

MCDR INSPECTION REPORT

General

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection: Name of Inspecting Officer	KACHCHE ARIDONGRI IRON ORES MINES 05.02.2021 Rajesh Kumar Das, Sr. ACOM, IBM, Raipur
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	138.96 Ha (Forest = 127.40 Ha, Non Forest = 11.56 Ha)
3	Mine code	30CHG08008
4	IBM Registration Number under rule 45 of MCDR,1988	IBM/4243/2011
5	Name of the Lease, Address, Phone, email and fax number	KACHCHE ARIDONGRI IRON ORES MINES VILLAGE: KACHCHE, TALUKA: BHANUPRATAPPUR, DISTRICT: KANKER STATE: CHHATTISGARH FAX : 0771-4082709, 4082765 Email id vinod.pillai@hiragroup.com
6	Village	Kachche
7	Taluka/Mandal	Bhanupratappur
8	District	Uttar Baster, Kanker
9	Pincode	494635
10	State	Chhattisgarh
11	Post Office	Kachche
12	Nearest Police Station	Kachche
13	Nearest Railway Station	Gudum
14	Date of Grant of Mining Lease	30.09.2008
15	Date of Execution	03.09.2015(Amalgamated Lease)
16	Date of opening of Mine	16.01.2009
17	Date of First Renewal, if applicable and its period & expiry	NA
18	Date of Second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Mr Vinod Pillai B-7 Sahni Vihar, Raipur Phone -0771-4082706, fax – 0771-4057601 Email id vinod.pillai@hiragroup.com Appointment date 28.07.2009
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Mr Ganga Ram Verma H.NO. – 168, Capital City Phase 1 Saddu Raipur Phone No 07714082765/7004502568 Email id gangaram.verma@hiragroup.com Date of Appointment : 11.09.2019

S.N.	Particulars	Details
22	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Mr J B Singh Kachche Aridongri Iron Ore Mine Village- Kachche, Tehsil- Bhanupratappur, Dist. Kanker (C.G.),jbsingh1145@yahoo.com Mobile No 9685090986 Date of Appointment : 08/09/15
23	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Mr Shailendra Suryavanshi Kachche Aridongri Iron Ore Mine Village- Kachche, Tehsil- Bhanupratappur, Dist. Kanker (C.G.) Mobile No 9685090602,sksuryavanshi75@gmail.com Date of Appointment : 08/09/15
24	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Mr Ghanshya Namdeo (Geologist) Mr Shailendra Suryavanshi (Mining Engineer) Yes they are carrying out their duties as per rule 43 & 44
25	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	Review of Mining Pan Plan Period 2020-21 to 2024-25 No specific Conditions have been mentioned
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	09.01.2020
27	Mineral(s) granted in lease and approved for Mining	Iron ore
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Fully mechanized
30	Captive/Non-Captive	Captive

Exploration

S.N.	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year	15	16	
1b	Exploration over lease area for Geological axis 1 or 2.	74	88	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	-	<ul style="list-style-type: none"> •M/s Kartikay Exploration & Mining Services (P) Limited •M/s MAPP Drilling & Exploration Pvt. Limited 	
1d	Balance area to be explored to bring Geological axis in 1 or 2.	-	18.46Ha	
1e	Balance reserves as on 01.04.2020	11.603 Mt	34.039 Mt (Incl. 8.832 Mt of BMQ Reserve/resources)	Increase in reserve is mainly due to increase in no. of

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				boreholes & change in threshold value of Magnetite.
1f	General remarks of Inspecting officer on geology, exploration etc.	Iron ore in the area is overlain by hard massive ferruginous quartzite. The strike of ore body NE-SW with dip varying from 80°-85° towards west. Broadly the mineralize area off approximate 99.22 ha. already explored in G1 & G2 and balanced 39.74 ha. future exploration proposal given.		

Development

S.N.	Item	Proposals	Actual Work	Remarks
2a	Location of Development w.r.t. lease area	From 506700E to 507000 E & 2256300N to 2257300N	Broadly as per proposal	
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Yes	Yes	
2c	Stripping ratio or ore to OB ratio	1:3	1:4.57	
2d	Quantity of topsoil generation in m ³	Nil	Nil	
2e	Quantity of overburden generation in Tonnes	1610424	6165133.77	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	The OB generation is more w.r.t the proposal but it is updated in Review of Mining Plan approved in 09/01/2020 with the proposal from 2020-21 to 2024-25.		

Exploitation

S.N.	Item	Proposals	Actual Work	Remarks
3a	Number of pits proposed for production	1	1	
3b	Quantity of ROM mineral production proposed (2019-20)	1399900	1347258.84	
3c	Recovery of Salable/usable mineral from ROM production	Not mentioned specifically	80%	
3d	Quantity of mineral reject generation	Nil	Nil	
3e	Grade of mineral reject generation and threshold value declared	NA	NA	
3f	Quantity of sub-grade mineral generation	Nil	Nil	
3g	Grade of sub-grade mineral generation	Nil	Nil	
3h	Manual/Mechanized method adopted for segregation from ROM	Nil	Nil	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Nil	Ore characterization study and pilot scale beneficiation test of Banded Magnetite Quartzite (BMQ) is under progress at CSIR IMMT Lab,	

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.			Bhubaneswar																																											
3j	Provision of drilling & blasting in mineral benches	Deep hole drilling by 110 mm dia Drill at 2.7 m burden & 2.8 m spacing, 83 mm cartridge slurry explosives for blasting	Deep hole drilling by 115 mm dia Drill at 1.5 to 2.0 m burden & 2 to 2.5 m spacing, 83 mm cartridge slurry explosives for blasting For 150 mm drill, burden is 2.5-3 m & Spacing is 3-3.5 m, 125 mm dia cartridge slurry explosive is being used																																											
3k	Provision of mining machineries in mineral benches	Excavators : 1.0 – 1.8 cu. M Tippers : 20t/25 T Drill : 110 mm Dozer, Grader, Water Tankers	Excavators : 1.8 – 3.5 cu. M Tippers : 25t/31t Drill : 115 mm/150 mm Dozer, Grader, Water Tankers, Rock breakers, wheel loaders etc.																																											
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	29.108 Ha	33.399 Ha																																											
3n	Ore to OB ratio for the pit/mine during the year	1:3.2	1:4.57																																											
3o	Total area put in use under different heads at the end of year	<table border="1"> <thead> <tr> <th>Type of land use</th> <th>Area Put into Use as per Approved Plan</th> <th>Existing Area put into use as on 31.03.2020</th> </tr> </thead> <tbody> <tr> <td>Area of excavation</td> <td>29.108</td> <td>33.399</td> </tr> <tr> <td>Storage for top-soil</td> <td>-</td> <td>-</td> </tr> <tr> <td>Overburden dump</td> <td>14.808</td> <td>43.819</td> </tr> <tr> <td>Mineral storage</td> <td>0.8</td> <td>3.641</td> </tr> <tr> <td>Infrastructure (Office, Rest shelter & pumping station)</td> <td>1</td> <td>0.721</td> </tr> <tr> <td>Roads</td> <td>9.804</td> <td>10.331</td> </tr> <tr> <td>Railways</td> <td>-</td> <td>-</td> </tr> <tr> <td>Tailing pond</td> <td></td> <td>-</td> </tr> <tr> <td>Effluent treatment plant</td> <td></td> <td>-</td> </tr> <tr> <td>Mineral separation plant</td> <td></td> <td>0.88</td> </tr> <tr> <td>Township area</td> <td></td> <td>-</td> </tr> <tr> <td>Sub-grade storage</td> <td></td> <td>-</td> </tr> <tr> <td>Sub Total</td> <td>55.52</td> <td>92.791</td> </tr> </tbody> </table>			Type of land use	Area Put into Use as per Approved Plan	Existing Area put into use as on 31.03.2020	Area of excavation	29.108	33.399	Storage for top-soil	-	-	Overburden dump	14.808	43.819	Mineral storage	0.8	3.641	Infrastructure (Office, Rest shelter & pumping station)	1	0.721	Roads	9.804	10.331	Railways	-	-	Tailing pond		-	Effluent treatment plant		-	Mineral separation plant		0.88	Township area		-	Sub-grade storage		-	Sub Total	55.52	92.791
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		Undisturbed Area (incl. safety zone)	83.44	46.169																				
		Total Lease Area	138.96	138.96																				
3p	Production of ROM mineral during last five-years period, as Applicable	<table border="1"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">ROM Production, Tonnes</th> </tr> <tr> <th>Proposal</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>968750</td> <td>420069.9</td> </tr> <tr> <td>2016-17</td> <td>1147385</td> <td>985178.4</td> </tr> <tr> <td>2017-18</td> <td>1343575</td> <td>1207018</td> </tr> <tr> <td>2018-19</td> <td>1399890</td> <td>1182025</td> </tr> <tr> <td>2019-20</td> <td>1399900</td> <td>1347258.84</td> </tr> </tbody> </table>			Year	ROM Production, Tonnes		Proposal	Actual	2015-16	968750	420069.9	2016-17	1147385	985178.4	2017-18	1343575	1207018	2018-19	1399890	1182025	2019-20	1399900	1347258.84
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3q	General remarks of inspecting officer on method of mining etc	Benches have been systematically developed. Deposit is peculiar with steep gradient leading to difficulty in ore production due to high stripping ratio and same has been updated in Review of Mining Plan approved in 09/01/2020 with the proposal from 2020-21 to 2024-25																						

Solid Waste Management-Dumping

S.N.	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32,33)	Yes	Separate dumps for OB, Subgrade mineral and fines have been maintained. Top soil generation is nil.	OB, Low grade materials, etc. are being stacked separately
4b	Location of topsoil, OB & mineral reject dumps	Yes	Separate dumps for OB, Subgrade mineral and fines have been maintained. Top soil generation is nil.	OB, Low grade materials, etc. are being stacked separately
4c	Number of Dumps within lease area and outside lease area	4 (Within Lease)	3 (Within Lease)	No waste dumping outside the lease has been carried out
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Outside the Ultimate Pit Limit	Dumps are located outside the Ultimate Pit Limit	
4e	Number of Active & Alive dumps	-	3	
4f	Number of dead dumps	Nil	Nil	
4g	Number of dumps Stabilised	NA	NA	Inactive terraces of the active dumps have been stabilized with plantation of local species

S.N.	Item	Proposals	Actual Work	Remarks
4h	Whether Retaining wall or garland drain all along dumps are there	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dump		RW : 115 m Garland Drain : 640 m	
4j	Number of settling ponds	-	4	
4k	Specific commends of inspecting officer on waste dump management	The dumping is not proper and terracing of overburden waste dumps not been carried out. Garland drains, settling pits & retaining walls have been not been constructed to prevent wash-off.		

Solid Waste Management-Backfilling

S.N.	Item	Proposals	Actual Work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No proposal	Area not matured for backfilling	
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Top soil generation is Nil	Top soil generation is Nil	
5d	Total area fully reclaimed & rehabilitated	Nil	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Since deposit is almost vertical with 85 ⁰ -87 ⁰ dip, bottom of the ore has not been reached for backfilling.		

Progressive Mine Closer Plan

S.N.	Item	Proposals	Actual Work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly-Rule 23E(2). Details should be given in the format as given in Annexure-20	Yes	Yes	
6b	Management of worked/mined out benches			
	i) Area available for rehabilitation (Ha)	Nil	Nil	Ultimate pit limit is yet to reach, therefore rehabilitation of active benches could not be done
	ii) Afforestation done (ha)	Nil	Nil	
	iii) No.of saplings planted during the year	Nil	Nil	
	iv) Cumulative no. of plants	Nil	Nil	
	v) Any other specific method of rehabilitation	Nil	Nil	
	vi) Cost incurred on watch & care during the year	Nil	Nil	
6c	Compliance on reclamation and rehabilitation by backfilling	NA	NA	Ultimate pit limit is yet to reach, therefore rehabilitation of active benches could not be done
	i) Voids available for backfilling (L*B*D)			

S.N.	Item	Proposals	Actual Work	Remarks
	ii) Void filled by waste/tailings iii) Afforestation on the backfilling iv) Rehabilitation by making water reservoir v) Any other specific means			
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation	NA 1000 0.35 Ha Plantation	NA 5000 2.03 Ha Plantation	
6e	Compliance of Environment monitoring (core zone & buffer zone)	Complied	Complied	Monthly monitoring of Air, water, noise quality is being carried out by third party i.e. M/s ANACON Lab and departmentally
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	Nil		

Mineral Conservation

S.N.	Item	Proposals	Actual Work	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	mechanical	Grade-wise dispatch of ore is carried out by mechanical means within the lease	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical		Grade-wise dispatch of ore is carried out by mechanical means within the lease	
7c	Different grade of mineral sort out at mine		-55% Fe, 55-58% Fe, 58-60% Fe, 60-62% Fe, 62-65% Fe & +65% Fe	
7d	Any beneficiation process at mines	Nil	NA. Only crushing & Screening is carried out at Mines	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Different grades of materials are segregated and fed to plant to avoid mixing of ore. Separate stacking of OB, subgrade, Ore and Low grade mineral is being carried out at the mines		

Environment

S.N.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	Nil	Nil	No topsoil is generated during the period

8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	Yes	Separate dumps for OB, Subgrade mineral and fines have been maintained	OB, Low grade materials, BMQ etc. are being stacked separately
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)	Nil	Nil	Bottom of ore couldn't be reached as the ore body continues upto 294 mRL
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	No. of Plants : 1000 Area : 0.35 Ha	No. of Plants : 5000 Area : 2.03 Ha	
8g	Survival rate	-	75%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	Water sprinkling in haul roads, benches are being carried out. Wet drilling has been adopted. Plantation along safety zone and inactive terraces of the OB dump has been carried out		

Compliance of Rule 45

S.N.	Item	COMMENTS	Remarks
	Status of submission of Monthly and Annual returns	M.R. Submitted upto – Jan-2021 A.R. submitted upto- 2019-20 (FY2019-20)	

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	Mining Engineer Shri Sailendra Kumar Suryawanshi, Geologist Shri Roop Sai Taigor and Manager Shri J B Singh		
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Under O/C Mining: 33.399 ha., waste dump:43.819 ha., infrastructure and Road:15.573	Broadly as the information furnished	
9d	Scrutiny of Annual return on Afforestation	5000 nos reported		
9e	Scrutiny of Annual return on mineral reject generation	108331ton of Fe 35%		

	(Grade & quantity)			
9f	Scrutiny of Annual return on ROM stock and/or graded ore	25.35 Lump of Fe 62-65% & 225.97 of Fe 62-65%		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex. Mine price Rs 1598/- to Rs 2113/- & production cost Rs 1699/-	Different grade Ex-mine is mentioned different	
9i	Scrutiny of Annual return on fixed assets	Rs 551651/-	Machineries area broadly contractual	
9k	Scrutiny of Annual return on mining machineries	Hydraulic Shovel of .06 cum to 3.1 cum bucket capacity, Dumper 20 & 25 ton, Drill m/c 155mm & 150mm		

Details of Violations observed during current inspection and compliance position of earlier violation pointed out:- The earlier Violations taken Complied and during present inspection following violation pointed out:

Rule	Nature of Violation observed
11(1)	Mining operations should have been undertaken in accordance with the approved Mining Plan/Modification of Mining Plan. The Modification of Mining Plan was approved vide letter no कांकेर/ लौह /खयो-1138/2017-रायपुर dated 05.03.2018 and following deviation was observed during inspection 1. There was a proposal of OB generation of 1610424 cum in 2019-20 but in actual OB generation was 6165133.77 cum which is almost 380% of proposal and this shows there is deviation of excavation.
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 the OB/waste dump is near to lease boundary but still no proper retaining wall is constructed nor any control measures taken for dump stability.
45(5)(c) (i)	While scrutiny of Annual returns 2019-20 few discrepancies observed 1. The cost of production is mentioned as Rs 1699/- whereas the Ex-mine price is given different for different grade which ranges from Rs 1598 to Rs2113/-. 2. The mine is captive mine therefore Ex-mine price will be equal to cost of production. 3. The fixed asset value is only Rs 551651/-. 4. In part IV the closing stock of ROM is mentioned 190813 tons but grade wise bifurcation on given for 9455612 tons.

Rajesh Kumar Das, Senior Assistant Controller of Mines