

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPMENT AND REGULATION DIVISION**

**MCDR inspection REPORT  
Jabalpur regional office**

**Mine file No :** MP/STN/LST-27

**Mine code :** 38MPR35288

- (i) Name of the Inspecting : **G005** ) **SANJAY M. GIRHE**  
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine :  
Official with  
Designation
- (iv) Date of Inspection : 19-NOV-19
- (v) Prev.inspection date : 10-AUG-17

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **ISPAT NO 2 (1033.99 HA)**
- (b) **Registration NO.** :
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address  
State : MADHYA PRADESH  
District : SATNA  
Village : RAMASTHAN  
Taluka : RAGHURAJNAGAR  
Post office : BABUPUR  
Pin Code : 485112  
FAX No. : N. A.  
E-mail : N. A.  
Phone : N. A.
- (f) Police Station :
- (g) First opening date :
- (h) Weekly day of rest : SUN
2. Address for : STEEL AUTHORITY OF INDIA LTD.  
correspondance
3. (a) Lease Number : MPR0467  
(b) Lease area : 1033.94  
(c) Period of lease : 20  
(d) Date of Expiry : 03-JAN-87
4. Mineral worked : LIMESTONE Main

## 5. Name and Address of the

Lessee : Steel authority of India Ltd.  
G. OJHA, DIR(PER & I/C RMD)  
LODHI RD, ISPAT BHAWAN  
NEWDELHI-110003 KATNI  
MADHYA PRADESH  
Phone:07626-273211  
FAX :07626-273201

Owner : STEEL AUTHORITY OF INDIA LTD.  
Raw Meterial Div. Bokaro  
Zone, Bokaro Steel City  
BOKARO JHARKHAND  
Phone: N. A.  
FAX : N. A.

6. Date of approval of Mining	:	Modif.of approved Mining Plan	26-MAR-09
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	29-JUN-11

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No backlog of previous year 2017-18	None	As per the approved Review of Mining for period 2016-17 to 2020-21, exploration were proposed in only 2019-20 & 2020-21 years
1b	Exploration over lease area for geological axis 1 or 2	During the year 2018-19 no exploration was proposed	None, but during the year 2019-20 & 2020-21, exploration was by means of core drilling at 200m x200m grid patter with avg. depth of 30m depth of each boreholes	Exploration was proposed over the lease area for establishing geological axis G1
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal of exploration during the year 2018-19	None, exploration expenditure details in approved Review of Mining Plan is not furnished.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	During the year 2018-19 no exploration were proposed. But, as approved ROMP exploration were proposed in 2019-20 & 2020-21 by 151 boreholes at 200x200m grid patter covering total cummulative meterage of 4530mts	During the year 2018-19 no exploration were proposed. The details of area covered under G1 exploration, G2 exploration & G3 exploration is not furnished in approved ROMP.	In past extensive exploration have been carried out by SAIL in order to bring geological axis G1 & G2

1e	Balance reserve as on 01/04/20	Opening Reserves & Resources as approved ROMP as 01.04.2016 (In Million Tonnes) Proved (111) -59.026 Probable (121) - Nil Resources: Prefeasibilit y (221) : 53.96 Measured (331) : 1.446 Inferred (333) : 21.52	Opening Reserves & Resources as approved ROMP as 01.04.2016 (In Million Tonnes) Proved (111) -57.00 Probable (121) - Nil Resources: Prefeasibility (222) : 54.00 Measured (331) : 1.446 Inferred (333) : 21.52	Actual Reserves position given as above as per the Annual Return submitted by the lessee for the year 2018-19.
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1f	General remarks of inspecting officers on geology, exploration etc		As per the approved ROMP details, lessee had carried out extensive exploration in the past in phase wise manner to convert G2 & G3 reserves/resources into G1 level of exploration. Hence, during the inspection, lessee was instructed to mark entire explored areas on relevant plans/sections & also furnish the same in text report also in hecatres.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	During the year 2018-19, development/ex cavation was proposed in between grid co-ordinates from E3100 to E3550 & S1700 to S2100.	Working carried out at proposed locations but deviations were observed and accordingly violation for Rule 11(1) of MCDR,2017 was pointed out & letter indicating this violation was issued to the lessee.	During the year 2018-19, total 23,20,000M.T. of limestone production was proposed against to this only 866816.180 M.T. production of limestone was acheived.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in Top soil of 1.0mts heinght, Separate bench for overburden of height 3.0mts & mineral bench of 5 to 6mts height was proposed	Yes, maintained as per the proposals	Due to uniform comapct zone of limestone in the lease area, heights of benches as proposed are being maintained properly as observed.
2c	Stripping ratio or ore to OB ratio	1: 0.28 during the year 2018-19	Yes, maintained as per the proposals	
2d	Quantity of topsoil generation in m3	During the year total 70000CuM top soil generation was proposed	11231 CuM of top soil generated. Low generation due to less development & production during the year	Top soil in the lease area is of about less than 1mts depth. Top soil removal is proposed by dozing a strip of 1mts.
2e	Quantity of overburden generation in m3	During the year 186000 CuM of top rock overburden generation was proposed	Total 85888.87 CuM of rock overburden generated during the year. Less generation of OB due to less development during the year.	Overburden is in the form of siliceous capping of rock formation which require drilling & blasting for its dislodgement.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	There is only one single working pit having approx dimension of 1150m (Length) x 350m (Width) x 20-22m(height/depth at 290mRL). Violation of Rule 11(1) of MCDR,2017 was pointed out as the mining operations in the mine were not being carried out in accordance with the approved proposals for the year 2018-19.
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#### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	During the year production was proposed by advancing the existng pit & also proposed to develop new pit. Proposed working was between grid co-ordinates E3100 to E3550 & S1700 to S2100.	As per the proposals excavation was carried out in existng pit. But, as per the proposals no new pit has been developed. as per the proposals. Thus, the mining operations in the mine are carried out in accordance with the approved proposals for the year 2018-19. Violation of Rule 11(1) of MCDR,2017 was pointed out for the deviation.	
3b	Quantity of ROM mineral production proposed	23,20,000 Tonnes	866816.18 Tonnes	As reported less production due low requirement of limestone in cement plant
3c	Recovery of sailable/usable mineral from ROM production	Total 85% recovery of saleable/usabl e mineral from ROM production was proposed	Almost 85% recovery acheived after 15% recovery loss	

3d	Quantity of mineral reject generation	Not Proposed	None	No mineral rejection during course of ROM propoduction.
3e	Grade of mineral rejects generation and threshold value declared.	Not Proposed	Nil	No mineral rejection during course of ROM propoduction.
3f	Quantity of sub grade mineral generation.	No Proposals	Nil	No subgrade generation is occured during course of ROM propoduction.
3g	Grade of sub grade mineral generation	Not Proposed	Nil	No subgrade generation is occured during course of ROM propoduction.
3h	Manual / Mechanised method adopted for segregating from ROM	Not Proposed	Entire ROM being mined out is proposed for dispatch to the cement plant with some marginal handling loss.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Nil	Entire ROM being mined out is proposed for dispatch to the cement plant with some marginal handling loss. No benification study proposed or carried out.
3j	Provision of drilling and blasting in mineral benches	Deep hole drilling & multi row blasting,use ofmilli-second/relay detonation was proposed	Deep hole drilling & multi row blasting,use ofmilli-second/relay detonation was carried out as proposed.	Limestone in the lease area is hard & compact in nature which required deep hole drilling & blasting for defragmentation.
3k	Provision of mining machineries in mineral benches	Excavators, pc-450,400,300 Dumper, DTH Drills Dozer, Loader Rock Broker Water Tanker	Mining operations were carried out by deploying Excavators, pc-450,400,300 Dumper, DTH Drills Dozer, Loader Rock Broker Water Tanker as proposed.	In addition to the above mining machineries, Dozer, Explosive van, water tanker, etc were proposed for anicillary mining activities.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	For OB bench, height of 3.0mts & in rock, height of bench was proposed as 6.0mts	Development & ROM excavation was carried out as per the proposals.	
3m	Total area covered under excavation/pits	Total 70.92 Ha area was proposed to be excavated for working pits as per approved ROMP for period 2016-17 to 2020-21	Total area covered under excavation/pits at the end of year was 40.87 Ha	Deviation in area proposed Vs actual excavated area due to less achievement of production in proposed plan period
3n	Ore to OB ratio for the pit/mine during the year.	1:0.28	1:0.10	Deviation in ratio due to less ROM excavation & less OB generation
3o	Total area put in use under different heads at the end of year	Pit-70.93 Ha. OB dumps-1.15Ha Mine Road - 7.50Ha 1.0Ha Railways-0.45Ha	Pit-40.87 Ha. Reclaimed/Rehabilitated -3.79Ha OB dumps-1.15Ha Infrastructures - 5.50Ha Railways-0.45Ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16 : 15,00,000 Tonne 2016-17 : 2,00,000 Tonne 2017-18 : 23,20,000 Tonne 2018-19 : 23,20,000 Tonne 2019-20 : 23,20,000 Tonne	2015-16 : 599580.21 Tonne 2016-17 : 224762.420 Tonne 2017-18 : 469994.49 Tonne 2018-19 : 866816.18 Tonne 2019-20 : 247559.13 Tonne	



3q	General remarks of inspecting officers on method of mining etc.	Method of mining was proposed by opencast working with formation of benches of regular height & width by deploying excavator & dumper combination.
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#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Overburden generated during course of mining proposed for concurrent backfilling in mined out area	Overburden generated during course of mining used for concurrent backfilling in mined out area	Concurrent use of overburden for backfilling is proposed hence details of OB disposal locations have not addressed in approved ROMP
4b	Location of topsoil, OB and mineral reject dumps	OB disposal for backfilling proposed in grid S-1750 to S1320 & E2800 to E3220	OB disposal/backfilling is carried out as per the proposals with some deviation due to less generation of overburden during the year	
4c	Number of dumps within lease area and outside of lease area	Dumping was proposed within the mining lease area in grid S-1750 to S1320 & E2800 to E3220	Presently, there is only one small dump of OB is existing in the lease area towards North-West part of the lease area.	No OB dumps outside the mining lease area observed during the mine's inspection.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Exisiting & proposed dumping given inside mining lease area only.	Overburden dumps are exisiting within ultimate pit limit	
4e	Number of active and alive dumps.	Not Proposed	Nil	
4f	Number of dead dumps.	Not Proposed	Nil	No dead dumps within mining lease area

4g	Number of dumps established.	Not proposed	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	No Proposals	Nil	
4i	Length of Retaining wall or garland drain all along dumps	Not Proposed	Nil, no retaining wall or garland drain found all along the dumps.	
4j	Number of settling ponds	Not Proposed	Nil	
4k	Specific comments of inspecting officer on waste dump management	Not Proposed		Overburden is mostly consist of siliceous limestone. Concurrent use of this overburden material is proposed for backfilling purpose.

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Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No Proposals	Part extraction of mined out area & back filling accordingly	
5b	Area under backfilling of mined out area	1.398 Ha proposed for backfilling	1.0 Hectares acheived as backfilled	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Concurrent use of top soil proposed for restoration & rehabilitation purposed	Acheived as concurrent use of top soil proposed for restoration & rehabilitation purposed	
5d	Total area fully reclaimed and rehabilitated	1.28 hect	1.0hect	

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5e	General remarks of inspecting officers on backfilling and reclamation etc.	Limited mining lease area has been fully exhausted and limestone still existing in the working pit. Area proposed for reclamation & rehabilitation could not be achieved fully to low limestone production during reporting year.
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Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted before 1st July of every year	Report submitted within time limit in prescribed format.	
6b	Area available for rehabilitation (ha) .	1.28 Ha	1.00 Ha	
6c	afforestation done (ha).	2300 sapling proposed to be planted at different locations	1000 No of saplings planted at different locations	
6d	No. of saplings planted during the year	2300 sapling proposed to be planted at different locations	1000 No of saplings planted at different locations	
6e	Cumulative no .of plants	2300 sapling proposed to be planted at different locations	1000 No of saplings planted at different locations	
6f	Any other method of rehabilitation	Not Proposed	Nil	

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6g	Cost incurred on watch and care during the year	Not Proposed	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( L x B x D	1.28 Ha was proposed	1.00 Ha backfilled
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Not Proposed	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not Proposed	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not Proposed	Nil

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Regular Monitoring was proposed in core & buffer zone	Monitoring carried out as proposed	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Mining operations are not being carried out up to its full strength due to some reasons. PMCP works as proposed were carried out up to some extents. Good plantation done near mine office.

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#### Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within lease area was not proposed	Total ROM despatched 866816.18 Tonnes to the captive cement plant without any grade wise sorting.	Entire ROM being produced from mine, fed to the captive cement plant without any grade wise sorting.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	

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7c	Different grade of mineral sorted out at mines.	Not Proposed	Nil	
7d	Any beneficiation process at mines .	Not Proposed	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Entire ROM limestone being produced from mine, consumed in captive cement plant. There is no need of manual grade wise sorting at site. Mechanical sizing & grading is done through crusher.

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal & utilization of top soil was proposed	Separate removal & utilization of top soil was carried out as per the proposals.	
8b	Concurrent use or storage of topsoil	Concurrent use of top soil was proposed	Concurrent use of top soil was done for the purpose of spreading overe area matured area for recalimation & rehabilitation purpose.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Not Proposed	Nil	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposed for backfilling	Overburden material used for backfilling purpose.	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise reclamation & rehabilitation was proposed	Reclamation & rehabilitation was done as per the proposals	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	NA	NA	
8g	Survival rate	NA	NA	
8h	Water sprinkling on roads to control airborne dust	Regualr Sprinkling on minwe haul road was proposed	Regualr Sprinkling on mine haul road was carried out	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around mines area is not satisfactory as very limited saplings have been planted. Needs more attention on this aspect.

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Returns were submitted up to Oct 2019 Annual Returns submitted up to 2018-2019	Monthly Returns were submitted up to Oct 2019 Annual Returns submitted up to 2018-2019	During the inspection it was advised to Mine representative to submit the AR & MR correctly for correct cost of production & Ex mine price as per the guidelines in future.

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9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Sanjay Singh Baghel, Mining Engineer & Shri Rajesh Tripathi, Geologist were appointed	Mining Engineer appointed as per rule 55 of MCDR,20107 & Geologist were present during MCDR,2017 inspection of mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit-40.87 Ha. Reclaimed/Rehabilitated - 3.79Ha OB dumps- 1.15Ha Infrastructure s - 5.50Ha Railways- 0.45Ha	Pit-40.87 Ha. Reclaimed/Rehabilitated -3.79Ha OB dumps-1.15Ha Infrastructures - 5.50Ha Railways-0.45Ha
9d	Scrutiny of Annual return on afforestation	1000 Plants in lease area & 3500 plants outside ML area with survival rate 80% & 70%	1000 Plants in lease area & 3500 plants outside ML area with survival rate 80% & 70%
9f	Scrutiny of Annual return on ROM stock and/or graded ore	No closing stock reported in annual return	Entire ROM mined out consumed in captive cement plant
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-Mine Price- Rs-243.57/MT reported Sale Value-Not applicable as captive plant	As the mining lease is captive, entire ROM fed to cement plant. Hence, cost of production reported as Rs-243/M.T. become Ex-mine price.
9h	Scrutiny of Annual return on fixed assets	Value of fixed assets of Rs- 26200000 reported	Value of fixed assets of Rs-26200000 reported



9k	Scrutiny of Annual return on mining machineries	Backhoe 3.1 CuM, Backhoe 1.4 CuM, Backhoe 0.9 CuM, Dumper-25 Tonnes, Excavators, pc-450,400,300 Dumper, DTH Drills Dozer, Loader Rock Broker Water Tanker	Backhoe 3.1 CuM, Backhoe 1.4 CuM, Backhoe 0.9 CuM, Dumper-25 Tonnes, Excavators, pc- 450,400,300 Dumper, DTH Drills Dozer, Loader Rock Broker Water Tanker
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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	19-DEC-19	MCDR17	Rule 11(1)	19-DEC-19
MCDR17	Rule 31(4)	19-DEC-19	MCDR17	Rule 31(4)	19-DEC-19
MCDR17	Rule 45(1)	19-DEC-19	MCDR17	Rule 45(1)	19-DEC-19
MCDR17	Rule 54(a)	19-DEC-19	MCDR17	Rule 54(a)	19-DEC-19

**Date :**

**(SANJAY M. GIRHE)**

Indian Bureau of Mines