

MCDR INSPECTION REPORT(for the proposed year 2020-21)

1.0 GENERAL

SN	Particulars	Details
1	Name of inspecting office & designation	Shri R.K.Das,Sr.Asstt. Mine Controllar, Indian Bureau of Mines, Raipur
2	Date of inspection	01.12.2021
3	Name of the Mine	Nandini Mine (Limestone)
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	526.34 Hact. Total Non forest land
5	Mine Code	38MPR13003
6	IBM Registration Number under rule 45 of MCDR, 1988	IBM/5662/2011
7	Name of the lessee, Address, phone, email and fax number	Steel Authority of India Limited (SAIL) Bhilai Steel Plant Corporate office –IspatBhavan, Lodhi Road, New- Delhi 011-24367015,sailco@vsnl.com
8	Village	Deorjhal, Ahiwara,Pithora,Nandini-Kundini
8	Taluka/Mandal/District	Dhamdha District Durg
10	State	Chhattisgarh
11	Post office & PIN	Nandini Nager 490036
12	Nearest police station	Nandini police thana
13	Nearest Railway station	Power House, Bhilai
14	Date of Grant of Mining Lease	12.01.2005
15	Date of Execution	28.06.2005
16	Date of opening of Mine	15.06.1958
17	Date of first Renewal, if applicable ,its period & expiry	(1) 174.45 Ha. 01.01.59 to 31.12.78, 20 Years (2) 446.00 Ha. 31.03.67 to 30.03.87, 20 Years
18	Date of second Renewal, if applicable and its period & expiry	526.34 Ha. (Both the Mining leases was Amalgamated) 2 nd Renewal 31.03.1997 to 30.03.2017, 20 Years. Supplementary lease extension upto 31.12.2028.
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	N.A.
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Anirben Das Gupta, Director Incharge-BSP Steel Authority of India Limited (SAIL) Phone no-07882200999, Dt of Appointment 30.09.2020
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri P.EKKA, General Manager Cum Agent Nandini Mine (Limestone), Bhilai Steel Plant Appointment 26.07.2021, Mobile No. 9407983594 e-mail : pekka@sail.in , Working Experience : 28 years
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Pankaj Kumar, DGM Cum Mine Manager, Mobile No. 9407982945, e-mail : pankajkumar1@sail.in Fax No. 07821-257224, Appointment 30.10.2017. Working Experience : 15 years

23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Alankar Bhivgade, Asst. Mine Manager, Mobile No. 9407981054, e-mail : alankarbhivgade@sail.in Fax No. 07821-257233, Appointment 14.08.2021 Working Experience : 14 years
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4	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55& carrying out their duties as per rule 56&57.	Shri Ramesh Kumar Rathore, Geologist, Mobile No. 9407984102, Fax No. 07821-257233 Appointment 01.02.2021. Working Experience : 28 years
2	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	26.12.2016 Modifications in Mining Plan For 2017-18 to 2021-22
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	N.A.
27	Mineral(s) granted in lease and proved for mining	LIMESTONE
28	Method of Mining(Open cast, Underground)	OPENCAST
29	Category (Fully Mechanised, Others or Manual)	Fully Mechanised
30	Captive/Non Captive	Captive

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 Exploration

SN	Item	Proposals (2020-21)	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	The lease area already explored with 878 nos of drill holes
1b	Exploration over lease area for Geological axis 1 or 2.	Under G1	Under G1	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	NA	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserves as on 01.04.2021	Under (111): Million Tonnes 44.49 Under (211): Million Tonnes 53.98	Under (111): Million Tonnes 47.09 Under (211): Million Tonnes 53.76	Grid spacing 75m-110m Total 27457 meterage drilling reported
1f	General remarks of inspecting officer on geology, exploration etc.	As per the exploration status the lease area broadly explored in G1. The general strike of the ore body reported east-west and deposit is almost flat deposit.		

2.0 Development

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area (Range in UTM/Local Coordinate/Plot No./Location)	BFQ (SW) 541989 E TO 541589E 2362849N TO 2362967N BFQ (NW) 541942E TO 541608E	BFQ (SW) 541759E TO 541916E 2362889 N TO 2362866 N &	Deviation observed in location of Development and accordingly

	21-22	2363778N TO 2363480 N BSQ (N-E) 542654 E TO 542628 E 2364082N TO 2363819N	BSQ (N-E) 542632 E TO 542638 E 2364060 N TO 2363872N	violation pointed out.
2b	Separate benches in topsoil, overburden and mineral (Rule 13)	Yes	Maintained. Top soil is not being encountered.	The mining is being done in 5 benches in which 4 benches of Limestone and one bench of Overburden. The overburden bench height ranges from 3m to 7 m
2c	Stripping ratio or ore to OB ratio	1:0.20	1:0.65	As the ore production is on very lower side stripping ration increases.
2d	Quantity of topsoil generation in m3	NA	Top soil is not being encountered	The working is proposed within broken-up area.
2e	Quantity of overburden generation in m3	204680 T	176552T	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The development reported on lower side against the proposal given and proposal has been given in three faces but actual work is done in two faces with deviation in actual working.		

3.0 Exploitation 2020-2021

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	3	2	
3b	Quantity of ROM mineral production proposed	1004956T	282138 T	Actual production is on very low side and it is only 28% of the proposal. The Violation has been pointed out.
3c	Recovery of salable/usable mineral from ROM production	80 %	75.39 %	
3d	Quantity of mineral reject generation	200991 T	69418 T	Due to less production mineral reject general also very low w.r.t. proposal and it is 34% of proposal.
3e	Grade of mineral reject generation and threshold value declared	Not mentioned	CaO-32.44% MgO-8.33% SiO2-9.62%	
3f	Quantity of sub-grade mineral generation	NIL	NIL	
3g	Grade of sub-grade mineral generation	NA	NA	

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NA	NA	
3j	Provision of drilling & blasting in mineral benches	IDM-30 (150 mm) ICM-260 (100mm)	IDM-30 (150 mm) ICM-260 (100mm)	
3k	Provision of mining machineries in mineral benches	Excavator, Dozer, Drill, Dumper	Excavator, Dozer, Drill, Dumper	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	YES	YES	
3m	Total area covered under excavation/pits	146.85 ha.	138.32 ha.	Less excavation
3n	Ore to OB ratio for the pit/mine during the year	1:0.20	1:0.65	
3o	Total area put in use under different heads at the end of year (Ha.)	Pit- 146.85 Waste dump-64.92 Reject- Nil	Pit- 138.32 ha. Waste dump-	
3p	Production of ROM mineral during last five-year period, as applicable (Tonnes)	Yr-16-17: 280438 Yr-17-18:1002288 Yr-18-19:1006391 Yr-19-20:1006666 Yr-20-21:1004956	Yr-16-17: 260425 Yr-17-18: 396278 Yr-18-19:402660 Yr-19-20-:308245 Yr*20-21:282139	
3q	General remarks of inspecting officer on method of mining etc.	The method of mining is broadly as per the proposed method using excavator-Dumper combination through open cast working using deep hole drilling blasting. The production is on lower side w.r.t. proposal given in 2020-21.		

4.0 Solid Waste Management-Dumping

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37)	Top soil : NIL OB : yes M/Reject : yes	Top soil : NIL OB : yes M/Reject : yes	
4b	Location of topsoil, OB & mineral reject dumps (Range in UTM/Local Coordinate/Plot No./Location)	OB Dump :N2363800- N2364000 & E542200-E541900 Reject Dump Eastern side of BFQ	Broadly dumping is done within proposed area.	Two active dump in non-mineralised area proposed in which on dump for OB North side of BFQ & send dump for Reject Eastern side of BFQ parallel to haulage road.
4c	Number of dumps within lease area and outside lease	With in ML OB : 01	With in ML OB : 01	

	area	M/Reject :1	M/Reject :1	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 14)	With in UPL	With in UPL	As mentioned in point no 4b
4e	Number of active & alive dumps	OB : 01 M/Reject :1	OB : 01 M/Reject :1	
4f	Number of dead dumps	Dead Dump 11	Dead Dump 11	
4g	Number of dumps stabilised	09	09	
4h	Whether Retaining wall or garland drain all along dumps are there		Yes	
4i	Length of Retaining wall or garland drain all along dump	Not mentioned specifically	Garland drain 250 mtrs.	
4j	Number of settling ponds	NA	NA	
4k	Specific comments of inspecting officer on waste dump management	The dump management is broadly as per proposal given.		

5.0 Solid Waste Management-Backfilling

SN	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	NA	NA	
5b	Area under backfilling of mined out area	NA	NA	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	NA	NA	
5d	Total area fully reclaimed & rehabilitated	NIL	NIL	CUM-56.16 Ha
5e	General remarks of inspecting officer on backfilling, reclamation etc	The area not matured for backfilling.		

6.0 Progressive Mine Closure Plan

SN	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23. Details should be given in the format as given in Annexure-20.	Submission dt before 01.07.2021	Yes Dt 30.06.2021	
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch &	NIL	NIL	

	care during the year			
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means	N.A.	N.A.	No backfilling was proposed neither done
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	2.25 Ha(5625 trees) Nil NA	0.01 Ha (100)trees Nil NA	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	As per Statute	As per Statute	
6f	General remarks of inspecting officer on PMCP compliance & progressive	The plantation not done as per the proposal and for same clarification asked through violation letter.		

7.0 Mineral Conservation

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	1004956 T ROM	208969 TONNES DISPATCHED	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines	Single Grade S. P. Grade	Single Grade S.P. Grade	Sintering plant grade(12m m-75mm,Sio2 6%)
7d	Any beneficiation process at mines	No	No	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The mine is captive mine for Bhilai Steel plant of M/S SAIL and for captive used all the material/Limestone is not used and only selective mining is done to cater steel plant and low grade Limestone is left.		

8.0 Environment

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 36)	NA	NA	
8b	Concurrent use or storage of topsoil	NIL	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37)	Yes	Yes	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NA	NA	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NA	NA	
8f	Baseline information on existence of plantation & additional plantation done (Rule 44)	2.25 Ha	4.54 Ha	
8g	Survival rate	90%	90 %	
8h	Water sprinkling on roads to control airborne dust	Proposal given	Reported doing.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	The lessee is taking care of all environmental preventive measures as per statute i.e Air, Water, Noise, ground vibration monitoring. The dust suppression through water sprinkling is done on regular basis as reported. There is no adverse impact observed during mine visit on aesthetic beauty in and around mines area. The afforestation proposal not carried out therefore violation pointed out.		

9.0 Compliance of Rule 45

S.N	Item	COMMENTS	Remarks
.	Status of submission of Monthly and Annual returns	M.R. Submitted upto– 31.10.2021 A.R. submitted upto- 2020-21	M.R.submitted up to Oct-2021

S. N.	Item	Details GIVEN in A.R.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Pankaj Kumar, Manager, Shri Pramod Kumar, Mining Engineer, Shri Ramesh Kumar Rathod		During mine inspection Mining Engineer, Manager & Geologist are present
9c	Scrutiny of Annual return on land use pattern for area	139.30 ha. under O/C working, 56.16 ha reclaimed	Broadly the information is as per actual and the area	

	under pits, reclaimed area, dumps etc.	area,96.43 ha. area used for waste disposal, Infrastructure & Roads 21.41 ha.	shown under waste disposal in which some area already reclaimed as mentioned.	
9d	Scrutiny of Annual return on afforestation	100 nos plantation reported	Not as per proposal.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	69418 tons of grade Cao% 32.44 ,MgO% 8.33 & SiO2% 9.62		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM 4648 tons/ BF grade 57114 tons		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex. Mine price & production cost 1110.93 Rs & 974.82 Rs	Sale price nil as the mine is captive mine and Ex-mine price and cost of production is mentioned different for that clarification asked.	
9i	Scrutiny of Annual return on fixed assets	Rs 120584197/-		
9k	Scrutiny of Annual return on mining machineries	Yes given		
Name of Equipment		Capacity	No. Of Machines	
Excavators/Shovels		4.50 cum M	3	
Dumpers		50 & 60 T	3 & 3	
Drill		150 mm dia	1	
Drill		100 mm dia	1	
Dozer		420 HP	2	
Locomotive		1400 HP	2	
Motor Grader		197 HP	1	
Water sprinkler		28000 L	1	

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:- The current inspection is carried out for processing of Review of Mining Plan and during current inspection Rule 11(1) & 45(5)© of MCDR,2017 found violated.

Date of Last Inspection, Name and Designation of the Inspecting Officer: The earlier violations pointed out broadly complied.

(Shri Rajesh Kumar Das , Sr.Asstt.Controllar, IBM Raipur, Date-01.12.2021)