

**Re-submission of Proposal for exploration of Ni, Cr & PGE in  
Charoti area, Palghar District, Maharashtra for Reconnaissance  
Survey (G4 Stage) under NMET**

**COMMODITY: Ni, Cr & PGE**

**BY**

**Critical Mineral Trackers**

Place : Hyderabad

Date : 15.09.2025



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**Summary of the Block for Reconnaissance Survey (G4 Stage)  
GENERAL INFORMATION ABOUT THE BLOCK**

Features	Details																		
Block ID	CMT/NMET/G4-021/2025																		
Exploration Agency	Critical Mineral Trackers (CMT)																		
Commodity	Ni, Cr & PGE																		
Mineral Belt	Deccan Traps																		
Completion Period with entire Time schedule to complete the project	10 months																		
Objectives	G-4 reconnaissance Survey to identify and delineate potential zones for Ni, Cr & PGE Mineralisation																		
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 outsource agency	Predominantly the work would be carried out by the proposed agency i.e., CMT. Only geophysical works will be outsourced																		
Name/ Number of Geoscientists	2 Senior Geologists 2 Junior Geologists																		
Expected Field Days (Geology) Geological Party Days	180 days																		
<b>1. Location</b>																			
Latitude (Decimal Degree)	<table border="0"> <thead> <tr> <th>bnd-pnt</th> <th>Latitude</th> </tr> </thead> <tbody> <tr><td>A</td><td>19.966</td></tr> <tr><td>B</td><td>19.967</td></tr> <tr><td>C</td><td>19.895</td></tr> <tr><td>D</td><td>19.895</td></tr> <tr><td>E</td><td>19.839</td></tr> <tr><td>F</td><td>19.839</td></tr> <tr><td>G</td><td>19.908</td></tr> <tr><td>H</td><td>19.907</td></tr> </tbody> </table>	bnd-pnt	Latitude	A	19.966	B	19.967	C	19.895	D	19.895	E	19.839	F	19.839	G	19.908	H	19.907
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C	19.895																		
D	19.895																		
E	19.839																		
F	19.839																		
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Proposal for exploration of Ni, Cr & PGE in Charoti area, Palghar District, Maharashtra for Reconnaissance Survey (G4 Stage) under NMET



		G H	72.932 72.893
	Villages	Dhaniwari, Vadhane, Veti, Sarshi, Somate	
	Tehsil/ Taluk/Mandal	Dhanu, Palghar & Vikramgad	
	District	Palghar	
	State	Maharashtra	
<b>2.</b>	<b>Area (hectares/ square kilometres)</b>		
	Block Area	131 SQ KM	
	Forest Area	Not known	
	Government Land Area	Not Known	
	Private Land Area	Not Known	
<b>3.</b>	<b>Accessibility</b>		
	Nearest Rail Head	Dahanu Raod	
	Road	Well connected	
	Airport	Mumbai	
<b>4.</b>	<b>Hydrography</b>		
	Local Surface Drainage Pattern (Channels)	Sub-dendritic	
	Streams	Surya	
<b>5.</b>	<b>Climate</b>		
	Mean Annual Rainfall	3000 mm approximately	
	Temperatures (December)(Minimum)	12°C - Minimum	
	Temperatures (June)(Maximum)	39°C - Maximum	
<b>6.</b>	<b>Topography</b>		
	Toposheet Number	47A/13 & 47 E/1	
	Morphology of the Area	Hilly and plain regions	
	<b>Availability of baseline geoscience data</b>		
	Geological Map (1:50K/ 25K)	<b>Available , source GSI Bhukosh</b>	
	Geochemical Map	<b>Available , source GSI Bhukosh</b>	

<p>Geophysical Map (Aeromagnetic, ground geophysical, Regional as well as local scale GP maps)</p>	<p><b>Ground geophysical data is available , source GSI Bhukosh</b></p>
<p><b>Justification for taking up Reconnaissance Survey / Regional Exploration</b></p>	<p>In the proposed block, the exposures of olivine-rich basaltic flows are found at ground level as discontinuous patches (e.g., north &amp; south of Charoti, around Kampada and south of Maghipada). Other exposures are along hill slopes (e.g., Kumbha Dongar, Vaghdev Dongar, and Hill 274). The base of the sills is not exposed, the average thickness is 10-20m, and the highest thickness is 50m on Kumbha Dongar. Nearly half (26 out of 59) of the bedrock samples (BRS) from olivine-rich basaltic flows have yielded more than 10% MgO, and they have also shown elevated nickel (135 to 890 ppm) and chromium (280-1896 ppm) values. The Mg-rich basaltic flows/sills and dykes have shown a very positive correlation with nickel and chromium. A high-magnesium basaltic composition is conducive to hosting Ni-Cr-PGE mineralization. In view of the above features and characteristics, a G4 exploration program for Ni-Cr-PGE in olivine-bearing basaltic flows/sills and dyke of the area is proposed.</p>

## **Background Information**

Based on systematic geological mapping during FS 1981-82, Godbole et. al. (1982) reported the occurrence of olivine-bearing basic sills intruding into basaltic flows at places in the north-eastern part of toposheet 47 A/13 and north-western part of toposheet 47 E/1.

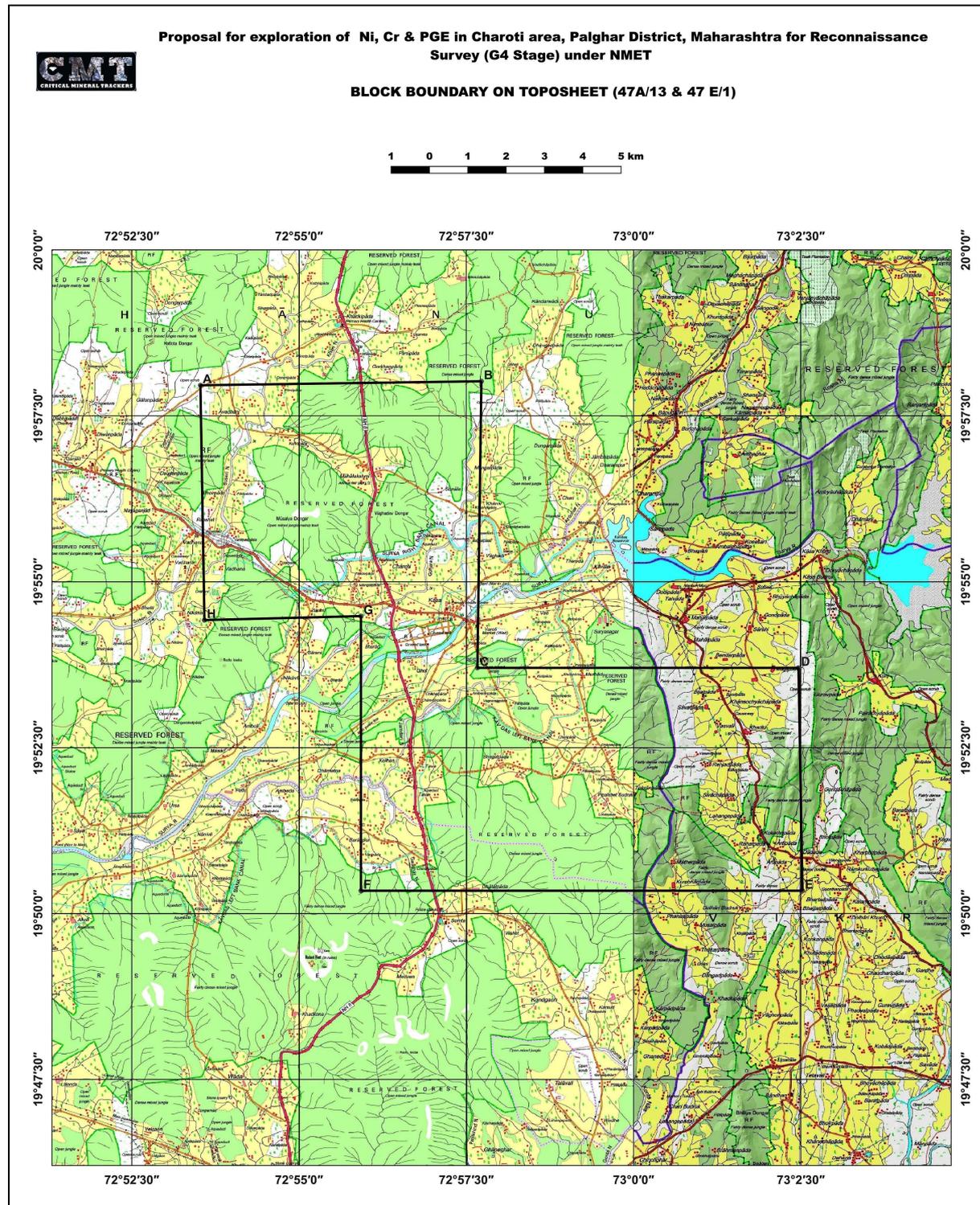
A Systematic Thematic Mapping (STM) of two years duration (FS 2022-23 & 2023-24) was carried out by Kaur et. al. (2024) in and around Ashagad-Charoti Naka areas in Palghar district of Maharashtra. During STM, an area of 720 sq km was mapped on 1: 25,000 scale in parts of toposheets 47 A/13 and 47 E/1, and the mapped lithounits have been sampled to collect 100 bedrock samples (BRS) for chemical analysis. One of the objectives of the programme was to demarcate and map the high Mg basaltic sills/ lava flows. The olivine-rich basalt has been delineated in Chari-Ambeghar-Mahalpada, Kampada-Charoti areas, and near Tawa. In all 59 bedrock samples from olivine bearing sills/dykes of the above-mentioned areas have been collected for analysis. 26 samples have yielded MgO% between 10.3 and 17.32, out of which 20 samples were submitted for PGE analysis. Ten samples were analysed for PGE, five samples show Pt values 5.10, 7.88, 8.79, 14.05 & 32.46 ppb, and two samples show Pd values 7.15ppb & 14.34ppb. Based on the MgO% and results of Pt & Pd, an area of 50 sq km in and around Chari-Ambeghar-Mahalpada was taken up (in FS 2024-25) by the GSI for reconnaissance survey (G 4 stage) to assess PGE potentiality of the area. The report of GSI is due for circulation by the end of September 2025.

The proposed block is to cover the remaining area that exposes the olivine-rich flow/sill.

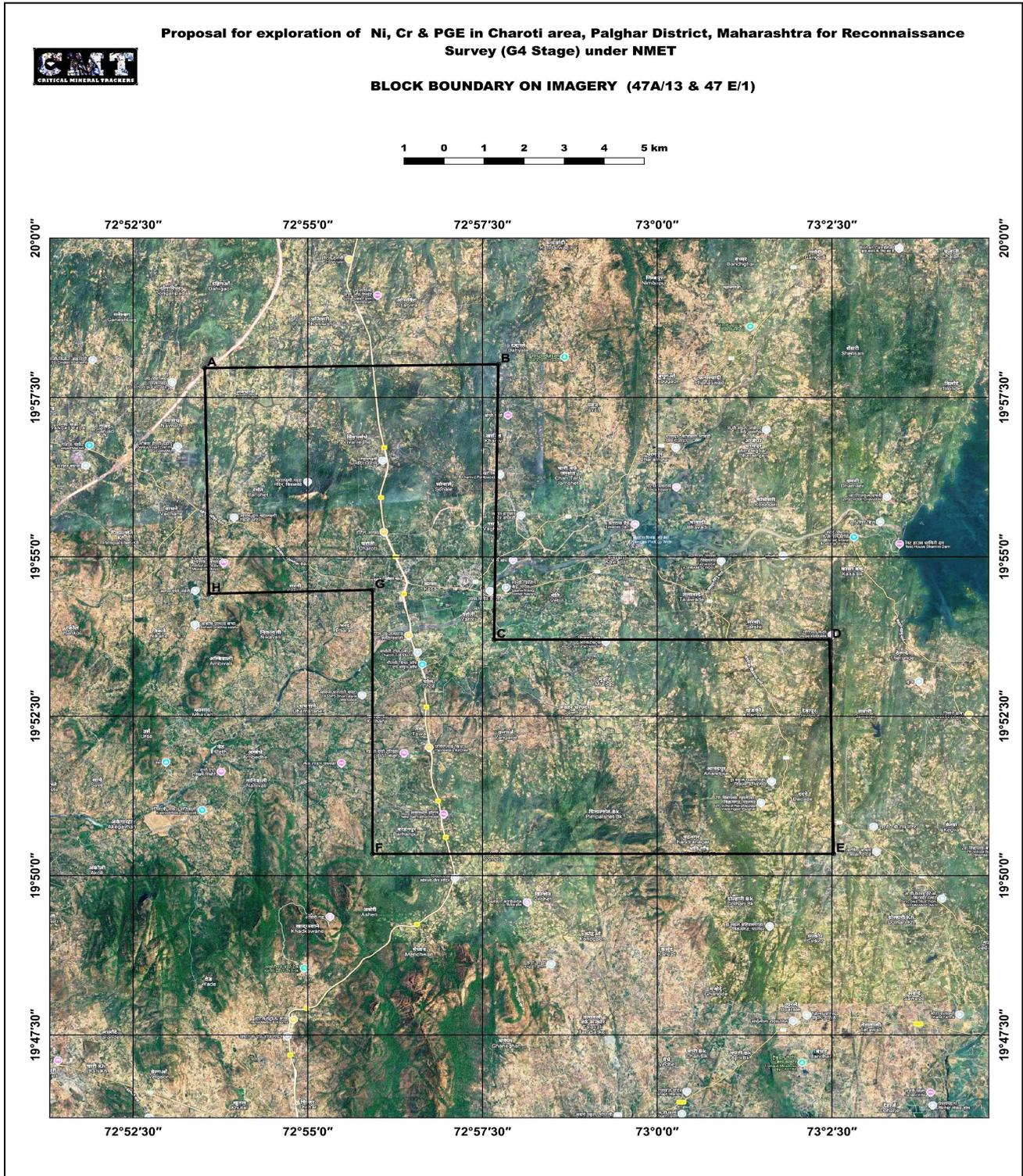
## **Physiography**

The topography is mainly controlled by the flow morphologies. The softer compound pahoehoe flows form hummocky, low-lying isolated hills and hill ranges, whereas the harder, compact simple/ a'a constitute mainly the areas of higher relief with ridges and plateaus. The mixed flows generally exhibit moderate slopes and form conical hills. A typical profile in the area appears 'step-like' or terraced with broad flat tops.

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## **Regional Geology**

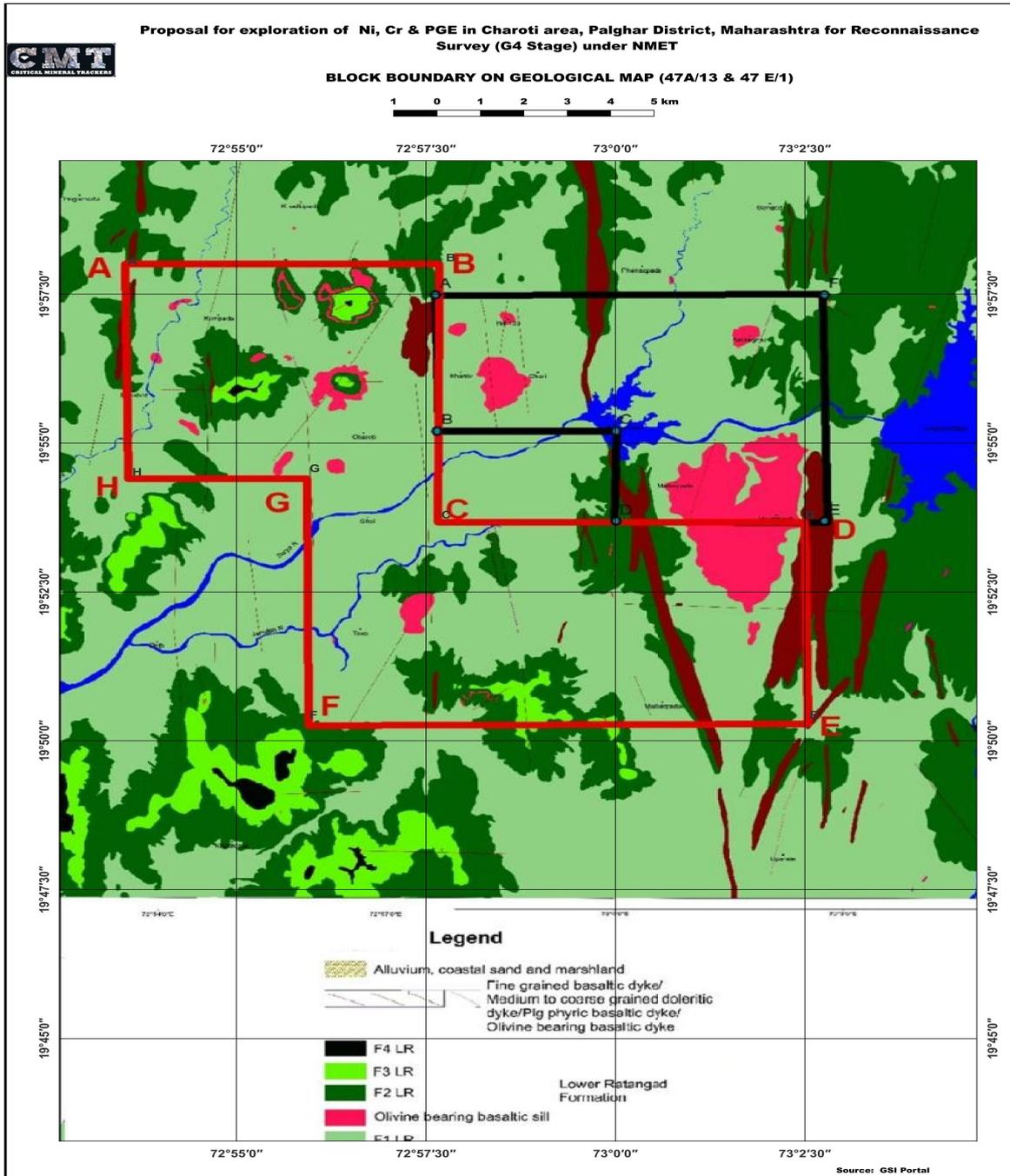
The study area forms a part of the western Deccan lava pile, which has been divided into eight formations viz. Salher, Lower Ratangad, Upper Ratangad, Indrayani, Karla, Diveghat, Purandargad and Mahabaleshwar on the basis of field characters and presence of megacrystic marker horizons M1, M2, M3 and M4. Mapping by earlier workers has revealed that pahoehoe- dominated compound flows are restricted in central parts of the Main Deccan Province whereas a'a/ simple flows occupy the fringe areas (Deshmukh, 1988; Chatterjee et al., 2021). It has also been stated that the lower and middle parts of the western Deccan sequence (viz. Salher, Lower Ratangarh, Upper Ratangarh, Indrayani and Karla formations) are characterized by predominance of compound pahoehoe flows, whereas the upper parts of this lava pile (viz. Diveghat, Purandargarh and Mahabaleshwar formations) are dominated by simple/ a'a flows (Godbole et al., 1996). In addition to the compound pahoehoe and simple/ a'a flows, a number of flows bearing signatures of both pahoehoe as well as a'a flow types or showing a changeover from pahoehoe to a'a type when traced laterally over a long distance were also identified. These have been named as the "mixed" flows. In the existing GSI reports, the "mixed" flows have been mapped mainly in the Diveghat and Purandargad formations.

Godbole et al mapped the areas in parts of in toposheet nos. 47A/13, 47A/09 and 47E/01 during 1981-82. And as per their observations, seven groups of flows mostly of pahoehoe types intruded by dykes trending in various directions have been demarcated in the area. Two olivine-bearing basic sills intruding the basalt flows have been traced in the eastern part. Agglomerates, interbedded with basalts, are noticed near Saravali. The dyke swarms are noticed all along the coastal form Dahanu in north to Nandgaon in the south. Presence of a deep seated of fault zone along Surya river shows inclusion of dunitic patches in a dyke and occurrence of hot springs near Koknere just south of the present area. Another north-south fault zone from Kondhan to Dhanivari, has been recognised. A local east-west trending fissure is also noticed near Chichali along Surya river bed where a gabbroidal dyke culminates into a fine-grained land and compact sill. The westward increase in the gradient of flows confirms the presence of a monoclinial flexure in the area.

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**Block Geology:**

The proposed area is occupied mostly by Deccan basalts of Salher and Lower Ratangad formations, consisting of flows F1 to F4 and their variants. Flow 1 and part of Flow 2 form the Salher Formation, and Flow 2 to Flow 4 form the Lower Ratangad Formation. Olivine-bearing picritic basalts occur as sills in the area.



**Analytical results of twenty-six bedrock samples that have high MgO%:**

Sl. No.	BRS Sample No.	MgO (%)	Cr (ppm)	Ni (ppm)
1.	63	10.8	495	281
2.	66	10.3	831	139
3.	86	11.4	853	253
4.	12B	10.27	280	135
5.	49B	10.54	988	251
6.	57B	10.4	1112	255
7.	37	11.6	1078	314
8.	143	11.7	1344	575
9.	136	10.5	296	149
10.	63	11.0	469	298
11.	137	10.5	1009	280
12.	140	10.6	1190	262
13.	B 203	10.12	1146	148
14.	B 275	10.42	862	160

15.	B 286	11.29	1163	271
16.	124	16.6	1721	777
17.	142	15.3	1879	812
18.	60	12.1	1044	605
19.	B 170	13.22	1278	670
20.	B 180	13.69	1711	692
21.	B 197	16.68	1464	890
22.	B 198	17.32	1896	876
23.	B 267	13.54	1144	271
24.	B 271	14.13	1706	348
25.	B 283	13.89	1554	584
26.	B 295	15.94	1133	546

**Recommendations of TCC-1:**

**Recommendations of the 79<sup>th</sup> Meeting of TCC-1, as per the Agenda 79.2.2. The committee did not approve the item at this stage and advised CMT to conduct a field visit and collect samples for PGE, Ni, and Cr analysis. If the results yield encouraging values, CMT may resubmit the proposal as DPR for consideration.**

As per the above recommendation, CMT has undertaken field traverses in Charoti block between 06-08-2025 to 08-08-2025 and collected 10 BRS samples from various flows and same have been sent for chemical analysis. The results of the same is detailed as under chemical analysis of the samples are in the range of :

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S.No	Sample ID	Lab ID	Sr	As	Ba	Be	Bi	Co	Cr	Cu	Ga	Ge	Hf	In	Li	Mn	Nb	Ni	Pb	Ag	Sc	Sr	Ta	Ti	V	W	Zr	Zn				
			(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)											
1	BRSJ/CR/2025	5690/1	9.4	3.6	70.8	<1.0	<1.0	<1.0	48.7	872.9	115.2	18.3	28.0	<1.0	<1.0	6.4	<1.0	581.9	600.3	<1.0	0.3	28.0	1.3	589.0	3.6	7.7	14.1	12.6	116.9	1.9	62.7	88.2
2	BRSJ/CR/2026	5690/2	7.5	1.5	237.4	<1.0	<1.0	<1.0	47.7	680.5	102.3	18.0	31.2	2.1	<1.0	7.4	<1.0	708.5	500.0	1.0	0.2	31.2	<1.0	296.0	4.1	8.4	14.5	11.1	172.3	2.3	107.0	111.2
3	BRSJ/CR/2027	5690/3	12.7	1.9	121.7	<1.0	<1.0	<1.0	44.3	1203.4	78.8	22.7	34.8	<1.0	<1.0	13.2	<1.0	522.1	289.0	2.4	0.1	34.8	<1.0	142.7	<1.0	11.4	14.3	7.9	229.0	1.4	66.7	102.8
4	BRSJ/CR/2028	5690/4	10.5	2.5	194.3	<1.0	<1.0	<1.0	40.9	1161.3	97.3	24.8	34.0	1.1	<1.0	13.3	<1.0	685.0	270.1	2.2	0.5	34.0	<1.0	181.5	1.0	11.7	14.7	14.1	240.8	2.1	87.2	99.8
5	BRSJ/CR/2029	5690/5	7.2	5.1	156.4	<1.0	<1.0	<1.0	32.0	492.7	106.2	24.0	28.1	1.6	<1.0	9.3	<1.0	725.2	178.3	13.4	0.2	28.1	<1.0	252.2	<1.0	7.3	16.3	13.5	233.0	1.1	96.9	93.9
6	BRSJ/CR/2030	5690/6	2.8	4.6	110.7	<1.0	<1.0	<1.0	24.3	60.2	333.0	29.6	27.8	2.2	<1.0	14.2	<1.0	708.8	57.6	2.0	0.2	27.8	1.4	231.1	<1.0	9.6	16.7	11.2	225.6	2.1	119.3	100.3
7	BRSJ/CR/2031	5690/7	6.6	3.3	143.5	<1.0	<1.0	<1.0	25.6	321.2	59.2	25.7	32.4	2.1	<1.0	12.4	<1.0	686.9	99.2	1.8	0.1	32.4	2.0	220.9	<1.0	10.2	14.8	13.5	218.4	5.0	110.5	94.7
8	BRSJ/CR/2032	5690/8	7.0	1.3	112.0	<1.0	<1.0	<1.0	34.0	938.6	36.8	20.6	41.0	<1.0	<1.0	12.7	<1.0	520.1	139.3	1.7	0.1	41.0	<1.0	135.8	<1.0	10.2	12.9	7.4	240.6	0.7	72.8	80.1
9	BRSJ/CR/2033	5690/9	3.5	3.2	195.3	<1.0	<1.0	<1.0	27.0	254.3	111.4	23.1	27.9	1.9	<1.0	10.8	<1.0	714.8	110.6	<1.0	0.2	27.9	<1.0	433.2	28.4	8.3	15.1	9.7	214.1	1.8	88.8	89.2
10	BRSJ/CR/2034	5690/10	7.5	1.7	151.4	<1.0	<1.0	<1.0	35.0	949.9	120.8	23.5	32.6	1.4	<1.0	11.0	<1.0	742.1	193.4	1.9	0.3	32.6	<1.0	209.7	1.2	12.7	16.7	14.1	235.7	1.2	97.5	91.2

- Nickel (Ni):90-600 ppm;
- Chromium(Cr):60-1203 ppm;
- Cobalt(Co): 24-49 ppm;
- Niobium(Nb):520-740 ppm;
- Strontium (Sr):142-589 ppm;
- Copper( Cu):36-333 ppm;
- Vanadium(V):116-241 ppm;
- Barium(Ba):71-237 ppm;
- Zirconium(Zr):62-119ppm ;
- Zinc(Zn): 80-111ppm ;
- Gallium(Ga):18-30ppm;
- Germanium(Ge): 28-41ppm
- Further studies will be taken up if the proposal is approved by the committee. DPR is being submitted for your perusal and approval.



Olivine Basalt

Location:south of kakadpada  
elevation:128m



Altered olivine(Iddindsite)

Location:Ghatalpada  
North Somati

Proposal for exploration of Ni, Cr & PGE in Charoti area, Palghar District, Maharashtra for Reconnaissance Survey (G4 Stage) under NMET

Issued to:

Critical Mineral Trackers  
 N.No 7-1-SB/CC/406, Concourse 'D', Opp.Lal Bungalow  
 Greenlands, Begumpet,  
 Hyderabad-500 016  
 Kind Attn: Mr.K.Mahender Reddy, 9032012955

TEST RESULTS



ULR : TCS91825000003131F



Sample Particulars : Olivine Basalt

LAB REGISTRATION NO: LL/25-26/005690(1 to 10)  
 Date of Receipt of Sample : 19/08/2025  
 Date of Starting of Analysis : 01/09/2025  
 Date of Completing of Analysis : 09/09/2025  
 Customer Ref: Test Request Form

S/N	Sample ID	Reg no	Antimony	Asenic as As	Barium as Ba	Beryllium as Be	Bismuth as Bi	Cadmium as Cd	Cobalt as Co	Chromium as Cr	Copper as Cu	Gallium as Ga	Germanium as Ge	Hafnium as Hf	Indium as In	Lithium as Li	Magnesium as Mg
			(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
1	BRS1/CN/2025	5690/1	9.4	3.6	70.8	<1.0	<0.5	<0.5	48.7	872.9	115.2	18.3	28.0	<1.0	<1.0	6.4	<1.0
2	BRS2/CN/2025	5690/2	7.5	1.5	237.4	<1.0	<0.5	<0.5	47.7	680.5	102.3	18.0	31.2	2.1	<1.0	7.4	<1.0
3	BRS3/CN/2025	5690/3	12.7	1.9	121.7	<1.0	<0.5	<0.5	44.3	1203.4	78.8	22.7	34.8	<1.0	<1.0	13.2	<1.0
4	BRS4/CN/2025	5690/4	10.5	2.5	194.3	<1.0	<0.5	<0.5	40.9	1161.3	97.3	24.8	34.0	1.1	<1.0	13.3	<1.0
5	BRS5/CN/2025	5690/5	7.2	5.1	156.4	<1.0	<0.5	<0.5	32.0	492.7	106.2	24.0	28.1	1.6	<1.0	9.3	<1.0
6	BRS6/CN/2025	5690/6	2.8	4.6	110.7	<1.0	<0.50	<0.50	24.3	50.2	333.0	29.6	27.8	2.2	<1.0	14.2	<1.0
7	BRS7/CN/2025	5690/7	6.6	3.3	143.5	<1.0	<0.5	<0.5	25.6	321.2	59.2	25.7	32.4	2.1	<1.0	12.4	<1.0
8	BRS8/CN/2025	5690/8	7.0	1.3	112.0	<1.0	<0.5	<0.5	34.0	938.6	36.8	20.6	41.0	<1.0	<1.0	12.7	<1.0
9	BRS9/CN/2025	5690/9	3.5	3.2	195.3	<1.0	<0.5	<0.5	27.0	254.3	111.4	23.1	27.9	1.9	<1.0	10.8	<1.0
10	BRS10/CN/2025	5690/10	7.5	1.7	151.4	<1.0	<0.5	<0.5	35.0	949.9	120.8	23.5	32.6	1.4	<1.0	11.0	<1.0

Page 1 of 2

Reviewed

X.L.Kanta Rao  
 AUTHORIZED SIGNATORY

Lucid Laboratories Pvt. Ltd.  
 Plot No. 3, IDA, Balanagar, Hyderabad - 500 037, Telangana, INDIA, Ph : 040-65904222/110 Lines  
 E-mail: info@lucidlabsindia.com, website : www.lucidlabsindia.com CIN No. : U24239TG2004APTC042390

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Issued to:

Critical Mineral Trackers  
 N.No 7-1-58/CC/406, Concourse, Opp.Lal Bungalow  
 Greenlands, Begumpet,  
 Hyderabad-500 016  
 Kind Attn: Mr.K.Mahender Reddy, 9032012955

TEST RESULTS



ULR : TC59182500003131F



Sample Particulars : Olivine Basalt

LAB REGISTRATION NO.: LL/25-26/005690(1 to 10)  
 Date Of Receipt of Sample : 19.08.2025  
 Date Of Starting of Analysis : 01.09.2025  
 Date Of Completing of Analysis : 09.09.2025  
 Customer Ref: Test Request Form

S.No	Sample ID	Reg no	Concentration (ppm)														
			Nickel as Ni	Mobium as Mo	Lead as Pb	Scandium as Sc	Selenium as Se	Silver as Ag	Strontium as Sr	Tantalum as Ta	Tellurium as Te	Thallium as Tl	Tin as Sn	Vanadium as V	Tungsten as W	Zinc as Zn	Copper as Cu
1	BR51/CN/2025	5690/1	600.3	581.9	<1.0	0.3	28.0	1.3	589.0	3.6	7.7	14.1	12.6	116.9	1.9	62.7	88.2
2	BR52/CN/2025	5690/2	500.0	708.5	1.0	0.2	31.2	<1.0	296.0	4.1	8.4	14.5	11.1	172.3	2.3	107.0	111.2
3	BR53/CN/2025	5690/3	289.0	522.1	2.4	0.1	34.8	<1.0	142.7	<1.0	11.4	14.3	7.9	229.0	1.4	66.7	102.8
4	BR54/CN/2025	5690/4	270.1	685.0	2.2	0.5	34.0	<1.0	181.5	1.0	11.7	14.7	14.1	240.8	2.1	87.2	99.8
5	BR55/CN/2025	5690/5	178.3	725.2	13.4	0.2	28.1	<1.0	252.2	<1.0	7.3	16.3	13.5	233.0	1.1	96.9	93.9
6	BR56/CN/2025	5690/6	57.6	708.8	2.0	0.2	27.8	1.4	231.1	<1.0	9.6	16.7	11.2	225.6	2.1	119.3	100.3
7	BR57/CN/2025	5690/7	99.2	686.9	1.8	0.1	32.4	2.0	220.9	<1.0	10.2	14.8	13.5	218.4	5.0	110.5	94.7
8	BR58/CN/2025	5690/8	139.3	520.1	1.7	0.1	41.0	<1.0	135.8	<1.0	10.2	12.9	7.4	240.6	0.7	72.8	80.1
9	BR59/CN/2025	5690/9	110.6	714.8	<1.0	0.2	27.9	<1.0	433.2	28.4	8.3	15.1	9.7	214.1	1.8	88.8	89.2
10	BR510/CN/2025	5690/10	600.3	581.9	<1.0	0.3	28.0	1.3	589.0	3.6	7.7	14.1	12.6	116.9	1.9	62.7	88.2

Test Method: SOP OM-8 (Instrument Used: ICP-OES)  
 Note 1: The above results are expressed on dry basis.

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*Handwritten Signature*  
 Reviewed  
*Handwritten Signature*  
 AUTHORISED SIGNATORY

## **Methodology of Investigation**

1. Collection and Integration of Geological, Geochemical, Geophysical data and interpretation.
  2. Reconnoitry traverses to understand the lithological setup of the block area.
  3. Geological Mapping (LSM) of the block area on 1:12500 Scale.
- Collection of bedrock samples
  - Pitting (1m\*1m\*1m) would be carried out in the soil covered area within the block area to delineate the enriched mineralised Zones.
  - Ni,Co and PGE in Basaltic terrain of the block.
  - Collection of samples from pits and will be submitted to chemical lab.
  - Rock samples to be collected for petrographic studies.
  - Once the mineralised zones are delineated, planning of boreholes( 6 no) and drilling will be carried out to ascertain the subsurface persistence of the mineralisation.
  - Analysis of the bedrock and pit samples will be done in NABL accredited laboratories .
  - Plotting of analytical data on the map and preparation of elemental distribution pattern diagrams.
  - Resource Estimation.
  - Preparation of final geological Report.

**Nature, Quantum, Target:**

G-4 Reconnaissance Survey

Area- 131 Sq km (Geological mapping (LSM) on 1: 12,500 scale)

Number of pits - 100 (each one size 1\*1\*1m)

Number of bed rock samples : 100 no

Six boreholes upto 50m depth

Core samples will be collected at every 5m interval. Therefore, 10 samples for each bore hole. Total core samples for 6 boreholes would be 60 No.

Pit samples 100 No.

**I. Timeline: TEN MONTHS (300 Days)**

Sno	Activity	Unit	Months										Days		
			1	2	3	4	5	6	7	8	9	10			
1	Geologist HQ Days	Days	█												30 days
2	Geologist Days Field	Days		█	█	█	█	█	█	█	█	█	█	█	240 days
3	Sampling (Pitting & Trenching)	Days			█	█	█	█	█	█	█	█	█		60 days
4	Laboratory Studies	Days			█	█	REVIEW	█	█	█	█	REVIEW	█	█	240 days
5	Core Drilling	Days							█	█			█		90 days
6	Survey Party Days	Days											█		30 days
8	Post Field Interpretation	Days											█	█	30 days
9	Report Compilation & Submission	Days												█	45 days

Proposal for exploration of Ni, Cr & PGE in  
Charoti area, Palghar District, Maharashtra for  
Reconnaissance Survey (G4 Stage) under NMET



### **References:**

Godbole, S.M., Joshi, Y. C. and Mulage, S.C., 1982: Geology of parts of Thane District, Maharashtra. FS: 1981-82.

Kaur, J., Pandey, M., Sarkar, S. and Pal, T., 2024: Report on Specialized Thematic Mapping of the Deccan lava sequence and associated intrusive exposed in Ashagad-Charoti Naka area in parts of Palghar district, Maharashtra, FS: 2022-24.

Title of Project – Reconnaissance survey (G4) for Ni, Cr and PGE in Charoti Block, Palghar District, Maharashtra (under NMET)							
Name of the Exploration Agency – Critical Mineral Trackers, Hyderabad							
Total Area - 131 sq.km ; No of Boreholes- 6 @ 50 m ; Completion Time - 12 months							
S.No	Item of Work	Unit	Rates as per NMET SoC		Estimated Cost of the Proposal		Remarks
			SoC-Item-SI No.	Rates as per SOC	Quantum	Total Amount(Rs)	
<b>A</b>	<b>Geological Work</b>						
1	Geological Mapping(1:12,500) & sampling – Geologist field-days		1.2	11000	240	26,40,000	man days
2	Geologists(HQ)days, pre & post field interpretation 35 +45 days	One Geologist Per Day	1.2	9000	80	7,20,000	man days
3	Pitting-100 No each one size 1*1*1m(1 Cu.m each)	Per Cu.m	2.1.2	3800	100	3,80,000	cu.m
5	sampler	60 days	1.5.2	5100	60	3,06,000	man days
6	Labour(4 labour) attached to sampler	4 labours	5.7	556	240	1,33,440	labour days
7	Labour (240 Field days) per team:2 workers : 240*2 for two geologist teams	Per Team of 2 Geologists (2*2=4)	5.7	556	480	2,66,880	labour days



Proposal for exploration of Ni, Cr & PGE in Charoti area, Palghar District, Maharashtra for Reconnaissance Survey (G4 Stage) under NMET

		Labour/Field workers					
	<b>Sub-Total -A</b>					<b>44,46,320</b>	
<b>B</b>	<b>Survey Work:</b>						
1	Surveyor: Fixation & connection of boundary points(8 nos),6 Bh by Total station/DGPS	One surveyor	1.6.2	19,200	14	2,68,800	
	<b>Sub-total-B</b>					<b>2,68,800</b>	
<b>C</b>	<b>Core Drilling</b>						
1	Core drilling : 6 Bore Holes( each 50m depth) 6*50	Per meter	2.2.1.4a	11,500	300	34,50,000	
2	Construction of BH pillar(12"*12"*30")	Per pillar	2.2.7a	2000	6	12,000	
3	**Mob drilling machine & inner BH shifting	lumpsum	2.2.9a	2,50,000	1	2,50,000	
4	demob drilling machine & inner BH shifting	lumpsum	2.2.9b	2,50,000	1	2,50,000	
5	Camp Setting	Per month	2.2.9	50,000	4	2,00,000	
6	Approach Road	Per Kilometer	2.2.10a	22,020	20	4,40,400	20 km approx.



Proposal for exploration of Ni, Cr & PGE in Charoti area, Palghar District, Maharashtra for Reconnaissance Survey (G4 Stage) under NMET

7	Compensation for 6 Bhs	Per Point	5.6	20,000	6	1,20,000	
8	Drill core preservation in GI boxes	Per meter	5.3	1590	275	4,37,250	excluding soil/WZ
	<b>Sub total-C</b>					<b>51,59,650</b>	
<b>D</b>	<b>Laboratory Studies</b>						
<b>1</b>	BRS - 100 No's PGE ,Cr,Hf,Rb , Sr , Ni , Co (34 Elements)	Per sample	4.1.14	7731	110	850410	100+10 check samples
<b>2</b>	Trench Samples :ICP-MS	Per sample	4.1.13	5380	0	0	
<b>3</b>	Pit Sample: (100*1=100nos)-ICP-MS 100 No's PGE, Zr,Hf,Rb , Sr , Ni , Co ( 34 Elements)	Per Sample(34 elements)	4.1.14	7731	110	850410	100+10 check samples
4	BRS - 25 Samples + Pit 25 Samples for REE	Per sample	4.1.13	5380	50	2,69,000	
4	Core drilling Samples- 10*6= 60	Per sample(34 Elements)	4.1.14	7731	66	510246	60+6 check samples
	Total depth 50m each, samples will be collected at every 5m interval.						
	ICP-MS						
5	Preparation of standard thin section	Per sample	4.3.1	2353	50	1,17,650	
6	Complete petrographic/ore microscopic/mineragraphic studies	Per sample	4.3.4	4232	50	2,11,600	

Proposal for exploration of Ni, Cr & PGE in  
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7	EPMA	Per Hour	4.4.1	8540	20	1,70,800		
	<b>Sub-total-D</b>					<b>29,80,116</b>		
	TOTAL (A+B+C+D)					<b>1,28,54,886</b>		
<b>F</b>	<b>Preparation of Exploration Proposal</b>		5.1	2% of the project cost subject to a maximum of 5 lakhs	1	2,57,098	2% of the Project cost.	
	(5 Hard copies with a soft copy)							
<b>G</b>	<b>Geological Report</b>		5.2	5% of the Project cost		6,42,744	5% of the Project Cost.	
	(5 Hard copies with a soft copy)							
	Peer Review			30000	1	30,000		
	<b>Project Cost without GST</b>						<b>1,37,84,728</b>	
	18% GST						<b>24,81,251</b>	
	<b>Total Project Cost</b>						<b>1,62,65,979</b>	