

Justification for locating the 10 Km buffer area of project in Palamu Wildlife Sanctuary & Mahuadanr Wolf Sanctuary.

The proposal is for obtaining wildlife clearance over an area of 152.57 Ha of non forest land in respect of Chiro Kukud Bauxite Mine in village Chiro & Kukud, P.S. Mahuadanr, Dist-Latehar, Jharkhand. The Mining Lease of Chiro & Kukud Bauxite Mine located on Jimrapat Plateau which has an elevation of 1050-1160 m above MSL. The Lease falls in Survey of India Toposheet No 73 A/3 & 64 M/15. The area is approachable by an all pucca road of 28 Kms (Approx) from Kusumi (Samri) in the District of Balrampur, Chhatisgarh. Chiro-Kukud bauxite mine can also be reached by partially weathered and partially pucca road via Mahuadanr. The nearest Airport is Ranchi which is about 90 Km away from the Lohardaga. Lohardaga town is located at a distance of 75 Km. from Ranchi on State Highway No. 51. Lohardaga town is well connected with Ranchi by broad gauge railway of South Eastern Railway at a distance of 70 Kms. One passenger train runs daily between Lohardaga and Ranchi for four consecutive trips to and fro. Ranchi has an airport with daily air service connecting Kolkata, Patna, Delhi and Mumbai.

The plateau region on either side and along the interstate boundary between Chhattisgarh and Jharkhand (in the districts of Surguja (now Balrampur) and Medninagar respectively) has been known to be potential tract of high level bauxite. Chiro & Kukud blocks forms a part of Sariapat region in Latehar district of Jharkhand.

The Geological Survey of India (GSI) carried out an assessment of the bauxite prospects in these tracts and published the results in Bulletin, G.S.I., Series-A, Economic Geology, No. 25 (1965) - "Bauxite in India - An assessment of Reserves" authored by M.K. Roy Chowdhury. Bauxite and aluminous laterite occur as thin, irregular and discontinuous lenses or tabular bodies within laterite capings. The laterite occurs as blankets over basalts (Deccan Trap) which are vesicular or massive. It has been established that the laterite/bauxite profile resulted from insitu chemical weathering of the underlying basalt, the parent rock. Scarp faces are often developed along the edges of the cappings and these are useful for studying the characteristics of the ore and overburden. The general Stratigraphic succession is as follows.



Age approx	Lithology	Thickness (m)
Recent to Pleistocene	Laterite with associated Bauxite	30
L-Eocene to U-Cretaceous	Basaltic flows (Deccan Traps with intertrappeans)	30-45
	----- Unconformity -----	
U-Cretaceous	Lametas (Intratrappean)	50
	Felspathic sandstone and calcareous grits	
	----- Unconformity -----	
Precambrian	Pegmatite, Quartz veins, granite gneisses and granites	

Local Geology

The lithological units exposed in the area are: soil, laterite and bauxite. The local stratigraphic succession is as follows.

Litho Units	Geological Age
Soil	Recent
Laterite	Pleistocene
Lenses/pockets of Bauxite	
Late rite	Cretaceous-Eocene
Lithomerge	
Basalt (Deccan Traps)	

- a) It occurs as lenses, bands or pockets of 0.5 m to 3.5 m thickness, within the laterite, mostly in the upper half as deduced from the borehole data. At several places, bauxite directly underlies the soil cover, with the intervening laterite crust being totally absent. It is of cement gray or pink color and is distinctly different in look from the laterite. This contrast facilitates easy visual identification and demarcation of the bauxite zone. Exposures of the mineral are seen as discontinuous patches close to the peripheries of the sectors.
- b) In view of its occurrence as a blanket, the laterite-bauxite crust is of flat or gently undulating disposition, maintaining general parallelism with the present day surface topography. Huge bauxite boulders having diameter 0.3 to 1.5 m across, are seen along the peripheries of the plateau lobes, particularly in the vicinity of scrap faces.

c) Bauxite is essentially constituted of gibbsite (trihydrate of alumina), a little cliachite (amorphous hydrate of alumina) and sub-ordinate boehmite (monohydrate of alumina). Kaolin, limonite, goethite, hematite and anatase occur in minor quantities.

d) The ranges of compositions of laterite and bauxite are as follows :

	SiO ₂ %	Al ₂ O ₃ %
Laterite	6 to 12	20 to 30
Bauxite	1 to 3.5	31 to 59

Silica is mostly reactive and constitutes 90% of total SiO₂ is due to clay minerals. Non-reactive silica, mainly due to quartz, accounts for the rest. Alumina is mainly due to gibbsite (about 55 to 65%) and partly due to boehmite and cliachite (20 to 30%). Kaolin contributes a little to this radical. Fe₂O₃ is due to Goethite (50 - 65%) and hematite (40 - 50%). Titaniam (TiO₂) is due to anatase. LOI (Loss on Ignition) is related mainly to gibbsite, boehmite and cliachite which when heated to 900^o - 1100^oC give up the combined water. Kaolin and goethite also contribute to LOI in a small measure.

The area was initially explored by State DGM in the early Mid Seventies by doing 9 numbers of Trial Pits within the lease area (152.57 hect.) of Mining Lease and found economic deposit of Bauxite. As these Trial pits were on random grid pattern and at wide distance hence proper co-relation of the Bauxite deposit was not feasible. Subsequently, to upgrade the existing reserves status and evaluate the mineable reserves as well as average grade of bauxite available in the entire mining lease hold, the company was drilled exploratory boreholes at 50m X 50m grid pattern in order to establish mineable reserve 2.86 million tonne.

Deputy Commissioner, Latehar, Jharkhand has been pleased to execute the supplementary lease deed for the extended period up to 28.01.2035 on 16.03.2017, duly registered before District Sub Registrar, Latehar on 22.03.2017 vide deed no 347/345 of 2017. This is an old mining lease area where Bauxite mining first commenced during 1985. The lease was granted on dated 08/12/1984 for a period of twenty years (20years) and was executed on 29/01/1985 and it was valid till 28/01/2005. The lessee was applied for renewal of mining lease over an area of 152.57 hectares on dated 24.01.2004 only after excluding the virgin land of non mineralized forest area (14.11 hect) for a period of 20 years from 29th January 2005 to 28th January 2025 before the of Mines And Minerals (Development And Regulation) Amendment Act, 2015

The Ministry of Environment, Forest and Climate Change , Government of India has granted the Environment clearance for the production capacity of 1,00,000 tonnes per annum of ROM Bauxite ore vide letter no J-11015/240/2006-IA.II(M) dated 17.05.2007

As per Specific Condition given in Environment clearance, Project Proponent has to be obtained Wildlife Clearance as the 10 km buffer area of the project falls within Palamu Wildlife Sanctuary & Mahuadanr Wolf Sanctuary. The project is outside Palamu Wildlife Sanctuary, Mahuadanr Wolf Sanctuary and does not contain notified forest land as such.

The RoM to be produced from this mine is meant for captive consumption at the alumina plant at Renukoot . No ore will sold to the outside agencies and hence the entire mineral is used for extraction of alumina and aluminum metal of the company. This will help in economic development of and more income to the state besides generating additional avenues for employment. Further, mining operation in this backward area shall improve the infrastructure facilities and enhance the socio-economic condition of the local people.

The lease area under proposal comprises 152.57 hectares exists in non forest land outside at a distance of 2.5 Km from Mahuadanr Wolf Sanctuary and 8.5 km from Palamu Wildlife Sanctuary. Since non forest land is involved within the lease and 10 km buffer area of the project falls within Mahuadanr Wolf Sanctuary & Palamu Wildlife Sanctuary, this proposal for wildlife clearance is being filed under Wildlife Protection Act in compliance to condition no A(ii) of Environment Clearance dated 17.05.2007.

