

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

MCDR inspection REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-54/BBS

Mine code : 30ORI08050

- (i) Name of the Inspecting : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Mr. R.N Mondal (Mines Manager)
Official with
Designation
- (iv) Date of Inspection : 14-APR-18
- (v) Prev.inspection date : 10-JAN-18

PART-I : GENERAL INFORMATION

- 1. (a) **Mine Name** : **THAKURANI**
- (b) **Registration NO.** : **IBM/5546/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : ORISSA
District : KEONJHAR
Village : DALKI
Taluka : BARBIL
Post office : THAKURANI
Pin Code : 758035
FAX No. : 06767 270049
E-mail : kjsahluwalia@rediffmail.cor
Phone : 06767-270048
- (f) Police Station : Joda
- (g) First opening date : 15-DEC-53
- (h) Weekly day of rest : SUN
- 2. Address for : AT/PO: THAKURANI
correspondance : VIA BARBIL, DIST: KEONJHAR
ORISSA PIN: 758035
- 3. (a) Lease Number : ORI0072
- (b) Lease area : 228.04
- (c) Period of lease :
- (d) Date of Expiry : 31-MAR-20
- 4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : M/S KAY PEE ENTERPRISES
 PO BOX No : 3 AT/PO:
 BARBIL, KEONJHAR ORISSA
 Phone:06767- 75348,75659
 FAX :

Owner : P.K.AHLUWALIA
 P.K.AHLUWALIA, MINE OWNER
 P.B.NO.3, POST:BARBIL
 KEONJHAR ORISSA
 Phone:
 FAX :

Mining Engineer

Name : Sri Suresh Choudhary,Full Time
 Qualification : BE Mining.
 Appointment/ : 21-NOV-11
 Termination date

Geologist

Name : AMIYA KUMAR NAIK,Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 01-FEB-11
 Termination date

Manager

Name : RABINDRANATH MONDAL
 Qualification : DIPLOMA MINING WITH 1ST CLASS CERTIFICATE
 Appointment/ : 01-AUG-11
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	30-MAY-03
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	06-FEB-08
		Modif.approved Mining Scheme	16-OCT-15
		MP modif under 17(3) MCR 2016	04-NOV-16

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	24 BH in 2017-18.	36 BH have been completed in 2017-18.	Achievement is in higher side.
1b	Exploration over lease area for geological axis 1 or 2	A total of 65 BH have been proposed during 2017-18 to 2019-20 to explore entire lease area under G1/G2 level of exploration.	36 BH have been completed in 2017-18.	Exploratory drilling is continuing to explore lease area.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal.	Previous exploration was completed by exploration agencies like M/s Sesa Goa Ltd, M/s Thriveni Earth Movers Pvt ltd and Gemco Kati Exploration pvt ltd.	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved document dated 04/11/2016 an area of 110.23 Ha to be explored under G1/G2 level of exploration.	As per approved document dated 04/06/201, an area of 100.336 Ha to be explored under G1/G2 level of exploration.	Exploratory drilling is continuing to explore lease area.
1e	Balance reserve as on 01/04/20	As per approved document dated 04/11/2016, the position of reserve and resource was 65.195 and 6.603 million tonnes respectively as on 25/08/2016.	As per approved document dated 04/06/2018, the position of reserve and resource was 88.406 and 8.744 million tonnes respectively as on 01/04/2018	NIL.

1f	General remarks of inspecting officers on geology, exploration etc	In the modification of approved mining plan dated 04/011/2016, a total of 65 BH have been proposed to explore entire lease area under G1/G2 level of exploration.	36 BH have been completed in 2017-18. Exploratory drilling is continuing to explore lease area.	NIL.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development was proposed in Lucky and DN pit.	Development was carried out as per proposal i.e. in Lucky and DN pit.	NIL.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	NO proposal of top soil generation. Proposed separate benches in OB and Ore.	Separate benches being maintained in OB and Ore.	NIL.
2c	Stripping ratio or ore to OB ratio	1: 0.051 CuM/Tonne	1: 0.057 CuM/Tonne	NIL.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation.	NIL.	NIL.
2e	Quantity of overburden generation in m3	282146 CuM	312350 CuM	NIL.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development was proposed in two pits namely Lucky and DN pit.	No site deviation has been observed as far as development is concerned.	NIL.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two pits namely Lucky and DN pit.	Production was caried out from proposed pits namely Lucky and DN pit.	NIL.
3b	Quantity of ROM mineral production proposed	5500049 tonnes	5499506 tonnes	NIL.
3c	Recovery of sailable/usable mineral from ROM production	5256684 tonnes	5499506 tonnes	Due to irregular behavior of Ore body, as anticipated MR ore was not encountered and only salable ore was encountered.
3d	Quantity of mineral reject generation	243365 tonnes	The genertaed MR during 2017-18 was blended with high grade ore to make it saleable.	The genertaed MR during 2017-18 was blended with high grade ore to make it saleable.
3e	Grade of mineral rejects generation and threshold value declared.	45 to 55% Fe	The genertaed MR during 2017-18 was blended with high grade ore to make it saleable.	NIL.
3f	Quantity of sub grade mineral generation.	No proposal.	NIL.	NIL.
3g	Grade of sub grade mineral generation	No Proposal.	NIL.	NIL.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	NIL.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal for beneficiation study.	NIL.	NIL.

3j	Provision of drilling and blasting in mineral benches	The blast holes were proposed in staggered pattern with burden and spacing of 3.0m and 3.5m respectively. It is proposed that explosive column will be blasted under 'V' type blasting pattern initiated by detonator & NONEL and safety fuse.	During inspection it is observed that drilling and blasting was being done as per proposal.	NIL.
3k	Provision of mining machineries in mineral benches	Dumper and shovel combination.	Dumper and shovel combination.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, Height =10mtr. Width:-15mtr	Found to be as per proposal.	NIL.
3m	Total area covered under excavation/pits	65.710 Ha area at the end of plan period.	64.60 Ha. as on 01/04/2018	As per AR 2017-18.
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.051 CuM/Tonne	1: 0.057 CuM/Tonne	NIL.

3o	Total area put in use under different heads at the end of year	As per approved document dated 04/11/2016, total area proposed at the end of the plan period to put under different heads i.e excavation, waste dumping, infrastructure , road etc. was 94.675 Ha.	As per AR 2017-18, total area put under different heads i.e. excavation, waste dumping, infrastructure, road etc is 94.695 Ha.	As on 01/04/2018.
3p	Production of ROM mineral during the last five year period as applicable	2013-14=3647806 MT 2014-15=3891510 MT 2015-16=5288993MT 2016-17=5500106MT 2017-18=5500049 MT	2013-14=285 MT 2014-15=158235MT 2015-16=2994070MT 2016-17=5481286MT 2017-18=5499506 MT	Less production due to suspension of mining operation by DDM vide letter dated 17/05/2018.
3q	General remarks of inspecting officers on method of mining etc.	The method of mining was proposed fully mechanised open cast methods in the modification of the mining plan dated 04/11/2016.	The method of mining as proposed was practiced at mine.	NIL.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil generation. Separate dumping of waste and mineral reject was envisaged.	Waste material and MR was dumped as per the proposal. MR generated during the period 2017-18 was blended with high grade ore.	NIL.

4b	Location of topsoil, OB and mineral reject dumps	The dumping of waste was proposed over existing waste dump number 03. Two new locations were proposed for MR dumping i. e between grid N2445980-2446080/E338650-338780 and N2446580-2446700/E338480-338700.	The dumping of waste was observed over the existing dump number 3. The Mineral reject generated during the year was blended with the high grade ore.	NIL.
4c	Number of dumps within lease area and outside of lease area	Within Lease area-5 Out side lease area= Nil	Within Lease area-5 Out side lease area= Nil	Dump 04 has been converted to SG dump based on the chemical analysis.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposed outside ultimate pit limit.	As per proposal.	NIL.
4e	Number of active and alive dumps.	01	01	NIL.
4f	Number of dead dumps.	Not specified.	3 dumps.	NIL.
4g	Number of dumps established.	Not specified.	03 dumps	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and garland drain were proposed along the dumps.	Retaining wall and garland drain were observed along the dumps.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	Retaining Wall =860mtr., Garland drain =750mtr.	Retaining Wall = 865 and Garland drain of 800 m	NIL.
4j	Number of settling ponds	Settling tank (20mx10mx2m)	As per proposal.	NIL.

4k	Specific comments of inspecting officer on waste dump management	Dumping was proposed over waste dump 03. Proposal of retaining wall and garland drain has aslo been given.	At present only one dump i.e. OB dump 03 is active and OB is being dumping over the same dump. Other dumps are old and dead in nature. Planation has been carried out over the dumps. Retaining wall and garland drain has been provided.	NIL
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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 area of pit is exhausted for backfilling.	NIL.	NIL.
5b	Area under backfilling of mined out area	No proposal.	NIL.	NIL.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of top soil generation during reporting year.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No Proposal of reclamation and rehabilitation of mineout pit.	NIL.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No Proposal of reclamation and rehabilitation of mineout pit.	None of the quarry is exhausted completely. No Proposal of reclamation and rehabilitation of minout pit during reporting year 2017-18.	NIL.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	As per rule 26(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July.	Report of PMCP submitted.	NIL.
6b	Area available for rehabilitation (ha) .	An area of 0.55 Ha of waste land was proposed for rehabilitation along with bench plantation.	An area of 0.65 Ha of was rehabillitated.	Achievement is in higher side.
6c	afforestation done (ha).	Afforestation was proposed over waste dumps and dead benches.	Afforestation was carred in waste land and over dead slope of the waste dumps.	NIL
6d	No. of saplings planted during the year	4200	4050	As reported by Mines Manager.
6f	Any other method of rehabilitation	No proposal.	NIL.	NIL.
6g	Cost incurred on watch and care during the year	RS. 50,000/-	Rs. 657600 /-	Reported by lessee.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No Proposal.	NIL.	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal.	NIL.	NIL.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No Proposal.	NIL.	NIL.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal.	NIL.	NIL.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not specified.	NIL.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	An area of 0.55 Ha of the safety zone.	An area of 0.65 Ha was afforested.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.55 Ha	0.65 Ha	NIL.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation.	Afforestation.	NIL.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal has been given for environment monitoring in core and buffer zone.	Environment Monitoring was carried out in core and buffer zone for reporting year.	NIL.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Afforestation proposal has been given in safety zone area, dead slope of the dump and benches.	None of the quarry is exhausted completely. No Proposal of reclamation and rehabilitation of mined out pit during reporting year 2017-18. However, plantation has been carried out in safety zone and dump area.	Bench Plantation not done due to hard and massive nature of the bench surface.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within proposed lease area was proposed.	Grade wise sorting proposed within lease area.	NIL.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical.	Mechanical.	NIL.
7c	Different grade of mineral sorted out at mines.	Iron Ore having Fe Grade from 45 to 55 %, and more than 55% Fe.	Iron Ore having Fe Grade from 45 to 55 %, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65%, and 65% and above.	NIL.
7d	Any beneficiation process at mines .	No specific proposal of beneficiation within lease area. However, crushing and screening was proposed.	Crushing and screening was observed.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Proposal of separate stacking of Sub grade material for future use or blending.	All the Mineral Reject generated during the year was blended with high grade Iron Ore.	NIL.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation during reporting year.	NIL.	NIL.
8b	Concurrent use or storage of topsoil	NO Proposal.	NIL	NIL.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of Waste, Mineral reject has been proposed.	Separate dumping of Waste, Mineral reject was observed.	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal for reporting year i.e. 2017-18.	NIL.	NIL.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Dump Plantation and bench Plantation.	Only dump plantation. Bench Plantation not done due to hard and massive nature of the bench surface.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal or information on existence plantation in approved document.	Plantation carried out during the year 2017-18 was 1700 only. Less number of plantations due to non-plantation over bench for the reason of hard and massive nature of the bench surface.	NIL.
8g	Survival rate	Not specified.	70%	As per AR 2017-18.
8h	Water sprinkling on roads to control airborne dust	To control the airborne dust water sprinkling was proposed on the road.	To control the airborne dust water sprinkling was observed.	NIL.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	To improve the aesthetic beauty, proposal of plantation was given over waste dump and dead benches.	The aesthetic beauty of the mine is moderate. None of the quarry is fully exhausted. Hence, reclamation could not be taken up. Matured slope of the dumps and waste land (safety Zone) were planted. Bench plantation could not be under taken.	NIL.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule 45 of MCDR , monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for reporting year i.e. 2017-18.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information has been furnished about Mining Engineer, Geologist, and Manager.	Mining engineer and Geologist are appointed.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	A total of 94.605 ha area has been furnished under lease area utilization for area under pits, reclaimed area, dumps etc.	The land use pattern is found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	1700 numbrs of saplings.	The status of plantation furnished in the annual return is in order.	NIL.

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL.	The generated Mineral reject was blended with high grade ore.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stock furnished was NIL.	Seems to be in order.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	As per AR 2017-18, the cost of production furnished was RS. 930.10/- per tonne.	Found to be in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	Value of fixed asset furnished is Rs. 291096415/-	As per annual return 2017-18, the Value of Fixed Assets was Rs. 291096415/-	NIL.
9k	Scrutiny of Annual return on mining machineries	Shovel, dumpers, loaders, water tanker, Compressor, drill machine etc.	Shovel, dumpers, loaders, water tanker, Compressor, drill machine etc.	NIL.

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

Date :

(DILIP JAIN)

Indian Bureau of Mines