

I/15746/2023

MCDR inspection REPORT

Jabalpur regional office

Mine file No : MP/KTN/LST-102

Mine code : 38MPR47032

- (i) Name of the Inspecting : **G007**) **RAGHUBIR SHARAN GARG**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri Vidya Sagar Sahu, Mining Geologist (Part time)
Official with
Designation
- (iv) Date of Inspection : 28-JUL-23
- (v) Prev.inspection date : 10-OCT-17

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PADREHI**
- (b) **Registration NO.** : **IBM/6189/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : MADHYA PRADESH
District : KATNI
Village : PADREHI
Taluka : KATNI
Post office : KHIRWA
Pin Code :
FAX No. : 07622231017
E-mail : trivenilime@gmail.com
Phone : 9425157343
- (f) Police Station :
- (g) First opening date : 02-MAR-82
- (h) Weekly day of rest : SUN
2. Address for : M/S TRIVENI LIME CO.
correspondance RAGHUNATH GANJ, KATNI (M.P.) 483501
3. (a) Lease Number : MPR0277
- (b) Lease area : 4.77
- (c) Period of lease : 50
- (d) Date of Expiry : 01-MAR-32
4. Mineral worked : LIMESTONE Main

I/15746/2023

5. Name and Address of the

Lessee : TRIVENI LIME CO.
RAGHUNATH GANJ KATNI
MADHYA PRADESH
Phone:N. A.
FAX :N. A.

Owner : TRIVENI LIME CO.
RAGHUNATH GANJ, KATNI
MADHYA PRADESH
Phone: N. A.
FAX : N. A.

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	13-FEB-04
Plan/Scheme of Mining		MP modif under 17(3) MCR 2016	29-NOV-16
		MP review under 17(1) MCR 2016	09-AUG-19

I/15746/2023

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the year 2019- total 04 core boreholes were proposed	Exploration carried out by three boreholes	Deviation was pointed out through violation of rule 11(1) based on previous inspection and at last compliance was considered as remaining one borehole has been proposed in RMP approved vide letter no. MP/Katni/Limestone /RMP-46/2022-23 dated 23-12-2022 for proposal period from 2023-24 to 2027-28
1b	Exploration over lease area for geological axis 1 or 2	During the year 2019- total 04 core boreholes were proposed	Exploration carried out by three boreholes	As stated under 1(a) of the chapter.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not proposed	Not applicable	-
1d	Balance area to be explored to bring Geological axis in 1 or 2	There was no approved proposal for exploration against the year under review.	As per approved Mining Plan 2.86hect already explored under G1 level and 0.55hect area under G2 level.	Reassessment of reserves have been carried out during preparation of new RMP. As per RMP approved vide letter no. MP/Katni/Limestone /RMP-46/2022-23 dated 23/12/2022 reserves as on Nov,2022 was :- 111-968311tone 122-148022tone and 222-638961tone

I/15746/2023

1f	General remarks of inspecting officers on geology, exploration etc	Geologically the limestone of this area belongs to Semari Group of Rohtas formation of lower vindhyan. The general strike of formation is NE-SW (N65deg E) & amount of dip from 8deg to 12 deg towards north-west. Extent of lease area is only 4.77hect. Reassessment of reserves have been carried out based on three nos of boreholes carried out in last five year period.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It was proposed to work in Pit-A towards northern part from 395 to 383mRL	Mine working was not carried out as per the proposals	No deviations observed
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Benches in Top soil - 3m Overburden Benches -Nil and Mineral Limestone - 2 Benches of height 6mts proposed	Benches heights maintained for OB benches as well as mineral limestone benches except in North Eastern part of the pit where OB bench and mineral benches almost murged and bench height reached about morethan 8.0m.	Deviation pointed out under 11(1) of MCDR,2017 vide letter dated 04/08/2023

I/15746/2023

2c	Stripping ratio or ore to OB ratio	1:0.61	1:0.5	Details of top soil generation have not maintained by the lessee. Top soil & Mineral/interburden OB benches almost reached upto statutory boundary line. Thus top soil have definitely removed for the exploitation of mineral.
2d	Quantity of topsoil generation in m3	11856cum	Not available	
2e	Quantity of overburden generation in m3	11856cum top soil and 34734cum interburden/waste	14882cum interburden/waste rock 11856cum top soil and	-
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			There were two working pits within the lease area. both the pits have found merged and with this almost entire mineralised area of the lease has turned in a single pit. Murging of the both the pits was as per approved proposals.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One	Actually at initial there were two pits namely Pit1 and pit 2 within the lease area. Both the pits have murged and as on date there is only one pit which happens as per approved proposal.	No deviation w.r.t. number of pits
3b	Quantity of ROM mineral production proposed	86834tonne	86814tonne	No deviation

I/15746/2023

3c	Recovery of sailable/usable mineral from ROM production	70%	Reportedly as per proposal	No deviation
3d	Quantity of mineral reject generation	Not proposed	Not generated.	
3e	Grade of mineral rejects generation and threshold value declared.	Not proposed	Not applicable as there was no mineral reject generation.	No deviation.
3f	Quantity of sub grade mineral generation.	No Proposals	Nil	-
3g	Grade of sub grade mineral generation	No Proposals	NA	-
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sizing & sorting proposed	Manual sizing & sorting carried out.	No deviation
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed	Not carried out.	No deviation
3j	Provision of drilling and blasting in mineral benches	Deep drilling with 110mm dia drilling & blasting is proposed by Jack hammer/wagon drill	Deep drilling with 110mm dia drilling & blasting is proposed by Jack hammer/wagon drill	

I/15746/2023

3k	Provision of mining machineries in mineral benches	Excavator,210 T, 1.2Cum capacity TATA Dumper model 2515, 10 T capacity Tractor mounted Air Compressor Jack Hammer/wagon drill with Drill rods Mahindra Tractor with Water Tank on trolley Water pump with Diesel engine	Type of machinery Capacity of each type Unit No. of type of machinery SHOVEL (HYDRAULIC)0.900 CUM 1 DUMPER 16.000 TONNE 2 WATER TANKER 2000.000 LITRE 1 PUMPS (ELEC.) 650.000 L/MN 2	As per proposal 1.1cum bucket capacity shovel was envisaged where as 0.9cum bucket capacity shovel deployed. There was no issue as 0.9cum bucket capacity shovel may handle envisaged total excavation from the mine.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	yesh there is no issue related with boom height of mechninery and proposed bench height .	
3m	Total area covered under excavation/pits	4.12 Ha area was proposed in approved ROMP period i.e. 2019-2020-21 2022-23 dtd 09.08.2019vvvvv vv	Almost entire 4.12hect mineralised area within ultimate pit limit	No deviation
3n	Ore to OB ratio for the pit/mine during the year.	1:0.61	1:0.5	-
3o	Total area put in use under different heads at the end of year	4.12hect	almost entire area as envisaged in approved RMP i.e. 4.12hect.	No deviation.
3p	Production of ROM mineral during the last five year period as applicable	2018-19-: Nil 2019-20-:81942MT 2020-21-:76954 MT 2021-22-: 80519MT 2022-23-:86834MT	2018-19-: Nil 2019-20-:Nil 2020-21-:4491 MT 2021-22-: 71390MT 2022-23-:86814MT	-

I/15746/2023

3q General remarks of inspecting officers on method of mining etc.

Mechanised open cast working proposed by using Excavator /JCB & dumper combination with deep & shallow drilling & blasting using jack hammer/wagon drill. There is no issue in account of method of mining in achieving envisaged production.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Concurrent use of OB & top soil proposed for backfilling towards southern part	Backfilling of pit on north western porttion of lease area now falls outside of ultimate pit limit due to barrier zone for road passing through the area , carried out	-
4b	Location of topsoil, OB and mineral reject dumps	External dumping for top soil and OBnot proposed	Not applicable as entire generated top soil and OB?IB/waste have utilised for backfilling followed by topping with top soil and in making bundh around the lease area.	No deviation.
4c	Number of dumps within lease area and outside of lease area	Not proposed	None. However two dumps lies out side of the lease area on eastern direction adjacent to eastern lease boundary line were seen.	-
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not proposed	no dump seen within ultimate pit limit.	

I/15746/2023

4e	Number of active and alive dumps.	Not proposed	There is no active and alive dumps within lease are. However stacking yard on norther d portion of lease area spread over an area of 100mX60m area were seen from where manual shorting of mineral carried out.	-
4f	Number of dead dumps.	Not proposed	None	
4g	Number of dumps established.	Not proposed	Not applicable as there is no dumps within lease area.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall proposed	Retaining wall made as proposed along western, souther, eastern lease boundary line	
4i	Length of Retaining wall or garland drain all along dumps	NA	About 700m	
4j	Number of settling ponds	No Proposals	Not seen	
4k	Specific comments of inspecting officer on waste dump management			Concurrent use for reclamation by backfilling proposed at mined out area and 7.5m barrier zone

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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I/15746/2023

5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Limestone exhausted pit area proposed for backfilling during the year 2022-23	Backfilling of proposed site selected for backfilling during 2022-23 was not carried out mainly due to occurrences of mineral in depth proven by drilling of three number of boreholes as per proposal. However backfilling of the old pit , now fall on barrier zone for road passing from nearby northern lease boundary linenear northern lease boundary line, were seen. li	Violation under Rule 11(1) of MCDR,2017 pointed out and issued on 04.11.2022 based on inspection dated 26/09/2022. After additional exploration by drilling of three boreholes against four as proposed in the approved RMP, mineralisation in the depth upto 365mRL was established whereas in earlier approved RMP it was considered only upto 383mRL. Based on findings backfilling proposal was differed and accordingly it was accepted during considering compliance of pointed out violation.
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I/15746/2023

5b	Area under backfilling of mined out area	1.54hect	Backfilling not carried out as per the proposals	Violation under Rule 11(1) of MCDR,2017 pointed out and issued on 04.11.2022 based on inspection dated 26/09/2022. After additional exploration by drilling of three boreholes against four as proposed in the approved RMP, mineralisation in the depth upto 365mRL was established whereas in earlier approved RMP it was considered only upto 383mRL. Based on findings backfilling proposal was differed and accordingly it was accepted during considering compliance of pointed out violation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Proposed for plantation purpose over backfilled area	Concurrent use of top soil for plantation purpose carried out over near mine office..	-
5d	Total area fully reclaimed and rehabilitated	1.54hect	Backfilled area- 0.35hect(70mX50m). Plantation over backfilled area was not seen. However a good no. of saplings have planted near mine office. Growth of plantation were founf very good.	Although there are deviation with regards to site of reclamation and rehabilitation but such deviation may be accepted as mineralisation over site proposed for reclamation and rehabilitation was proven by drilling three no. of boreholes as stated in earlier part of the report. So. violation for deviation not pointed out.

I/15746/2023

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling of old pits were lies near northern lease boundary line now fall under 50m barrier zone for road passing through the area appears a nise step for utilisation of mine waste generated during mining operation. A good number of plantation made near mine office and health of plants were seen very nice. Thus, a very good steps have taken by the lessee towards backfilling and reclamation of the degraded area.
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Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes.	Submitted as per proposal	
6b	Area available for rehabilitation (ha) .	1.54hect	Nil	Although there are deviation with regards to rehabilitation of mined out area but such deviation may be accepted as mineralisation over site proposed for reclamation and rehabilitation was proven by drilling three no. of boreholes as stated in earlier part of the report. So. violation for deviation not pointed out.

I/15746/2023

6c	afforestation done (ha).	0.3119hect	0.12hect	Afforestation near mine office were seen. Area is available for afforestation on statutory barrier zone of 50m fro road passing from near by area. Preparatory work for afforestation were seen. Fencing of the area already carried out.
6d	No. of saplings planted during the year	Not proposed	150 no	About 100 No of plants were seen, One sapling was also planted by the undersigned during inspection.
6e	Cumulative no .of plants	Not proposed	250	About 100 plants having good health were seen within lease area.
6f	Any other method of rehabilitation	Not proposed	Not in a practice.	
6g	Cost incurred on watch and care during the year	Not proposed	Records on this issue were not found maitained.	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	1.54hect	None as area considered as void available for backfilling found mineralised based on additional exploratory work carried out by the lessee.	Mineral persists in the depth. Thus, proposed area as a voids available for backfilling are not practically correct.A fresh RMP with proiposal of extraction of mineralisation discovered overso called voids available for backfilling and accordingly proposal of extraction of such mineral are there in newly an approved RMP.

I/15746/2023

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	1.54hect	Nil	Details about not carrying out of backfilling of so called voids already discussed in previous paras.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	1.54hect	nil	Details about not carrying out of backfilling of so called voids already discussed in previous paras.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed	Not applied	No deviation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed	Not done.	no deviation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	plantation over about 30mX40m area near mine office were seen.	No deviation.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	Plantation over about 30mX40m area near mine office were seen.	-
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	Not observed	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodical Air, Water, Noise monitoring Proposed	Yes, Compliances of environmental monitoring is being carried out.	Analysis reports were provided

I/15746/2023

6q General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.

In fact earlier PMCP implementation is not practicable now as mineralisation over so called mined out area as envisaged in the earlier an approved RMP are not available. based on conformation of mineralisation in depth (from 383mRL to 365mRL) proposal of extraction of such mineral have made in recent approved RMP. Backfilling of an old pits were lies near northern lease boundary line were seen which is a good step as mining in such area is restricted being statutory barrier zone of 50m.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	86834tonne, Grade wise sorting proposed within lease area for SMS & Cement grade limestone	ROM mineral dispatch nil Grade wise mineral dispatch SMS grade 120357.85tonne No cement grade limestone despatched during the year	-
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Proposed as Manual	Manual sorting	-

I/15746/2023

7c	Different grade of mineral sorted out at mines.	Steel Plant grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. Cement Grade: CaO-42-45% Min, SiO2-up to 3%	Steel Plat grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. Cement Grade: CaO-42-45% Min, SiO2-up to 10% Max, MgO- up to 3%	
7d	Any beneficiation process at mines .	Not proposed	Nil	No deviation
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral is being conserved by grade wise sorting in the lease area. Steel Plat grade Limestone: CaO-42% (Min), CaO+MgO-48% Max, SiO2-4% Max. and Cement Grade: CaO-42-45% Min, SiO2-up to 10% , MgO- up to 3% proposed to be sorted. Grade wise stacking is done on earmarked locations.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal and concurrent use for plantation & backfilling propose	Carried out as per the proposals	-
8b	Concurrent use or storage of topsoil	Concurrent use of top soil Proposed	Concurrent use of top soil for plantation as well used for topping over backfilled area	

I/15746/2023

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Concurrent backfilling was proposed at southern part of mined out pit	Concurrent backfilling was done of the old pits lies near norther lease boundary line.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Concurrent backfilling was proposed at southern part of mined out pit	Concurrent backfilling was done of the old pits lies near norther lease boundary line.	OB & waste rock generated during the year backfilled.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Concurrent backfilling was proposed at southern part of mined out pit	Concurrent backfilling was done of the old pits lies near norther lease boundary line.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	347 plants proposed on 3115 SqM	150 saplings planted during the year 2022-23	Proposed backfilling could not carried out as mineralisation in depth was ascertained through exploratory borehole drilling, resulting availability of backfilled area upto proposed extent was not available. However plantation over an area under statutory barrier zone of 50m from the road passing from the area was available. Plantation done near mine office have good health as well as in extent.
8g	Survival rate	60%	About 50%	
8h	Water sprinkling on roads to control airborne dust	Proposed	Regular water sprinkling is done by water tanker	Water tanker of 5KL capacity is provided for the purpose

I/15746/2023

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in and around mine area improved upto certain extent after carrying out plantation near mine office. Further improvement is required and accordingly substantial plantation proposals have incorporated in recently approved RMP.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. submitted upto July-23 A.R. submitted upto- 2022-23	Monthly as well as Annual Returns found submitted.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given	Shri Jawahar lal Saraf, Mining Engineer & Shri Vidya Sagar Sahu, Geologist appointed as per the provisions of Rule 55 of MCDR,2017	Both, Mining Engineer and Geologist were present on the date of inspection.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given	Pits-2.621Ha Reclaimed/Rehabilitated-0.294Ha Infrastructure-0.186Ha	
9d	Scrutiny of Annual return on afforestation	Given	150 saplings 60% survival rate	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Not Given	No mineral rejects generated during the year	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given	ROM stock-Nil Despatch-SMS grade 120357.85 MT Stock Graded ore SMS grade 1554.93tonne	

I/15746/2023

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given	Ex Mine Price Rs.289/27 Sale value Rs. 281/55 Cost of production Rs. 252/61	There is a little difference in Ex mine price and Sale value
9h	Scrutiny of Annual return on fixed assets	Given	Rs. 5766866/-	-
9k	Scrutiny of Annual return on mining machineries	Given	Excavator,0.9cum, 1 no TATA Dumper , 16 T 2No. Tractor mounted Air Compressor Jack Hammer/wagon drill with Drill rods Mahindra Tractor with Water Tank on trolley Water pump with Diesel engine	Difficiencies observed in AR have been pointed out through violation of rule 45(7) of MCDR,2017 vide letter dated 04/08/2023

I/15746/2023

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17 Rule 11(1)	04-AUG-23				
MCDR17 Rule 12(4)	04-AUG-23				
Rule 45(7)	04-AUG-23				

Date :**(RAGHUBIR SHARAN GARG)**

Indian Bureau of Mines