

Projects recommended by TCC-I, NMET

1. Proposal For Preliminary Exploration (G-3 Stage) For Aluminous Laterite, Vanadium And Associated Minerals In Kolathur Block, District- Kasaragod, Kerala

[Implementing Agency- MECL]

	Features	Details
	Block ID	KOLATHUR BLOCK
	Exploration Agency	Mineral Exploration and Consultancy Limited (MECL)
	Commodity	Aluminous Laterite, Vanadium and Associated Minerals
	Mineral Belt	In proposed exploration block, major rocks types exposed are charnockites and pyroxene granulite of the Charnockite Group with relatively younger granite gneiss of the Peninsular Gneissic Complex intruded by numerous quartz veins. Kolathur Block falls in part of Survey of India Toposheet no. 48P/03.
	Completion Period withentire Time schedule and cost	12 Months & 1.81 Cr
	Objectives	<p>The present exploration program (G3) has been formulated on the basis of the outcomes of previous work carried out in this area to fulfill the following objectives:</p> <p>Geological mapping on 1:4000 scale for demarcation of Aluminous Laterite, Vanadium and Associated Minerals bearing formations with their structural features to identify the surface manifestations along with the lateral and vertical disposition of the mineralized zones.</p> <p>Topographical survey on 1:4000 scale, at 2 m contour interval.</p> <p>Collection of surface samples (bedrock, channel and Trench) which will be analysed for Al_2O_3, Vanadium and associated elements, which will further shape up the future course of exploration.</p> <p>Pitting and trenching for delineating the bauxite/ aluminous Laterite zones prior to borehole drilling in 800mX800m interval.</p> <p>After the positive outcomes of the above activities drilling will be carried out to intersect the Aluminous Laterite, Vanadium and Associated Minerals mineralization.</p>

		Assessment of quality and quantity of the resources (333) as per UNFC norms & Minerals (Evidence of Mineral Contents) Rules- 2015.		
	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced And name of the out source agency	Work will be carried out by the proposed agency.		
	Name/NumberofGeoscientists	Nos. of Geoscientists: 2		
	ExpectedFielddays(Geology)Geological PartyDays	Geologist Party days: 120 (At field) &45 at HQ Survey Party days: 40 days (for Topographical Survey)		
1.	Location	Cardinal Points	Latitude	Longitude
	Latitude and Longitude	A	12° 28' 33.35" N	075° 05' 7.91" E
		B	12° 29' 0.51" N	075° 05' 52.2" E
		C	12° 27' 41.92" N	075° 07' 34.39" E
		D	12° 27' 6.98" N	075° 06' 53.26" E
		E	12° 27' 33.47" N	075° 06' 32.04" E
		F	12° 27' 29.18" N	075° 06' 11.01" E
	Villages	Bedadka and Kolathur village		
	Tehsil/Taluk	Kasaragod		
	District	Kasaragod		
	State	Kerala		
2.	Area(hectares/squarekilometers)			
	BlockArea	6.56 sq.km		
	ForestArea	The block area is free from Forest Area.		
	GovernmentLandArea	Data not available		

	PrivateLandArea	Data not available
3.	Accessibility	
	NearestRailHead	Nearest railway station to the study area is Kotikulam at about 10 km.
	Road	The North-western part of the block area is on the outskirts of the Kasaragod Township on Eastern and Southern side. The South-western side of the block area is 5 km from Hosdurg town. The national highway NH-17 and Rail route of Southern Railway passes from the western side of the block area.
	Airport	The nearest airport is Mangalore International Airport (Approximately 55 kms).
4.	Hydrography	
	LocalSurfaceDrainagePattern(Channels)/ Rivers/Streams	The streams of the area show dendritic drainage pattern forming Nalas contributing to the tributary system of the westerly flowing Chandragiri River falling into the Laksha Dweep Sea at the western boundary of the block.
5.	Climate	
	MeanAnnualRainfall	The district receives an average of about 3500 mm rainfall annually. The major source of rainfall is southwest monsoon from June to September which contributes nearly 85.3% of the total rainfall of the year. The northeast monsoon contributes nearly 8.9% and balance of 5.8% is received during the month of January to May as pre monsoon showers. Out of the 106 rainy days in a year, 87 rainy days occur during southwest monsoon season.
	Temperatures(December)(Minimum) Temperatures(June)(Maximum)	
6.	Topography	
	Toposheet Number	48 P/3
	MorphologyoftheArea	The western portion of the block is of undulating terrain with isolated hillocks and is the part of coastal plains ranging from 4.6 to 16.4 m from mean sea level. The Eastern portion of the block area is of hilly terrain.
7	Availabilityof baseline geosciences data	Geological Map is available at 1:12500 scale.
	GeologicalMap(1:50K/25K)	
	GeochemicalMap	Not Available
	GeophysicalMap	Not Available

8.	<p>Justification for taking up G-3 or G-2 Stage Mineral Exploration</p>	<p>India is experiencing a surge in demand for vanadium due to its critical role in strengthen steel alloys, enhancing durability in tools, construction materials, and automotive components. It's also utilized in vanadium redox flow batteries for large-scale energy storage, offering scalability and long lifespans.</p> <p>Mineral Exploration Corporation Limited conducted a G-4 level exploration for bauxite in the Kasaragod East Block (291.00 sq km; Block-ID SR-KRL-03) in Kasaragod District, Kerala. The exploration involved geological mapping at a 1:12,500 scale, geochemical sampling, and subsequent analysis. The geological report concluded:</p> <p>Bauxite Deposits: High-alumina bauxite occurs as isolated patches or lenses with irregular distribution. Due to a total silica content exceeding 8%, further bauxite exploration is not recommended.</p> <p>Vanadium and Gallium Potential: Elevated concentrations of vanadium (up to 1,019.7 ppm) and gallium (up to 46.7 ppm) were detected in surface bedrock samples, particularly in the central and southeastern parts of the block. Further investigation through pit channel sampling in the laterite profile is recommended.</p> <p>Rare Earth Elements (REE): Higher values of Light Rare Earth Elements (LREE) in the laterite suggest potential sources of REE. Further investigation along the laterite profile is recommended to understand REE fractionation and vertical movement during laterization.</p> <p>According to the geological report, three bedrock samples from the proposed Kolathur Block exhibit vanadium concentrations ranging from 434.2 ppm to 856.4 ppm, gallium levels between 36.5 ppm and 42.1 ppm, and alumina (Al₂O₃) content varying from 18.76% to 35.56%.</p> <p>Based on previous MECL exploration, anomalous values of aluminous laterite and vanadium were identified in the block area. Consequently, a Preliminary Exploration (G-3) is proposed in carved out area named as Kolathur Block is to assess aluminous laterite, vanadium, and associated minerals, aiming to establish the vertical and lateral continuity of these mineralization. This will enhance resource estimation and make the block suitable for auction.</p>
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