



NMDC-CMDC LIMITED

(A Subsidiary of NMDC Ltd.)

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JUSTIFICATION FOR LOCATING THE PROJECT IN THE FOREST LAND

A. Justification for location of Mining Lease in Forest Land:

Ministry of Mines, Government of India has granted reservation of Bailadila Iron Ore Deposit-4 in favour of NMDC-CMDC limited under section 17A(1A) MMDR Act, 1957 vide Gazette notification no. G.S.R.697(E) dt 30.09.2019 over an area of 646.596 Ha for Iron Ore in South Bastar Dantewada District, Chhattisgarh. Subsequently, Mineral Resources Department, Government of Chhattisgarh, Raipur vide its letter no. F2-20/2005/12 dated 26.06.2021 has issued Letter of Intent for grant of Mining Lease of Deposit-4 for Iron Ore. The area falls in Bailadila Reserve Forest of Dantewada Forest Division. The Iron ore reserves of 109.01 million Tonne are proved as per prospecting / exploration studies undertaken by NMDC in the year 1972 and further as per Approved Mining Plan (Mining Plan approved on 24.09.2021). The reserves may also likely to be augmented through further exploration in the lease area once Mining operations started at Deposit-4. The mining of Iron Ore is proposed in the above area allotted to NMDC-CMDC Limited based on LOI issued by Government of Chhattisgarh. The Iron Ore production from Bailadila Deposit-4 will also able to meet the growing demand of iron ore in the Country for Steel / pellet production. The capacity of Deposit-4 mine is 7.00 MTPA Run Off Mine Iron Ore. Since ore body location is site specific, hence, no alternative sites were examined for Mining of Iron Ore.

Land Use within Mining Lease area

S.NO	Particulars	Area in ha
1	Area required for Mining (Insitu)	94.11
	Area required for Mining (Float ore)	70.52
2	Area required for Dumps	74.07
3	Area required for infrastructure facilities (Crushing Plant, PSP, Downhill Conveyor (part), internal roads, Service Centre, ETP, Mining Office, Canteen, Rest Shelter, Substation, Power Lines, pump house, pickup weir, water pipelines and Security barrack etc.)	65.9
4	Area under Environmental protection, improvement and EMP works	241.642
5	Area under explosive magazine & safety zone	15.37
7	Tree fern area not to be diverted	76.496

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8	Safety zone Along the ML boundary	8.488
	Total	646.596
<i>Land use Inside the Mining Lease area excluding the tree fern area (not to be diverted) =646.596 Ha. - 76.496 Ha. =570.100 Ha.</i>		

B. Infrastructure facilities outside Mining Lease, Deposit-4

The Bailadila Iron Ore Deposit-4 mine is Green Filed project and it is proposed to develop the Deposit-4 mine as mechanized and standalone project. Hence, ancillary facilities such as Screening cum Beneficiation Plant, Loading Plant, Railway siding, downhill conveyor, tailing dam etc. are also required to be set up for production and dispatch of iron ore from the mine. The total area required for setting up of above infrastructure facilities is 195.537 Ha. The facilities coming up in the forest land extends over an area of 100.077 Ha and in revenue land, it is 95.46 Ha.

B1. Justification for locating infrastructure facilities in forest land outside M.L. area.

The various alternatives were considered and examined taking into consideration of topography, existing broad gauge electrified railway line (situated towards North Eastern side of Dep-4 ML) connecting Kirandul and Visakhapatnam for transportation of Iron Ore from Bailadila sector, doubling of KK railway line from Kirandul to Jagdalpur and Engineering design factors etc. The following factors have taken care during the layout design.

- Deposit-4 is situated in hilly terrain at an elevation between 680 m RL to 1210 m RL. The mining activities includes drilling, blasting, excavation and transportation of ROM Iron Ore to crushing plant. The Crushing plant is located inside ML area at 1105 m RL
- The crushed ROM Iron ore is to be transported to foot hills through downhill conveyor system and feed to Screening cum beneficiation Plant for processing of iron ore into various production such as Calibrated Lump Ore and Fine Ore. The products shall be transported through downhill conveyor system to Loading plant for further transportation to customers by Railway wagons.
- The Ore Screening and Loading plants shall be deigned suiting to terrain i.e. ground profile and without much interfering with natural course of nallahs.
- Basic utility & auxiliary units and other aspects like constructability, maintainability, safety etc. shall be ensured.
- Considering the natural ground profile with variation in elevations, conveyors with minimum lengths can be easily to reach bunker levels for subsequent crushing or screening operations.
- Stockpile require generally plain area (which shall be levelled ensuring minimum earth work) for accommodating sufficient product stockpile for continuous loading.

The details of various alternative sites are given below and shown in **Figure no: 1.**

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1.0 Alternative-1 (North-Western side) -

This option has been studied for infrastructure but it is totally forest land and no railway connectivity is available. Moreover, the waste dumps have been proposed on the western side of the lease. This alignment is also passing through the Ore body and hence will be a hinderance to the Approved Ultimate Pit. For the reason discussed above, **this option has not been found feasible, hence not selected.**

2.0 Alternative-2 (South-Eastern Side)

In this option, the proposed Plant Infrastructure have to cross deposit no-10, which is totally mineralized zone and this ML area belongs to NMDC. It is also crossing to Tree Fern area, proposed for non-diversion. One more constraint is that, space available for loading plant at Bacheli for this option is limited as the existing area is already occupied by NMDC loading plant. For the reason discussed above, **this option has not been found feasible, hence not selected.**

3.0 Alternative-3 (North- Eastern side)

The proposed infrastructure in NE direction has been found most suitable due to location of existing Railway line in same direction. The Loading Plant at 532 m RL. has been proposed near to the existing Railway line. Keeping the proposed crushing plant within ML and location of Loading Plant near by existing KK Railway line, three options have been further analyzed for downhill conveyor gallery which are discussed below: -

3.1 Alternative-3a: This is the most feasible option as the conveyor gallery is not crossing the Ore body of Deposit-3, Deposit-6, Deposit-7, Deposit-8, & Deposit-9 and hence no ore body is blocked. Moreover, this path is giving the desired gradient for conveyor and the existing old road proposed to be utilized as approach road. The length of the conveyor gallery is coming to 7,692 meter. With this option the total area required for diversion outside the mining lease is 100.077 Ha. **Thus, this option is selected.**

3.2 Alternative-3b: This is the not a feasible option as the conveyor gallery is crossing over the Ore body of Deposit-1 and hence ore body is likely to be blocked. Moreover, the length of the conveyor gallery is also increasing to 8,602 meter and new approach road is required to be made. With this option the total area required for diversion outside the mining lease works out 102.391 Ha apart from blocking of ore body of Deposit-1. **Thus, this option is not selected.**

3.3: Alternative-3c: This is also not a feasible option as the conveyor gallery is crossing the Ore body of Deposit-8, Deposit-7 and hence ore body is likely to be blocked. Moreover, the length of the conveyor gallery is also increasing to 8,652 meter and new approach road is required to be made. With this option the total area required for diversion outside the mining lease is 101.241 Ha. **Thus, this option is not selected.**

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Considering the Alternative-3a for conveyor gallery, the Screening Cum Beneficiation Plant is also identified at 580 m RL near the Loading Plant. Considering the above alternatives, the infrastructure facilities have been considered towards NE direction (**Alternative-3a**) outside ML in Forest as well as Revenue land for development of Bailadila Deposit-4 Mine as standalone project.

The total land required for ancillary activities outside lease area is 195.537 Ha out of which 100.077 Ha is forest land and 95.46 Ha is Revenue Land. The land use details are given below and final layout diagram along with Deposit-4 ML is given in **Figure no: 2**.

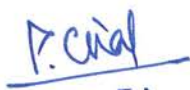
LAND USE OUTSIDE MINE LEASE AREA

Sl. No.	Description	Area (Ha)				Railway Land
		Forest	Revenue Forest Land (Bade Jhad ke Jungle)	Pvt. Revenue Land	Govt. Revenue Land	
1	Major part of Downhill conveyor system including overhead electrical line & water pipeline	43.0000	-	-	-	
2	Screening Plant including all allied facilities	18.2810	-	-	-	
3	Loading Plant including all allied facilities	10.2390	6.4106	3.2936	0.1107	
4	Railway siding	1.0410	5.1193	3.6594	0.3055	2.4020
5	Existing roads widening / strengthening for two-way traffic and new approach roads to all the plants & transfer houses	27.5160				
6	Pump House	-	0.4000			
7	Pipe line	-	0.1653	0.0055	0.5939	
	Total	100.0770	12.0952	6.9585	1.0101	2.4020

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Total forest land proposed for diversion is as follows:

S.NO	Particulars	Area in ha
1.	Area inside the Mining Lease	570.100
2	Area outside the Mining Lease	100.077
3.	Revenue Forest Area	12.0952
	Total	682.2722



(Padmanabh Naik)

Chief Executive Officer