

RAW MATERIALS DIVISION
KALTA IRON MINES

REVIEW OF MINING PLAN
UNDER RULE 17 (2) OF MCR, 2016
AND PROGRESSIVE MINE CLOSURE PLAN
UNDER RULE 23 OF MCDR' 2017
OF
ML-139 LEASE, KALTA IRON MINES

PLAN PERIOD - 2020-21 TO 2024-25

LEASE AREA - 25.981 HECTARES

TYPE OF LAND- FOREST LAND - 25.981 HECTARES

CATEGORY OF MINE- A (OTFM), MINERAL- IRON ORE

VOLUME-I

VILLAGE: KALTA, P.O: KALTA, TALUKA- BONAI, DIST- SUNDARGARH (ODISHA)

(SUBMITTED UNDER RULE 17 (2) OF MCR, 2016 AND RULE 23 OF MCDR'2017)

Executed Lease Period: 17.01.1975 to 16.01.1995

LEASE RENEWAL	GRANT DATE	EXPIRY DATE
1 st RML	16.02.1994	16.01.2025

IBM Registration No.: IBM/5662/2011, Mine Code: 30ORI13060

LESSEE- M/s STEEL AUTHORITY OF INDIA LIMITED

ISPAT BHAWAN, LODHI ROAD

NEW DELHI



सैल SAIL

PREPARED BY

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1. *[Signature]*
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M/s STEEL AUTHORITY OF INDIA LIMITED

KALTA IRON MINES

P.O.- KALTA, PIN-770052

DISTRICT- SUNDARGARH, ODISHA



II. Dump re-handling (for the purpose of recovery of mineral):

As at present, there is no existing dump within the lease area. Hence no proposal of dump re-handlings has been given in the plan period.

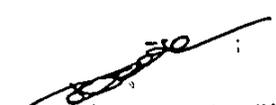
- c) Enclose Individual year wise development plans and sections showing pit layouts, dumps, stacks of mineral reject, if any, etc. in case of 'A' category mines. Composite development plans showing pit layouts, dumps, stacks of mineral reject, if any, etc. and year wise sections in case of 'B' category mines.

All the activities proposed in this mining plan period will be under Opencast semi-mechanized under category A (OTFM) mine. The development plan & sections, Dump plan & section have been furnished in Plate No. VI.

- d) Describe briefly giving salient features of the proposed method of working indicating Category of mine.

It is planned to adopt the "OTFM A" open-cast mining method in plan period. The height of the individual benches shall be made and maintained at 6m and width of minimum 10 m. 100 mm diameter holes will be drilled with the help of wagon drills to a depth of 6.6 m. with 10% sub-grade drilling at a spacing and burden of 3 m x 2.5 m. The overall bench slope will be maintained at 45°. For primary blasting 83 mm, 2.78 kg slurry/ emulsion explosive cartridges will be used whereas secondary blasting will be done by plaster shooting. Blasting will be generally carried out once in a week. The blasted boulders will be manually sized and sorted to around 300 mm average size. The sorted boulders will be thereafter stacked for measurement and loaded into trucks of 10t capacity. Hence, "OTFM" opencast method of mining is proposed to be continued. The mine working is proposed to be restricted within the influence zone of section lines. The detail lay out of the proposed quarries and sections are shown in Plate No. VI. Mine approach roads having suitable gradient i.e. 1 in 16 to 1 in 20 are to be developed for smooth and safe transportation of ores and waste material. Steps are to be provided within benches for easy movement of workers.

It is proposed to operate the mines on single shift basis. Keeping in view of holidays, stoppage of work due to rain and other un-foreseen circumstances 300 days per year have been considered for effective mining operation. The blasted boulders will be manually sized and


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REVIEW OF MINING PLAN OF KALTA IRON MINE LEASE (ML-139) OVER
AREA OF 25.981 Ha. DISTRICT- SUNDARGARH, ODISHA



sorted to around 300 mm average size. The sorted boulders will be thereafter stacked for measurement and loaded into trucks of 10t capacity. The boulders will be subjected to manual breaking and sizing. The lumps (-40+10mm) and fines (-10mm) will be segregated, which will in turn be transported to the Roxy railway siding at a distance of around 22 km by 20t trucks. Overburden/ Inter-burden will be loaded through 0.9-1.0 cum excavator into 10 t/ 20t dumpers for its disposal in the proposed dump. Rock breakers will be used in case of large size boulders. The type and quantity of mining machineries proposed are as mentioned below-

Drilling

Diameter of the blast hole	:	100mm
Height of the bench	:	6m
Sub-grade drilling	:	0.6m
Length of the hole	:	6.6m
Burden	:	3.0m
Spacing	:	2.5m
Volume of earth to be broken/loosen per hole.	:	$3.0 \text{ m} \times 2.5 \text{ m} \times 6 \text{ m} = 45 \text{ m}^3$

Meter age of drilling per year

Vol. of excavation per year : 24,423 m³

(Including ore and waste)

Assuming 60% of the vol.

Number of holes to be drilled $14,654 \text{ m}^3 / 45 \text{ m}^3 = 325.64$ or say 326 nos.

Meterage of drilling to be required $326 \times 6.6 = 2151.6$ mor say 2152 m.

Meter age of drilling per drill:

Speed of the drill=10m/Hr

No. of working days in a year=300

Efficiency=60%


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