

MCDR INSPECTION REPORT

1.0 GENERAL

SN	Particulars	Details
1	Name of inspecting office, designation, Accompanying office & File no.	Shri R.K.Das, Sr. Asstt. Controllar, Indian Bureau of Mines, Raipur, Shri Pankaj Kumar & CHG/DRG/LST-3/NGP vol-II
2	Date of inspection	22.08.2019.
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 – Ispat Bhavan, 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 Vivek Gupta Director (RM&L) Steel Authority of India Limited (SAIL) New Delhi 110003 Appointment 27.03.2019
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri V.B.Singh Agent Cum Dy. General Manager I/c Nandini Mine (Limestone) Bhilai Steel Plant Appointment 28.03.2019 Working Experience : 30 years
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Pankaj Kumar Mine Manager, Mobile No. 9407982945 e-mail : pankajkumar@sail-bhilaisteel.com , Fax No. 07821-257224 Appointment 30.10.2017. Working Experience : 20 years

23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Pramod Kumar Asst. Mine Manager, Mobile No. 9407981275 e-mail : pramodkumar4@sail-bhilaisteel.com Fax No. 07821-257233 Appointment 16.12.2012 Working Experience : 12 years
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55& carrying out their duties as per rule 56&57.	Shri Manish Dubey Geologist, Mobile No. 9407984113 Fax No. 07821-257233 Appointment 01.07.2008. Working Experience : 10 years
25	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(Opencast, 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	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	Sufficient Exploration done.
1b	Exploration over lease area for Geological axis 1 or 2.	Under G1	Under G1	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	NA	NA	
1e	Balance reserves as on 01.04.2019.	Under (111): Million Tonnes Under (211): Million Tonnes	Under (111): Million Tonnes Under (211): Million Tonnes	47.67 53.76
1f	General remarks of inspecting officer on geology, exploration etc.	The area broadly covered in G1 exploration scale. The mineralised bed are horizontal to sub-horizontal and maximum depth is 10 degree towards north. joints are mostly found in third bench.		

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 (NSW) & BSQ (N-E) 541828(E) 2362919N 541508E 2363008N	BFQ (NSW) & BSQ (N-E) 541800E 2362950 N 541650 E 2362990 N	
2b	Separate benches in topsoil, overburden and mineral (Rule 13)	Yes	Maintained. Top soil is not being encountered.	
2c	Stripping ratio or ore to OB ratio	1:0.20	1:0.37	
2d	Quantity of topsoil generation in m ³	NA	Top soil is not being encountered	
2e	Quantity of overburden generation in m ³	201347 T	150030 T	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The development is broadly within proposed area and lesser than proposal.		

3.0 Exploitation 2018-19

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	2	2	
3b	Quantity of ROM mineral production proposed	1006391T	402660 T	
3c	Recovery of salable/usable mineral from ROM production	80 %	80.18%	
3d	Quantity of mineral reject generation	201276 T	79827 T	
3e	Grade of mineral reject generation and threshold value declared		CaO-34.80 % MgO-6.50% SiO ₂ -9.20%	
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	138.1	138.1	
3n	Ore to OB ratio for the pit/mine during the year	1:0.20	1:0.37	
3o	Total area put in use under different heads at the end of year	Pit- 6 hact. Waste dump-0.77h Reject- Nil	Pit- 6 hact. Waste dump-0.55h	
3p	Production of ROM mineral during last five-year period, as applicable	Yr-14-15: 285688 Metric Tonnes Yr-15-16: 285687 Metric Tonnes Yr-16-17: 280438 Metric Tonnes Yr-17- 18:1002288Metric Tonnes Yr-18- 19:1006391Metric Tonnes	Yr-14-15 :457680 Metric Tonnes Yr-15-18: 366943 Metric Tonnes Yr-16-17: 260425 Metric Tonnes Yr-17-18: 396278 Metric Tonnes Yr-18-19:402660 Metric Tonnes	
3q	General remarks of inspecting officer on method of mining etc.	The method of mining is opencast by using HEMM and deep hole drilling and blasting.		

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)	Top soil : NIL OB : 201349 M/Reject : 201276	Top soil : NIL OB : 150030 M/Reject 79827	
4c	Number of dumps within lease area and outside lease area	With in ML OB : 02 M/Reject :2	With in ML OB : 02 M/Reject :2	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 14)	With in UPL	With in UPL	
4e	Number of active & alive dumps	OB : 02 M/Reject :2	OB : 02 M/Reject :2	
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		Retaining walls have been made and some under construction.	
4i	Length of Retaining wall or garland drain all along dump		Garland drain 200 mtrs.	
4j	Number of settling ponds	NA	NA	

4k	Specific comments of inspecting officer on waste dump management	The waste dump management is not proper and as the mine is old mine many dump of waste and reject exist. The violation issued to rectify.
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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	56.16 Ha	56.16 Ha	Till date
5e	General remarks of inspecting officer on backfilling, reclamation etc	Broadly as per proposal but due to less production area is less		

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 30.06.2019	Yes Dt 22.06.2019	
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 & care during the year	NA	NA	
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	N.A.	N.A.	

	backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means			
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	2.50 Ha(6250 trees) Nil NA	2.28 Ha(5500 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	Broadly as per proposal		

7.0 Mineral Conservation

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	1006391 T	402660 T	
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	
7d	Any beneficiation process at mines	No	No	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The low grade ore and mineral reject dump is stack separately.		

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			
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)	2.5Ha	2.28Ha	
8g	Survival rate	90%	90%	
8h	Water sprinkling on roads to control airborne dust	Regular	Regular	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	The scale of mining activity is not on large scale and protective measures as per proposal taken. Green belt developed near lease area (within and outside) and enhanced aesthetic beauty in and around mine.		

9.0 Compliance of Rule 45

S.N	Item	COMMENTS	Remarks
.	Status of submission of Monthly and Annual returns	M.R. Submitted upto- July-2019 A.R. submitted upto-2018-19	

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	Yes given	Shri Pankaj Kumar ,Mine Manager, Shri Pramod Kumar, Mining Engineer, Shri Manish Dubey, Geologist	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes given	Under o/c working- 138.10 ha., Reclaimed rehabilitated, used for waste disposal 96.33 ha. infrastructure-21.41 ha. and other 119.15 ha.	Area given for land use is not correct,
9d	Scrutiny of Annual return on afforestation	Within lease area 5000 nos saplings		
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	79827 tons, CaO- 34.20, MgO-6.40, SiO2- 9.60		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	23167 tons ROM stock		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production	Ex. Mine price & production cost is 731.46		

	cost			
9i	Scrutiny of Annual return on fixed assets	Rs122782485/-		
9k	Scrutiny of Annual return on mining machineries	Not given only mentioned about dozer		

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:-

Date of Last Inspection, Name and Designation of the Inspecting Officer:

07.12.2018. ShriR.N.Mishra Sr. Mining Geologist. IBM Raipur and earlier violation complied.

Details of the Violations Pointed-out during Inspections:

Rule	Nature of Violation observed
11(1)	Mining operations should have been undertaken in accordance with the approved Modified Mining Plan. The Modified Mining Plan was approved vide letter no. दुर्ग/ चूप /खयो-1058/2016-रायपुर dated 26.12.2016 and following deviation were observed during inspection 1. During the mine visit it was observed that waste dumping is not as per proposal and dumping has been dumped in many places. The waste dump is having length of 300-400m without any protective measures and the same is mixed with top soil and screen reject dump. 2. It was observed that faces are not developed as per the proposal and some places overhang and big boulders are hanging and stack near faces.
Rule 37(1)	Every holder of a mining lease shall take steps so that the overburden, waste rock, rejects and fines generated mining operations or tailings, slimes and fines produced during sizing, sorting and beneficiation or metallurgical operations shall be stored in separate dumps. But during the mine visit was observed that limestone is dump in OB dump.
37(2)	The dumps shall be properly secured to prevent escape of material there from in harmful quantities which may cause degradation of environment and to prevent causation of floods. It was observed that there is no proper terracing and both the dump is near to lease boundary but still no proper retaining wall is constructed nor any control measures for dump stability.
45(5)(b)	While scrutiny of monthly return of april'19, may'19 & june'19 it was observed that sale value is given Rs 852,896.86 & 886.04. The mine is captive mine than how the sale value furnished.
45(5)(c)(i)	While scrutiny of Annual returns 2018-19 it was observed that The land use pattern is wrongly mentioned and not matching with ground condition and details of machineries not given.

(Rajesh Kumar Das, Senior Assistant Controller of Mines)