

**INDIAN BUREAU OF MINES  
MINES CONTROL AND CONSERVATION OF MINERAL DIVISION**

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/MN/SNG/MCDR-9/BBS

**Mine code :** 40ORI13024

- (i) Name of the Inspecting : **DEY** ) **NARENDRA MOHAN DEY**  
Officer and ID No.
- (ii) Designation : Assistant Mining Engineer
- (iii) Accompanying mine : S/SHRI D K SINGH, AGENT AND S C PARRIKAR, MINES MANAG  
Official with  
Designation
- (iv) Date of Inspection : 17/08/2015
- (v) Prev.inspection date : 25/06/2013

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **PATMUNDA**
- (b) Category : A Manual
- (c) Type of Working : Opencast
- (d) Postal address  
State : ORISSA  
District : SUNDARGARH  
Village : PATMUNDA  
Taluka : BONAI  
Post office : PATMUNDA VIA KOIRA  
Pin Code :  
FAX No. : 033-2482871  
E-mail :  
Phone : 06625-35063
- (e) Police Station :
- (f) First opening date : 09/12/1955
2. Address for : PATMUNDA MANGANESE MINE, PO:KOIRA,  
correspondance DISTRICT:SUNDERGARH, ORISSA  
PIN:770 048
3. (a) Lease Number : ORI0199  
(b) Lease area : 807.66  
(c) Period of lease : 20  
(d) Date of Expiry : 31/12/1999
4. Mineral worked : MANGANESE ORE Main

## 5. Name and Address of the

Lessee : M/s Orissa Manganese and minerals (p) Lt  
M/SOMML9, esplanade mansi,  
14-Govt. Place (east),  
Calcutta KOLKATA WEST  
BENGAL  
Phone:2484988, 2484033, 2482871  
FAX :033- 2483717

Owner : M/S Orissa Manganese and Minerals (p) Ltd.  
9, Esplanade Mansion, 14-  
Govt. Place (east),  
Calcutta KOLKATA WEST  
BENGAL  
Phone: 033-2434177,243  
FAX : 033-2482871

## Mining Engineer

Name : S.C. PRADHAN, Full Time  
Qualification : DEGREE IN MINING AND SECOND CLASS COMPET  
Appointment/ :  
Termination date

## Manager

Name : M.K. JHA  
Qualification : IST CLASS CERTIFICATE OF COMPETENCY  
Appointment/ :  
Termination date

6. Date of approval of Mining : 15/06/2012  
Plan/Scheme of Mining

**PART - II : TECHNICAL DETAILS/COMMENTS****1. Details about Average employment :**

**Maximum number of persons employed on any day during the year**

Employment category	No.of employment	Av. yearly working days
<b>DIRECT</b>		
Managerial	11	39
Supervisory	12	39
Others	28	39
<b>CONTRACT</b>		
Workers	311	39
Managerial	1	39
Supervisory	3	39

2. Community Development Plan (in and around the mines) : Proposed action and expenditure towards socio-economic development.

Action during the year	Expenditure in Rs. Lakhs for				Remarks
	previous year		current year		
	Proposed	Incurred	Proposed	Incurred	
<b>General</b>					
Housing	6.00		3.00		
Water supply	23.00	16.41	20.00		MINING OPERATION
Sanitation	2.10	1.42	2.10		
Health	12.00	1.51	11.00		
<b>Sub total</b>	<b>43.10</b>	<b>19.34</b>	<b>36.10</b>		
<b>Infrastructure</b>					
Roads	10.00	35.00	0.95		
<b>Sub total</b>	<b>10.00</b>	<b>35.00</b>	<b>19.34</b>		
<b>Recreation</b>	<b>0.50</b>	<b>1.00</b>	<b>0.20</b>		
<b>Others</b>	<b>7.50</b>	<b>7.50</b>	<b>5.70</b>		EDUCATION
<b>Training</b>	<b>3.00</b>	<b>3.00</b>	<b>1.09</b>		
<b>Environment management</b>	<b>2.40</b>	<b>2.40</b>			
<b>Total</b>	<b>66.50</b>	<b>85.00</b>	<b>27.28</b>		

3. Status of compliance of MCDR, 1988, including therewith the rectification of the outstanding violation of rules.

NO OUTSTANDING VIOLATION

4. A note on the justification in case of suspension of mining operation under rule 13(2) or prohibition of deployment of any person under rule 56 of MCDR, 1988, if recommended.

NOT SUSPENDED. MINING OPERATION WAS DISCONTINUED FROM 17.05.2014 TO 04.06.2015.

## 5. Scientific Mining

Items	Proposal	Actual work done	Remarks
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**A. Exploration (Rule 13)**

a.Type of prospecting : and exploration i.e. pitting, drilling	NO EXPLORATION DURING 2014-15. CUMULATIVE EXPLORATION AS ON DATE OF EXPLORATION : NO. OF BOREHOLES: 199 GRID INTERVAL : 50 & 25 MAXIMUM DEPTH: 63 M MINIMUM DEPTH : 20 M TOTAL METERAGE: 7115 M	MINING OPERATION WAS DISCONTINUED FROM 17.05.2014 TO 04.06.2015. AS PER ORDER OF HON'BLE SUPREME COURT.
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**B. Working (Rule 13)**

a.Number and size of : each pit (LxWxH)	QUARRY 1 SIZE : 370 M X 65 M X 20 M QUARRY 2 SIZE : 280 M X 130 M X 25 M	MINING OPERATION WAS DISCONTINUED FROM 17.05.2014 TO 04.06.2015.AS PER ORDER OF HON'BLE SUPREME COURT.
b.Bench : size(LxWxH)length can be defined as regular/irregular	BENCH SIZE : 95 X 5 X10 M IRREGULAR LENGTH.	
c.Ore to waste ratio : pit wise if possible otherwise for mine	ORE TO WASTE RATIO : 1: 3.20	
d.Total area covered : under excavation/pits	47.290 HA	MINING OPERATION WAS DISCONTINUED FROM 17.05.2014 TO 04.06.2015.

**C. Waste disposal (Rule 13)**

a.Location of dumps :	EAST SIDE OF QUARRY 2 AND NORTH - WEST SIDE OF QUARRY 1.	
e.Yearly generation : of waste quantity.	57865 CUM	MINING OPERATION WAS DISCONTINUED FROM 17.05.2014 TO 04.06.2015.
b.Method of dumping : whether advancing/retreat	ADVANCING	
c.Total area covered : under waste dump.	10 HA	

d.No.and size of each :  
waste dump with No of  
steps/lift/bench

WASTE DUMP A : SIZE :  
19600 SQ M, HEIGHT 38  
M , CAPACITY : 900000  
CUM.  
WASTE DUMP B, SIZE :  
84600 SQ M, HEIGHT  
60 M, CAPACITY 5500000  
CUM  
WASTE DUMP C SIZE  
11300 SQ M, HEIGHT  
10M  
WASTE DUMP D SIZE  
11800 SQ M. HEIGHT 15  
M, CAPACITY  
200000CUM.  
WASTE DUMP E SIZE  
67800 SQ M HEIGHT 21  
M, CAPACITY 1425000 CU  
M.  
WASTE DUMP F SIZE  
127000 SQ M, HEIGHT  
25 M, CAPACITY 350000  
CUM.

#### D. Production

b.Year wise :  
production of last  
five year.

PRODUCTION DURING 2014-15 : 18056 MT	MINING OPERATION
PRODUCTION DURING 2015-16 ( UPTO JUNE, 2015) : 1097.418 HA	DISCONTINUED FROM 17.05.2014 TO 04.06.2015.

#### D. Reserve

a.Reserve position as :  
per latest MP/MS and  
at the time of  
inspection.

RESERVE POSITION AS PER  
LATEST SCHEME OF MINING  
APPROVED ON 30.03.2012  
FOR THE PERIOD 2012-13  
TO 2016-17 IS AS  
FOLLOWS:  
AS PER UNFC 111 :  
7180800 MT MANGANESE ORE

121 : 9116800 MT	
331 : 334400 MT	
332 : 52800 MT	
333 : 8092480 MT	
TOTAL :	
24777280 MT	
AS PER UNFC : 121 :	
5187000 MT IRON ORE	
332 : 182000 MT +	

**RESERVE POSITION AS ON 01/04/2015****MANGANESE ORE**

Category	Quantity in Tonnes	Grade
Proved	7180800	AS PER UNFC 111 AS ON 01.01.2012 AS PER APPROVED
Probable	9116800	AS PER UNFC 121
Possible	8479680	AS PER UNFC 331, 332 & 333
Total	24777280	

**PRODUCTION FOR THE PREVIOUS YEAR 2014 - 2015**

Mineral	Production	Unit
MANGANESE ORE	18056	TON

**6. Conservation of Mineral - both quantitative and qualitative****Beneficiation (Rule 20 and 26)**

Efforts for improving low grade and sub grade mineral. : MANUAL SORTING AND PICKING OF ORE

Efforts for improving percentage of recovery of ore. : SCREENING.

**Mineral Rule 15**

Percentage of recovery of ore pitwise w.r.t. ROM and total material : 20 AND 15

Number of benches in ore and waste. : NUMBER OF BENCHES IN ORE :3

IN WASTE : 5

**Sub/grade mineral/fines (Rule16)**

Qty of yearly generation and total qty available during inspection with grade : DURING 2014-15 : NIL  
CUMULATIVE TOTAL QUANTITY AVAILABLE DURING INSPECTION 15278 MT WITH GRADE 10-12% MN.

Number and size of each stack : SUB GRADE STACK 1 SIZE 500 SQ M, HEIGHT 2 M, CAPACITY 2000 CU M.  
SUB GRADE STACK 2 SIZE 600 SQ M, HEIGHT 3 M, CAPACITY 5000 CU M  
SUB GRADE STACK 3 SIZE 300 SQ M, HEIGHT 5 M, CAPACITY 3000 CU M.

Location of stacking. : EASTERN SIDE OF ML AREA.

Separate stacking from waste : YES

Total area covered for stacking : 3.26 HA

**Exploration data as on 31/03/ 2015**

No. of Boreholes	No. of Pits	No. of Trenches
199		

**OVERBURDEN HANDLED DURING PREVIOUS YEAR 2014 - 2015**

Overburden/waste removed (in m3) : 57865

**Utilisation of Sub Grade Mineral and Mineral Rejects**

Generated	Utilised	Stacked	(In Ton.)

## 7. Environment Management - both quantitative and qualitativ

### A. Land environment

- a. Landscape. : HIGH AND NARROW HILL RANGES INTER SPREAD BY BROAD VALLY.
- b. Aesthetic environment : PLANTATION CARRIED OUT ON DUMP AND SAFETY ZONE.
- c. Soil and land use pattern : NO TOP SOIL
- d. Agriculture : NO AGRICULTURAL LAND WITHIN LEASEHOLD AREA.
- e. Forest(flora and fauna) : VERY SMALL TREES AND BUSHES , NO FAUNA
- f. Vegetation : PLANTATION DONE IN THE SAFETY ZONE AND DEAD DUMP SLOPE.
- h. Public building, places and monuments (protected, historical), placec of worship and places of tourist : NO MONUMENT ETC

### B Water environment.

- a. Surface water : RAIN SURFACE WATER ACCUMULATED IN THE PIT IS USED FOR DUST SUPPRESSION ON THE HAUL ROAD AND NEARBY VILLAGE ROAD. PERENNIAL NALA IS FAR AWAY FROM ACTIVE PITS.
- c. Quality of water : UNDERGROUND WATER QUALITY IS PORTABLE WITH LITTLE TREATMENT
- b. Ground water : MINING IS CARRIED OUT AT HIGHER ALTITUDE FROM THE GROUND WATER TABLE.

### C. Air environment

- a. Noise : NOISE LEVEL IS UNDER PERMISSIBLE LIMIT
- b. Air : AIRBORNE DUST IS UNDER PERMISSIBLE LIMIT
- c. Climatic condition : MAXIMUM TEMP 41 - 42 DEGREE DURING MAY- JUNE.

### D. Socio economic environment

- b. Recommending health and safety. : CARE IS TAKEN BY THE MINE MANAGEMENT THROUGH REGULAR MEDICAL CHECK-UP
- a. Social and demographic profile. : LOCAL PEOPLE EMPLOYED IN THE MINE
- d. Recreational facility. : SPORTS, CINEMA ETC BY THE MANAGEMENT

#### 7.1 Comments on the steps taken by the lessee towards maintaining environment and monitoring of environmental parameters to ensure the qualitative improvement in the environment and ecology.

<u>Water Management</u>					
Season	Station type	Station name	Parameter	Value	
				Actual	Excess

<u>Air data for excess parameters</u>					
Season	Station name	Type of area	Parameter	Value	
				Actual	Excess



PLANTATION DURING THE PREVIOUS YEAR      2014 - 2015

Area in Hect.

**TOP SOIL MANAGEMENT**

Quantity as on 31/03/2015

8. Scrutiny of annual returns on cost of production, reserve, production, pit mouth value, stock, land use pattern and fixed assets.

ANNUAL RETURN FOR THE YEAR 2014-15 HAS BEEN RECEIVED AND SCRUTINISED.

COST OF OPERATION : Rs.2910 /-

PRODUCTION : 18055.90 MT

PIT MOUTH VALUE : BELOW LOW GRADE Rs.3647 /-

LOW GRADE Rs.7756 /-

MEDIUM GRADE Rs.11043 /-

HIGH GRADE Rs.19303 /-

DIOXIDE GRADE Rs.33000 /-

FIXED ASSETS : Rs.699566.45 (IN THOUSANDS)

**PART - III : PERFORMANCE OF MINE OWNER**

(In case of lease expiring within 2 years - as per guidelines)

**a. Compliance of terms and conditions of lease deed.**

BOUNDARY PILLARS HAVE BEEN CONSTRUCTED. DGPS MAP HAS BEEN PREPARED BY OSAC DATED 09.11.2011. READINGS MARKED ON THE BOUNDARY PILLAR ARE ALMOST MATCHING WITH THE READINGS MENTIONED ON THE DGPS MAP. SCHEME OF MINING APPROVED ON 30.03.2012 FOR THE PERIOD 2012-13 TO 2016-17.

**b. Compliance of the provisions of MCDR, 88 and advise given.**

ADVICE GIVEN DURING INSPECTION HAS BEEN COMPLIED.

**d. Whether the mine owner has carried out exploration and exploitation on the basis on surface mapping, pitting, trenching and core drilling taking in to consideration the mode of occurrences of mineral deposit.**

THE MINE OWNER HAS ALREADY CARRIED OUT EXPLORATION AS PER UNFC NORMS IN 408.373 HA OUT OF TOTAL LEASE AREA 807.316 HA IS AS FOLLOWS:

UNDER G1 LEVEL :

108 HA BY PUTTING 127 BH METERAGE DRILLED 4408 M WITH GRID INTERVAL 50 M X 50 M

UNDER G2 LEVEL

117.69 HA BY DRILLING 87 BH METERAGE DRILLED 3020 M WITH GRID INTERVAL 50 M X 50 M

UNDER G3 LEVEL

182.683 HA, NO BH HAS BEEN DRILLED ONLY SURFACE MAPPING HAS BEEN DONE 1:2000 SCALE UNEXPLORED LEASE AREA IS 398.943 HA.

REASON FOR GAP IN EXPLORATION IS DUE TO STOPPAGE IN MINING OPERATION FROM 17.05.2014 TO 04.06.2015AS PER ORDER OF HON'BLE SUPREME COURT.

**h. In case leases where the mineralisation tends to exhaust within the present period, the status of closing operation in phases and the special issues including human issues to be addressed at the time of closing of mine.**

THE MINERALISATION WILL NOT EXHAUST WITHIN THE PRESENT PERIOD SO THE CLOSING OPERATION IN PHASES DOES NOT ARISE.

**PART - IV : PROPOSALS FOR FURTHER ACTION FOR :**

Indian Bureau of Mines (any issue related to CGPB, SGPB, Assistance, Consultancy, Annual Programme and studies, etc.)

State Government (Illegal mining, mining dispute, infrastructure, Mineral based industry, Mineral policy, etc.)

The Central Government (Infrastructure, Development, Mineral policy and Legislation, Mineral based industry, etc.)

Date :

(NARENDRA MOHAN DEY)

Indian Bureau of Mines