The information furnished in the AR submitted for the year 2023-24 is found in order.	
9h	Scrutiny of Annual return on fixed assets	Value of fixed asset is mentioned as Rs 0	1) No industries were observed within the lease area but value under industries at the beginning of the year and depreciation during the year is mentioned as Rs- 760288 and closing balance as zero. 2) Excavators, tippers, drilling machine etc. are shown under list of Machinery, but value for Plant and Machinery including transport	Vijayawada office may issue the Show-cause notice for the same under Rule 45(7) of MCDR 2017.

			equipments is shown as zero 3) Further, it is not clear whether, source of finance shown pertains to particularly this mine or combined. The value furnished appears incorrect.	
9k	Scrutiny of Annual return on mining machineries	Backhoe-1.0CUM-01, Tippers of 10.0CUM capacity-05, Drilling machine-01	The information furnished in the AR submitted for the year 2023-24 is found in order.	

Date:-

(KALMATA.M.K)

Indian Bureau of Mines