PROPOSAL FOR GOLD

IN CHINNIKATTI BLOCK, HAVERI DISTRICT,

KARNATAKA STATE

FOR PRELIMINARY EXPLORATION (G3 STAGE) UNDER NMET

(Commodity – Gold)

By

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Summary of the Block for G3 stage exploration

	Features	Details
	Block ID	MTCS/NMET-002/2024/KA/Chinnikatti
	Current Exploration Agency	Mining Tech Consultancy Services Limited (MTCS), Ahmedabad
	Previous Exploration Agency	Geological Survey of India
	G4 stage Geological Report (Previous stage Geological Report)	GSI has carried out Field Season Programs during Year 1970-1971(G4), 1992-1994 (G3), 1998-1999 (P-II) and 2020-2021 (G4)
	Commodity	Gold
	Mineral Belt	Shimoga-Dharwar schist belt
	Completion Period with entire time schedule to complete the project	16 months
	Objectives	The exploration scheme of Chinnikatti block has been formulated with the following objectives: 1. Geological mapping. 2. Geochemical Sampling 3. Ground Geophysical Survey 4. Exploratory drilling as per G3 level of exploration. 5. Establishing the extent of gold occurrence and mineralization within the area. 6. Preparation of geological report in line with the Minerals (Evidence of Mineral Contents) Amendment Rules 2015 and prescribed guidelines.
	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	The work will be carried out by the exploration agency (MTCS).
	Name/ Number of Geoscientists	Four (3 Field + 1 HQ). Names will be provided prior to filed work.
	Expected Field days (Geology, Geophysics, Surveyor)	Geology – 205 days (155 Field + 50 HQ), Geophysics – 135 days

1.	**Location**	
	Latitude	14° 37' 9.492" N to 14° 39' 29.625" N
	Longitude	75° 22' 39.500" E to 75° 25' 19.607" E
	Villages	Chinnikatti, Tadasa
	Tehsil/ Taluk	Byadgi
	District	Haveri
	State	Karnataka
2.	**Area (hectares/ square Kilometres)**	
	Block Area	700 Ha. / 7.00 Sq. Km
	Forest Area	Not Available
	Government Land Area	Not Available
	Private Land Area	Not Available
3.	**Accessibility**	
	Nearest Rail Head	Motebennur (20 km)
	Road	SH-62 & SH-136
	Airport	Hubli (100 km)
4.	**Hydrography**	
	Local Surface Drainage Pattern (Channels)	The drainage pattern is sub-dendritic in this area.
	Rivers/ Streams	No major river flows in this area.
5.	**Climate**	
	Mean Annual Rainfall	700 mm (avg.)
	Temperatures (December) (Minimum) Temperatures (June) (Maximum)	Minimum – 15° C Maximum – 45° C
6.	**Topography**	
	Toposheet Number	48 N/6
	Morphology of the Area	The area exhibits moderately undulating topography with minimum and maximum elevation of 617m and 732m above MSL respectively.
7	**Availability of baseline geoscience data**	
	Geological Map (1:50K/ 25K)	Available
	Geochemical Map	Available
	Geophysical Map (Aero-geophysical, Ground geophysical, Regional as well as local scale GP maps)	Available

8.	**Justification for taking up G3 stage mineral exploration**	1. The proposed block area forms the northern part of Shimoga-Dharwar schist belt. 2. The rock units in the area belong to the Ranebennur Formation of Chitradurga Group of Shimoga-Dharwar schist belt representing Archean Age. 3. These BIF bands are seen interbedded in a country rock representing argillite/greywacke suite of rocks along with chert, quartzite and metabasalt. The gold mineralization is found associated with BIF. 4. Most of the works, during FSP (1970 and 1992), have been undertaken In Chinmulgund area which is **outside** the proposed area. ▪ The detailed mapping is undertaken in the part of Chinmulgund Village which is situated 3km SE of the proposed Block. ▪ 0.84 million tonnes of ore with average width of 3.5 m with grade of 4.38 g/t containing 3807 kgs of gold is proved. The probable reserve is 1.77 million tonnes with an average grade of 4.38 g/t (contain 8387.5 kg of gold) is reported. 5. During FSP 1998, detailed mapping in part of Salagudda area (outside the proposed block) was undertaken. ▪ The gold value from trench samples (358 nos.) from this area ranges from **<0.1ppm to 12 ppm.** Similarly, the gold value from the closed spaced BIF samples (179 nos.) ranges from **<0.1 ppm to 5.65ppm** ▪ The author recommended to **consider further work** in the northern and middle bands in the central sector as these show good results as far as gold content is concerned. 6. During FSP 2020-21, exploration work was conducted in Chinnikatti area by GSI. The summary is provided below ▪ Based on field evidences, two type of sulphide mineralization was identified viz, (i) Disseminated type- dispersed sporadically within the BIF layers. Fresh unaltered and oxidized pyrites are representing this type and (ii) vein filling type- present mostly in the gash

		and quartz veins intruded during the hydrothermal alteration. ▪ The analytical results of stream sediment samples and soil samples retrieved from the area shows that the gold value present in the area ranges from <25 ppb to 45 ppb (Bd/SSS/8) and < 25 ppb to 30 ppb (Bd/SS-2) respectively, suggesting that the gold is present in insignificant amount within them. ▪ Majority of the high Au values are concentrated in southern BIF band in the target block whereas the northern BIF band is poorly to sparsely auriferous. Out of 50 samples analysed, 21 nos. of samples reported Au values below 25 ppb, 12 samples show Au values between 32 ppb to 100 ppb, 9 samples show between 104 to 400 ppb and 8 nos. show value ranging in between 595 ppb to 7880 ppb. ▪ Two potential blocks for gold mineralization have been identified namely (1) Chinnikatti south southeast block and (2) South Bisalhalli block within the highly mineralized zone in the investigation area. Gold mineralization in the Chinnikatti south southeast block is hosted in the banded magnetite quartzite. The block consists of three parallel but discontinuous BMQ bands exposed in strike length of about 2 km and the width is varies from 1 meter to 10 m. A total of 3 BRS samples from CSSE- band 1 shows Au value of 37 ppb to 90 ppb. The 3 nos of BRS samples from CSSE- band 2 has Au 294 and 546 ppb. The CSSE- band 3 shows Au value of 2420 ppb in BRS and 7880 ppb, 1000 ppb and 142 ppb in trench samples. ▪ The author **recommended** the above two blocks i.e. Chinnikatti south southeast block and South Bisalhalli block **for further detailed geological investigation studies.** 7. The proposed area is the well within the **highly potential Chinnikatti area.**

		8. Initially, MTCS had submitted its proposal for undertaking preliminary exploration (G3) over an area of 23.60 sq.km. near Chinnikatti Village. 9. The proposal, for in-principle approval, was discussed in the 69th Technical-cum-Cost Committee (TCC-I) meeting held during 26th and 27th September 2024. The Committee advised MTCS to review both the previous and recent works conducted by other agencies, conduct a field visit, collect and analyze samples, and present all findings. 10. Accordingly, MTCS studied all the geological investigation reports of GSI, conducted a site visit and collected few rock chip samples from the area. 11. Subsequently, based on the information obtained from the geological report and field visit, the area has been revised and reduced to 7 sq. km. from 23.60 sq. km. 12. Again, during the 70th (TCC-I) meeting held on 24th and 25th October 2024, MTCS discussed with the committee regarding their progress on site visit and revision of area in Chinnikatti. The Committee advised to submit the project proposal along with cost estimates to undertake preliminary exploration. 13. Therefore, MTCS has prepared the project proposal to carry out preliminary exploration (G3) in Chinnikatti over an area of 7.00 Sq.km.

PROPOSAL FOR PRELIMINARY EXPLORATION (G3 LEVEL) FOR GOLD IN CHINNIKATTI AREA, HAVERI DISTRICT, KARNATAKA.

1. Block Summary

1.1. Physiography

The area is located near Chinnikatti Village in Byadgi Tehsil, Haveri District of Karnataka. The area is bounded between latitude 14° 37' 9.492" N to 14° 39' 29.625" N and longitude 75° 22' 39.500" E to 75° 25' 19.607" E and falls within the Survey of India Toposheet no. 48 N/6.

The area exhibits highly undulating topography with minimum and maximum elevation of 617m and 732m above MSL respectively. The central part of the area comprises of ridges with highest elevation. Stream of first and second order with sub-dendritic pattern is observed within the study area.

1.2. Background Geology

Regional Geology

The study area represents the northern extension of the Shimoga- Dharwar schist belt. The Shimoga schist belt extends from Tarikere valley to southern Maharashtra with a maximum width of about 100 km from Shorab in Shimoga to Davanagere in north and Tirthahalli to Ajjampur in south. It is surrounded by the Bababudan schist belt in south; Kudremukh belt in west, Dharwar and Gagad in north and northeast and Chitradurga schist belt to the east. The Peninsular Gneiss of the Tarikere valley separates the Shimoga schist belt from Bababudan in the south. It is a broad, arcuate to equant shaped NNW-SSE trending belt mostly dominated by meta-sedimentary lithounits. Shimoga-Dharwar schist belt mainly comprises of rocks belonging to Chitradurga Group Bababudhan Group of the Dharwar Supergroup. These rocks are represented by thick pile of metasedimentary sequence of greywacke and argillite with interbedded bands of BIF, quartzite, chert and metavolcanics.

Sargur Group represented by ultramafic schists, amphibolites, serpentine, chromite and BIF is present towards the southern margin of Shimoga- Dharwar schist belt. The Chitradurga Group in Shimoga belt can be subdivided into four formations- Jhandimatti, Joldhal, Medur, and Ranibennur Formations. The Dharwar rocks in Shimoga schist belt have undergone two phases of deformation. The axial plane of major regional fold (trend NNW-SSE) is parallel to the regional schistosity trend. The second phase of deformation has resulted in the refolding of this regional fold. The Bababudhan Group in the south and southwest of Shimoga schist belt shows lower amphibolite facies metamorphism, the Chitradurga Group exhibit greenschist facies of metamorphism. Two type of gold mineralization is reported in the Shimoga schist belt viz. 1. Gold mineralization present within the quartz veins traversing in basic volcanic and ultramafic host rocks of lower stratigraphic sequence and 2. Sulphidic BIF hosted gold mineralization present in the upper meta-sedimentary unit. The former is structurally controlled hydrothermal deposit

whereas the later is stratabound type within sulphidic rich banded magnetite quartzite, silicified zones or parting of meta-argillite/ greywacke/ tuff.

Table I: Stratigraphic sequence for the Shimoga schist belt (Ramakrishnan and Harinadha Babu, 1981)

Lithology	Formation	Group	Super group	Age
Laterite				Cenozoic
Basic and ultrabasic intrusives granite, pegmatite, and quartz vein				Paleozoic
Greywacke-argillite and chert volcanic rock, interlayered with acid volcanics including adakites	Ranibennur Formation	Chitradurga Group	Dharwar Super-group	Neo-Archaean
Basic, intermediate, and acid volcanic rocks, subordinate chemical, and detrital sediments	Medur Formation			
Limestone-dolomite±, stromatolites, manganiferous and ferruginous chert-phyllite, carbonaceous phyllites and cherts, volcanic rocks	Joldhal Formation			
Basal or near basal polymictic conglomerate, arenite, chlorite-quartz schist, quartzite, volcanics and pyroclasitic rocks	Jhandimatti Formation			
---------- Unconformity ----------				
Chlorite-quartz-carbonate-pyrite-graphite schist, iron stone (BIF), chlorite phyllite with rare dolomitic limestone	Mulaingiri Formation	Bababudan Group		
Acid volcanics, basic to intermediate volcanics, arenites	Santaveri Formation			
Metapyroxenites, metagabbros and arenites	Allampur Formation			
Basic volcanics, shales, quartz-muscovite schist, quartzite, oligomictic conglomerate, QPC	Kalasapura Formation			
---------- unconformity----------				
Granodiorite (TTG) and foliated multiphase orthogneisses		Peninsular Gneiss		Meso-Archaean
---------- unconformity----------				
Amphibolite, garnet-amphibolite, epidote- banded amphibolite, kyanite-staurolite-mica schist, fuchsite quartzite, cordierite- anthophyllite rocks, iron stone and ultramafites		Sargur Group		

1.3. Scope for proposed exploration

Preliminary Exploration (G3 stage) is proposed to be undertaken within the study area. The work comprises of the following:

I. Geological mapping (1: 4000 scale)

II. Geochemical Sampling (bedrock/ channel/ stream sediment)

III. Ground Geophysical Survey

IV. Trenching

V. Exploratory drilling.

1.4. Objectives

The objectives of current exploration program shall be:

I. Large scale mapping (1:4000) and upgradation of existing geological map.

II. Establishing the extent of gold occurrence and mineralization within the area.

III. Preparation of geological report in line with the Minerals (Evidence of Mineral Contents) Amendment Rules 2015 and prescribed guidelines

1.5. Previous Work

Previously, exploration works have been undertaken by GSI during the field seasons in year 1970-1971(G4), 1992-1994 (G3), 1998-1999 (P-II) and 2020-2021 (G4) for Gold. The summary of work conducted by GSI is given below.

A. <u>Preliminary investigation for Gold at Chinmulgund Village Dharwar District, Mysore State (Progress Report for the Field Season 1970-71); Pushkar Singh et. al.</u>

During FS 1970-71, GSI had undertaken exploration for gold near Chinmulgund Village which is situated about 5 km South-west of the area proposed by MTCS. The summary of the report is as below:

Location	Chinmulgund area lies between Latitude $14^0$33': $14^0$37'30" N and Longitudes $75^0$22'30":$75^0$30' E Dist.- Dharwar (Now Haveri), State- Mysore (now Karnataka) Sol TS No. - 48 N/6
Rock types	Sericite-chlorite phyllite, Banded Magnetite Quartzite (BMQ), quartz veins, dolerite dykes.
Ore Mineralization	Gold mineralization in the area is associated with auriferous quartz veins intruded in BMQ.
Mapping	100 Sq. Km on 1:63,360 Scale and 1 Sq. Km on 1:2000 Scale.

Sampling and Analysis	About 232 surface samples and 63 samples from old workings were collected and analyzed.
Findings / Conclusion / Recommendations	▪ The gold mineralization at Chinmulgund is spread over a strike length of 3 km. as revealed by the ancient mining activity. ▪ The detailed mapping and sampling indicates that the banded magnetite quartzite has acted as the host rock for the gold bearing quartz veins. ▪ From the analytical data of the samples collected over a strike length of 1.8 km. in the four blocks, a strike length of 800 m. constituting the blocks 1 and 3 show mineralized lode. ▪ Out of this shout 400 m. length is occupied by the built-up areas of the village, where drilling is not possible and in the rest 400 m., five boreholes spaced at a depth of 60 m. will be desirable. ▪ The surface samples collected show usually poor results, which is possible due to the richer portions having been worked out by the ancients. ▪ The overall picture of the area based on analytical data suggest that the overall grade is likely to be better than the grade obtained by the present sampling. ▪ The available data till date appears to be sufficiently encouraging to take up preliminary sub-surface exploration by diamond drilling. ▪ The author has recommended to investigate further a total strike length of 1.4 km. to obtain intersections at 80 m. and 160 m. interval below the zone of ancient workings.

B. <u>Investigation for gold in Chinmulgund area, Hirekerur taluk, Dharwar district, Karnataka (interim report for FS 1992-93 & 1993-94); E. Hanumantha Rao et. al.</u>

GSI had further undertaken exploration for gold near Chinmulgund Village and the summary of the report is provided below:

Location	Chinmulgund area lies between Latitude $14^0$33': $14^0$37'30" N and Longitudes $75^0$22'30":$75^0$30' E Dist.- Dharwar (now Haveri), State- Mysore (now Karnataka), Sol TS No. - 48 N/6

Rock types	Argillite/greywacke, Banded Magnetite Quartzite, with minor amount of metavolcanics, mica schist/quartz-chlorite schist/ sericite-chlorite schsit intruded by quartz veins and dolerite dykes. Argillite/greywacke is a predominant lithological unit.
Ore Mineralization	▪ Gold mineralisation in this area is confined to BMQ and tuffaceous horizon. ▪ Gold is associated with sulphide minerals such as pyrite, pyrrhotite and leas of arsenopyrite form stratiform of syngenetic ore in the BMQ.
Mapping	Area - 0.35 sq.km. on 1:2000 Geophysical: Conducted during FS 1992-93
Sampling and Analysis	▪ Trenching and Pitting: 245 (865 cu.m. Cumulative including previous seasons) ▪ 1462 samples were collected (94 outcrop samples, 93 trench samples and 1275 borehole core samples) ▪ Total 3834 Samples (Cumulative - including previous work in year 1990). ▪ Drilling: 4975.85m (28 boreholes, diamond drilling)
Findings / Conclusion / Recommendations	▪ In Chinmulgund, the sulphide and carbonate facies of Banded Iron Formation is the host rock for gold mineralisation. ▪ Broad gravity and magnetic anomalies obtained in the area have indicated a deep seated mafic ultramafic body occur in the valley between Chinmulgund-Ranebennur. ▪ Gold values are moderate within the syngenetic type of sulphide mineralisation, whereas the gold values are usually of high order in epigenetic type of mineralisation. ▪ Detailed mapping was carried out in Reserve Forest block and the auriferous nature of the BIF band has been proved over a strike length of 360 m. ▪ In Temple, Chinmulgund and Village blocks, drilling has proved the auriferous nature of the BIF band in depth and values for gold are encouraging. ▪ In Chinmulgund area, the probable drill indicated reserves is 0.84 million tonnes of ore with average width of 3.5 m with

	grade of 4.38 g/t containing 3807 kgs of gold is proved. ▪ The probable reserve is 1.77 million tonnes of 3.5 m width zone with an average grade of 4.38 g/t (including the drill indicated reserves) contain 8387.5 kg of gold extending for a cumulative strike length of 800 m. ▪ The author recommended that investigation should be continued. One or two deeper boreholes may be drilled in SE block.

C. <u>Investigation For Gold In Salagudda Block Haveri District, Karnataka (P-II Stage), Progress report for the field season 1998 - 99; P.G.K.Bhat et.al.</u>

Preliminary investigation was conducted by GSI for gold in Salagudda block falling in Hirekanur, Ranibennur and Byagdi taluks of Haveri district during the Field Season 1998-99 with the prime object of evaluation of gold mineralisation associated with Banded Iron Formations (BIF).

The details are provided below;

Location	The Salagudda situated at a distance of 2 km south of Bisalhalli and about 8 km south of Byadgi. Dist.- Haveri, State- Karnataka SOI TS No. : 48N/6
Rock types	The various litho types met within the area include carbonitised meta-basalts, tuff (?), argillite/greywacke, phyllite, BIF and quartzite. These units are traversed by quartz veins and gabbro dykes.
Mapping	Mapping: **1.02 Sq. Km** on **1:2000** Scale Trenching and Pitting : **361 cu.m.** (49 trenches)
Sampling and Analysis	358 trench samples 179 close spaced BIF samples
Findings / Conclusion / Recommendations	▪ Three parallel to sub parallel and discontinuous BIF bands, named here as (i) Northern band, (ii) Middle band and (iii) southern band has been identified. ▪ The strike length of these bands varies from 100m to 1000m with a maximum width of 9m for the middle band in central part of the mapped area. ▪ About 49 trenches (361 cu.M) have been made and 358

	trench samples have been collected. Beside trench samples, about 179 samples of BIF at close spaced intervals and 10 other rock samples have been collected. ▪ Out of 179 samples 52 samples analysed for gold and multi-elements at SRO Chemical Laboratory, Hyderabad. The remaining 127 samples and 10 other rock samples were analysed at AMSE Chemical Laboratory, Bangalore for gold, Cu, Pb, Zn, Ni, Co, Cd, As and Ag. ▪ The analysis results of the trench samples (358 nos.) have been reported for northern band, middle band and southern band. The gold values, as per the results, ranges from <0.1ppm to 12 ppm in the northern band, <0.1ppm to 5.5 ppm in the middle band and <0.1ppm to 6 ppm in the southern band respectively. ▪ Beside trench samples, analysis of closed spaced BIF samples (179 nos.) has been undertaken. As per the sample analysis results, the gold content reported in a range of <0.1 ppm to 3.68ppm in the northern band, <0.1 ppm to 5.65ppm in the middle band and <0.1 ppm to 1.1 ppm in the southern band respectively. ▪ The BIF bands described above may be test drilled for their gold potential. ▪ As per the Author, the northern and middle bands in the central sector may be considered for further work as these show good results as far as gold content is concerned.

D. <u>Report on "Reconnaissance Survey for Gold in Sidenur and Aralikatti areas, Haveri District, Karnataka'' (Stage- G4), Final Report for field season 2020-21; Hema Prashant Wagh et. al.</u>

A G4 stage gold investigation was carried out by GSI in Sidenur and Aralikatti area, Haveri District, Karnataka with an objective to identify the auriferous potential zone in the area. The details are provided below;

Location	The area is located in Sidenur and Aralikatti, Haveri District, Karnataka. SOI TS No. : 48N/6
Rock types	The rock types exposed in the area belong to the Ranibennur Formation of Chitradurga Group including intercalated sequences of meta-argillite- greywacke or felsic volcanic with

	banded iron formation, intruded by younger acid and basic intrusives. Meta- Argillite/ greywacke forms the host rock within area. Quartzite is the oldest unit exposed in the southern part of area. The BIF is represented by banded magnetite quartzite (BMQ) and banded magnetite chert (BMC).
Mapping	▪ Mapping: **100 Sq. Km** on **1:12,500** Scale ▪ Aerial Reconnaissance Mapping using ASTER imagery. ▪ Trenching and Pitting: **100 cu.m**
Sampling and Analysis	▪ Geochemical samples including 107 nos. of BRS, 25 no. of SSS, 50 nos. of SS, 50 nos. of PTS and analysis of gold and other associated elements. ▪ 25 nos. of PCS for analysis of major, trace and rare earth elements.
Findings / Conclusion / Recommendations	▪ Based on field evidences, two type of sulphide mineralization was identified viz, (i) Disseminated type- dispersed sporadically within the BIF layers. Fresh unaltered and oxidized pyrites are representing this type and (ii) vein filling type- present mostly in the gash and quartz veins intruded during the hydrothermal alteration. ▪ Surface mineralization manifestations of mineralization noticed in BIF rocks are presence of oxidized pyrite pits, jasperization, boxwork, limonitization, gossan, gash veins and fresh unaltered pyrite and other sulphide minerals. ▪ The EPMA analyses reveals the sulphide mineral phases associated for gold mineralization in area are pyrite, chalcopyrite, chalcocite, galena and pyrrhotite. The other oxide phases identified are goethite, hematite, magnetite and baryte. ▪ The analytical results of stream sediment samples and soil samples retrieved from the area shows that the gold value present in the area ranges from <25 ppb to 45 ppb (Bd/SSS/8) and < 25 ppb to 30 ppb (Bd/SS-2) respectively, suggesting that the gold is present in insignificant amount within them. ▪ Majority of the high Au values are concentrated in southern BIF band in the target block whereas the northern BIF band is poorly to sparsely auriferous. Out of 50 samples analysed, 21 nos. of samples reported Au values below 25

	ppb, 12 samples show Au values between 32 ppb to 100 ppb, 9 samples show between 104 to 400 ppb and 8 nos. show value ranging in between 595 ppb to 7880 ppb. ▪ Two potential blocks for gold mineralization have been identified namely (1) Chinnikatti south southeast block and (2) South Bisalhalli block within the highly mineralized zone in the investigation area. Gold mineralization in the Chinnikatti south southeast block is hosted in the banded magnetite quartzite. The block consists of three parallel but discontinuous BMQ bands exposed in strike length of about 2 km and the width is varies from 1 meter to 10 m. A total of 3 BRS samples from CSSE- band 1 shows Au value of 37 ppb to 90 ppb. The 3 nos of BRS samples from CSSE-band 2 has Au 294 and 546 ppb. The CSSE- band 3 shows Au value of 2420 ppb in BRS and 7880 ppb, 1000 ppb and 142 ppb in trench samples. ▪ The author **recommended** the above two blocks i.e. Chinnikatti south southeast block and South Bisalhalli block **for further detailed geological investigation studies.**

2. Block Description

The area falls within the Survey of India Toposheet no. 48 N/6. The co-ordinates of cardinal points of the area are given in Table II.

Table II: Cardinal points of Chinnikatt Area

Block corner points	WGS-84		WGS-84 / 43 N	
	Latitude	Longitude	Northing	Easting
A	14° 39' 6.213" N	75° 22' 39.500" E	1619839.79	540664.23
B	14° 39' 29.625" N	75° 23' 2.606" E	1620560.27	541354.15
C	14° 38' 33.549" N	75° 23' 48.222" E	1618839.77	542721.57
D	14° 37' 38.918" N	75° 25' 6.395" E	1617165.53	545063.05
E	14° 37' 21.137" N	75° 25' 19.607" E	1616619.98	545459.30
F	14° 37' 9.492" N	75° 25' 4.328" E	1616261.38	545002.88
G	14° 37' 23.546" N	75° 24' 27.553" E	1616691.14	543901.94
H	14° 37' 15.811" N	75° 24' 5.803" E	1616452.34	543251.70
I	14° 38' 11.404" N	75° 23' 5.538" E	1618157.22	541445.93
J	14° 38' 26.763" N	75° 23' 16.252" E	1618629.64	541765.61
K	14° 38' 46.942" N	75° 22' 43.226" E	1619247.94	540776.67

3. Planned Methodology

A desktop study was conducted by MTCS based on the geoscience data available on NGDR and Bhukosh portal. A site visit was conducted by MTCS team during October 2024 in order to access the study area and understand the geology.

Fig 1: Photograph showing study area.

Fig 2: Photograph showing Argillite

Fig 3: Photograph showing Quartz veins

During the site visit, MTCS team has collected few rock chip samples from various parts of the study area. The samples will be analyzed for various elements (viz. Au, Ag, Co, Cr, Cu, Mo, Ni, Zn, Fe, FeO, SiO_2 and Al_2O_3).

Based on the desktop studies and site visit, MTCS has proposed to undertake preliminary exploration within Chinnikatti area and formulated the methodology accordingly. At the end of this study, a geological report will be prepared as per the Minerals (Evidence of Mineral Contents) Amendment Rules 2015 and will be submitted to NMET technical committee for their review and suggestions towards further action. The details of different activities to be carried out are described below:

3.1 Remote Sensing

Existing remote sensing data, if available, will be studied. Further, remote sensing studies using satellite and ASTER imagery will be undertaken within the study area. The objective will be to identify the lineaments, structural features and the mineral potential zones by mineral targeting process.

3.2 Geological Mapping & Ground Truthing

Ground truthing of the area shall be done to corroborate the remote sensing data and further preliminary exploration will be undertaken in phase wise manner. The main object of this study will be carrying out large scale mapping in (1:4000) within the entire area of 7 sq. km. and updation of existing geological map.

During mapping, systematic sampling such as bed rock samples (BRS) and stream sediment samples from the first order streams will be collected and analyzed for Gold content.

3.3 Geochemical Sampling

3.3.1 Surface sampling (Bedrocks Samples)

During geological mapping, 350 bedrock samples (channel samples) of various exposed rocktypes will be collected, prepared and analyzed for Gold.

3.3.2 Stream Sediment Sampling

The stream sediment samples shall be collected from the entire study area of 7 sq.km. The samples shall be collected systematically after studying the drainage pattern, forest cover and accessibility within the area. Total 20 stream sediment samples shall be collected and analyzed for Gold.

In addition, a total of 60 no. of check samples from Bedrock and Stream Sediments will be analyzed for Gold.

3.4 Geophysical Survey

Though the area has been covered by NGPM (at 1:50,000 scale) for Gravity and Magnetic survey on a regional scale, an integrated Ground Magnetic and Self-Potential (SP) is planned to carry out in the proposed block to identify the structural features and mineralization in detailed manner. Traverses will be planned across the strike direction with section interval of 100m and station interval of 10m. A total of 100 Line km is planned for the survey.

Based on the outcome of Magnetic-SP survey, Induced Polarization (IP) survey is planned within the targeted zones. For budget purpose, 40 Line km has been taken for IP survey. The zones containing anomalous values will be targeted for trenching and exploratory drilling.

3.5 Pitting/Trenching

Trenching shall be carried out within the potential zones demarcated by geophysical survey. For budget purpose, total 240 CuM excavation have been considered.

Locations of the trenches on ground will be decided by field geologist based on field observations. A provision of 138 no. primary & check trench samples is kept for analysis of Gold & associated minerals. The locations of the trenches will be marked on the map.

3.6 Exploratory Drilling

Based on the information provided in the field season reports (such as geological information, structure, sample locations & analysis etc.) and further information collected during the site visit, a total of 23 boreholes have been planned in the area. However, the exact locations of these boreholes will be decided based on the findings after undertaking large scale geological mapping, geophysical survey and sample analysis of bed rock / channel samples and trench samples.

All the boreholes shall be drilled incline to intersect the ore body. It is proposed to drill 16 boreholes at 1st level with 130m drilling and 7 boreholes at 2nd level with 220m totaling a tentative of 3600m drilling meterage.

The drill cores will be logged systematically and rocktypes, structural features, textures, mineralization will be recorded along with Rock Quality Designation (RQD) feature.

The survey team will be engaged for fixation of boreholes and collar survey. Survey team will also be associated during geological mapping & geophysical study by taking the sample points and laying survey profiles.

3.6.1 Borehole deviation survey

Borehole deviation survey has been proposed for all boreholes.

3.6.2 Sampling

The mineralized cores will be sampled at 0.50m interval; as far as possible, the immediate footwall and hanging wall rocks (3m length each) will also be sampled at 1m interval, depending upon the intensity of mineralization, change in lithology and core recovery etc. It is envisaged that:

i. Around 1000 No. of primary samples with 150 check (Internal & External) samples will be generated from the mineralized zone intersections and hanging & footwall rocks. All the primary and check samples would be analyzed for Gold in NABL accredited laboratory.

ii. During the course of Geological mapping and drill core logging 30 no samples in total from various litho-units from surface & drill cores will be taken for petrography and mineragraphic studies for identifying mineral distribution, alteration, enrichment etc. in polished sections along with capturing digital photographs.

iii. Total 15 samples will be analyzed by XRD method for identification of different minerals.

3.7 Specific Gravity Determination

For the specific gravity determination, a total of 15 samples are proposed. The samples are to be drawn from ore zones / mineralized zones.

4. Quantum of Work

Quantum of work proposed by MTCS in Chinnikatti area is given below table (Table III).

Table III: Work quantum

Sl. No.	Nature of work	Unit	Quantum
A	**Geological Mapping & Associated Activities**		
1	Geological Mapping (1:4000 scale) [including Multispectral and DEM data analysis]	Sq.Km	7
2	a) Bedrock Sampling (Channel samples)	Nos.	350
	b) Stream sediment Sampling	Nos.	20
	c) Trenching	cum	240
B	**GEOPHYSICAL SURVEY**		
1	Magnetic & S.P. survey	Lkm	100
2	Induced Polarization (Dipole-Dipole)	Lkm	40
C	**SURVEY**		
1	Topographical Survey (1:2000 Scale)	Sq.Km	7
D	**DRILLING**		
1	Drilling in Hard Rock- 1st Level	Meter	2060
2	Drilling in Hard Rock- 2nd Level	Meter	1540
3	BH deviation survey by multishot camera	Meter	3600
4	Borehole Fixation and DGPS Survey	Nos.	23
E	**LABORATORY STUDIES**		
1	**Primary samples** (Au analysis by Fire Assay)		
	a. Bedrock Samples	Nos.	350
	b. Stream Sediment Samples	Nos.	20
	c. Trench Samples	Nos.	120
	d. Borehole Samples	Nos.	1000
2	**Check samples**		
	a. Au analysis by Fire Assay (Bedrock + Stream Samples)	Nos.	60
	b. Au analysis by Fire Assay (Pit/Trench Samples)	Nos.	18
	c. Borehole Samples	Nos.	150
3	Samples for Physical & Petrological Studies	Nos.	40
4	Digital Photograph	Nos.	30
5	Specific Gravity Determination	Nos.	15
6	XRD Analysis	Nos.	15
F	**GEOLOGICAL REPORT PREPARATION**		
1	Geological Report Preparation [As per Minerals (Evidence of Mineral Contents) Rule-2015]	Nos.	1

5. Time schedule and cost estimates

5.1. Time schedule

The proposed exploration program is planned to complete all activities like camp setting & winding, geophysical survey, exploratory drilling & associated geological works along with laboratory work will be completed within 14 months. Report writing will be done another 2 months. Thus, the total duration of the project shall be 16 months from the date of commencement. The bar chart showing activities wise time schedule is placed in Table No. IV.

Table IV: Tentative Time schedule/action plan for proposed Preliminary Exploration (G3)

Activity	Type of Job	Days	Months																
			1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16
Desktop study with Remote sensing, multispectral and DEM data analysis (including obtaining clearances etc)	HQ	15	15																
Camp setting	Field	30	15	15															
Topographical Survey (1:2000 scale)	Field	30		15	15														
Geological Mapping (including surface & stream sampling)	Field	45			30	15													
Laboratory Studies of Surface & Stream Samples	Lab	30				10	20												
Geophysical survey (including mobilization & data acquisition)	Field	105			15	30	30	30											
Geophysical survey (interpretation & report)	HQ	30							30										
Trenching (including logging, sampling etc)	Field	10								10									
Laboratory Studies of Trench Samples	Field	10								5	5								
Data compilation, progress review	HQ	40								15	25								
Drill Rig mobilization	Field	15											15						
Exploratory Drilling	Field	125											15	30	30	30	20		
Camp winding up	Field	30															10	20	
Laboratory Studies of borehole Samples	Lab	90												20	20	20	20	10	
Data compilation, geological report preparation & submission to NMET	HQ	50																20	30
Total Timeline		***480***																	

Review

Note: Time loss on account of any natural calamity /agricultural activity/forest clearance / local law & order problem/ lockdown etc will be additional to the above timeline.

5.2. Cost estimates

Based on the Schedule of Charges (SoC) of projects funded by National Mineral Exploration Trust (NMET) w.e.f. 01.04.2020 tentative cost has been estimated for this project. The total estimated cost is Rs. 845 Lakhs (including GST) The summary of cost estimates for preliminary exploration (G3 Level) is given in Table No. V and details of cost estimates are given in Table No. VI.

Table V - Summary of Cost estimates

Sl. No	Item	Estimated Cost	
		INR	INR (Cr.)
A	Geological Mapping & Asso. Works	25,19,460	0.25
B	Geophysical Survey	1,44,86,930	1.45
C	Survey Work	3,12,120	0.03
D	Exploration Drilling	4,74,52,760	4.75
E	Laboratory Studies	43,66,805	0.44
F	Geological report preparation	20,74,142	0.21
G	Exploration Proposal Preparation	3,80,000	0.04
H	Report Peer Review	30,000	0.003
	Sub-Total	**7,16,22,217**	**7.16**
I	GST (18%)	1,28,91,999	1.29
	Grand Total	**8,45,14,216**	**8.45**

6. Exploratory Drilling

- Total 23 exploratory boreholes have been planned to drill which will be designed based on the findings of geological mapping, geochemical sampling and geophysical survey.
- All the boreholes shall be drilled incline (45°) to intersect the ore body. It is proposed to drill 16 boreholes at 1st level with 130m drilling and 7 boreholes at 2nd level with 220m totaling a tentative of 3600m drilling meterage.
- The drill cores will be logged systematically as per the prevailing guidelines. Features such as rocktypes, structures, textures, mineralization, RQD etc. will be recorded.

7. Manpower deployment

Manpower deployment List shall be provided prior to the commencement of work.

8. Break-up of expenditure

Detailed estimated cost for undertaking preliminary exploration (G3 level) in Chinnikatti over an area of 7.00 Sq. km. is given in Table VI.

Table-VI: Cost Estimate for Preliminary Exploration (G3) Proposal for Gold in Chinnikatti area, Haveri District, Karnataka

Title of Project - Preliminary Exploration (G3) for Gold in Chhinikatti Area Name of the Exploration Agency - Mining Tech Consultancy Services Ltd. (MTCS) Total Area - 7 sqkm; No. of Boreholes- 23, Drilling Meterage- 3600 ; Completion Time - 16 months							
Sl. No.	Item of work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the		Remarks
			SoC-Item -Sl No.	Rates per Unit as per SOC (Rs)	Quantum	Total Amount (Rs)	
A	GEOLOGICAL MAPPING & ASSOCIATED ACTIVITIES (IN-HOUSE)						
1	Charge for procurement of Satellite Imagery (CartoDEM, 2.5m posting, DSM, 14km x 14km scene) for Remote sensing, multispectral and DEM data analysi	Lumpsum	1.1	6,290	2	12,580	As per Actuals
2	Geologist (HQ) - 1 No	day	1.2	9,000	30	2,70,000	
3	Geologist (Field) - 2 No	day	1.2	11,000	90	9,90,000	2 Geologists will be deployed for 45 days each
4	Labor (Field) - 2 No per Geologist	day	5.7	526	180	94,680	Amount will be reimbursed as per the notified rates b the Central Labor Commission or respective State Govt. whichever is higher.
5	Trenching	cubic meter	2.1.1	3,300	240	7,92,000	
6	Sampler - 1 No	day	1.5.2	5,100	50	2,55,000	
7	Labor (Sampling) - 4 Nos	day	5.7	526	200	1,05,200	Amount will be reimbursed as per the notified rates b the Central Labor Commission or respective State Govt. whichever is higher.
					Sub-Total A	**25,19,460**	
B	GEOPHYSICAL SURVEY (OUT SOURCING)						
1	I.P. cum-resistivity, S.P. Magnetic Survey	10 Lkm	3.4b	14,48,693	10	1,44,86,930	Rs 14,48,693 per 8-10 Lkm
					Sub-Total B	**1,44,86,930**	
C	SURVEY WORK (IN-HOUSE)						
1	Topographical Survey (on 1:2000 Scale)	day	1.6.1a	8,300	30	2,49,000	
2	Labor (Field) - 4 No for Survey work	day	5.7	526	120	63,120	Amount will be reimbursed as per the notified rates b the Central Labor Commission or respective State Govt. whichever is higher
					Sub-Total C	**3,12,120**	
D	EXPLORATORY DRILLING (IN-HOUSE)						

Sl. No.	Item of work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the		Remarks
			SoC-Item -Sl No.	Rates per Unit as per SOC (Rs)	Quantum	Total Amount (Rs)	
D	**EXPLORATORY DRILLING (IN-HOUSE)**						
1	Drilling upto 300m (Hard Rock)	m	2.2.1.4a	11,500	3600	4,14,00,000	23 exploratory Boreholes at 200m strike interval at selected areas. Inclined drilling has been proposed.
2	BH deviation survey by multishot camera	per m	2.2.6	330	3600	11,88,000	
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	As per actuals
4	Construction of concrete Pillar (12"x12"x30")	per BH	2.2.7a	2,000	23	46,000	As per actuals
5	Transportation of Drill Rig & Truck associated per drill	km	2.2.8	36	5000	1,80,000	Transportation of 2 drill rigs from Chhattisgarh
6	Accommodation Charges for drilling Camp (upto two drill Rigs)	month	2.2.9	50,000	6	3,00,000	Total 6 months considered for completion of exploratory drilling
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	2 drilling rigs
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	2 drilling rigs
9	Road Making (Flat Terrain)	km	2.2.10a	22,020	10	2,20,200	
10	Drill Core Preservation	per m	5.3	1,590	500	7,95,000	1 complete Bh plus mineralized part of all Bhs to be preserved in core boxes and hand over to Core repository
11	Geologist (Field) - 1 No	day	1.2	11,000	125	13,75,000	
12	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Per Point of observation	1.6.2	19,200	23	4,41,600	
13	Charge of Surveyor for Borehole fixation	day	1.6.1a	8,300	5	41,500	
14	Labor (Field) - 2 No for Survey work	day	5.7	526	10	5,260	Amount will be reimbursed as per the notified rates b the Central Labor Commission or respective State Govt. whichever is higher
15	Sampler - 1 No	day	1.5.2	5,100	50	2,55,000	
16	Labour (Sampling) - 4 Nos	day	5.7	526	200	1,05,200	Amount will be reimbursed as per the notified rates b the Central Labor Commission or respective State Govt. whichever is higher
					Sub-Total D	**4,74,52,760**	

Sl. No.	Item of work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the		Remarks
			SoC-Item -Sl No.	Rates per Unit as per SOC (Rs)	Quantum	Total Amount (Rs)	
E	**LABORATORY STUDIES (OUT SOURCING)**						
1	**Analysis (Au by Fire Assay)**						
a	Bedrock+Trench+ stream sediment samples	Nos	4.1.5a	2,380	490	11,66,200	
b	Core Samples	Nos	4.1.5a	2,380	1000	23,80,000	
c	Check samples - [Internal (5%) and External (10%)]	Nos	4.1.5a	2,380	228	5,42,640	
2	**Physical & Petrological Studies**						
a	***Petrographic Studies (Bedrock+Core Samples)***						
i	Preparation of thin section	Nos	4.3.1	2,353	15	35,295	
ii	Study of thin section	Nos	4.3.4	4,232	15	63,480	
b	***Mineragraphic Studies (Bedrock Samples)***						
i	Preparation of polish section	Nos	4.3.2	1,549	15	23,235	
ii	Study of polished section	Nos	4.3.4	4,232	15	63,480	
c	***Digital Photographs***	Nos	4.3.7	280	30	8,400	
d	***Specific Gravity Determination***	Nos	4.8.1	1,605	15	24,075	
e	***XRD Analysis (Bedrock Samples)***	Nos	4.5.1	4,000	15	60,000	
					Sub-Total E	**43,66,805**	
F	**GEOLOGICAL REPORT PREPARATION (IN-HOUSE)**						
a	Geological Report Preparation charge (5 Hard copies with a soft copy)	Lumpsum	5.2	For the projects having cost exceeding 300 lakhs - A minimum of Rs 9 lakhs or 3% of the value of work whichever is more		20,74,142	
					Sub-Total F	**20,74,142**	
G	**EXPLORATION PROPOSAL PREPARATION (IN-HOUSE)**						
a	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	Lumpsum	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower	1	3,80,000	
					Sub-Total G	**3,80,000**	
H	**PEER REVIEW**						
a	Report Peer Review	Lumpsum	As per EC decision	30,000	1	30,000	
					Sub-Total H	**30,000**	
PROJECT COST WITHOUT GST						**7,16,22,217**	
18% GST						**1,28,91,999**	
TOTAL PROJECT COST						**8,45,14,216**	

9. References

a. *Pushkar Singh et. al., Preliminary investigation for Gold at Chinmulgund Village Dharwar District, Mysore State (Progress Report for the Field Season 1970-71).*

b. *E. Hanumantha Rao et. al., Investigation for gold in Chinmulgund area, Hirekerur taluk, Dharwar district, Karnataka (interim report for FS 1992-93 & 1993-94).*

c. *P.G.K.Bhat et.al., Investigation For Gold In Salagudda Block Haveri District, Karnataka (P-II Stage), (Progress report for the field season 1998 - 99).*

d. *Hema Prashant Wagh et. al., Report on "Reconnaissance Survey for Gold in Sidenur and Aralikatti areas, Haveri District, Karnataka'' (Stage- G4), Final Report for field season 2020-21.*

10. List of Plates

Sl. No.	Plate No.	Description	Scale
1	I	Location Map of proposed Chinnikatti Area	1:50,000
2	IA	Location Map of proposed Chinnikatti Area with GSI exploration boundaries	1:50,000
3	II	Regional Geological Map of Chinnikatti Area	1:50,000
4	IIA	Regional Geological Map showing Gold Values	1:50,000
5	III	Accessibility map	1:50,000
6	IV	LULC map of Chinnikatti Area	1:50,000

Plate No. I

PROPOSED CHINNIKATTI AREA (G3) ON SOI TOPOSHEET DISTRICT - HAVERI,KARNATAKA

75°23'0"E

75°28'30"E

14°41'0"N

14°35'30"N

N

Shiddeshvaranagara
Benakanahalli
Khurda Kodihalli
Bannihalli
Shankaripura
Malluru
Mulathalli
Hediggonda
Timakapura
Taredahalli
Kaginelli
Kasambi
Ingalagondi
Khurda Virapura
Masanagi
Dasanakoppa
Kalagonda
Angaragatti
BYADGI
Agasanahalli
Siddapura
Kummura
Tipalapura
Nellikoppa
Hirehalli
Badamalli
Keravadi
Shidenura
Ramagondanahalli
Shivajinagara
Gungaragoppa
Muttura
Biranakoppa
Hale Gungaragoppa
Tadasa
Kollapura
Hireanaji
Dhulikoppa
Anura
Katenahalli
Tumarikoppa
Lingapura
Muddinakoppa
Chinnamulagunda
Aralikatti
Vadenapura
Yogikoppa
Dasanakoppa
Havasbhavi
Hire Budihala
Babapura
Chikka Bu

A
B
C
D
E
F
G
H
J
K

48N/6

Block Boundary Corner Point
Known Location
Proposed G3 Block Boundary

1:50,000
0 0.75 1.5 3 Km

KARNATAKA STATE IN INDIA MAP

HAVERI DISTRICT IN KARNATAKA STATE

Plate No. I.A

PROPOSED CHINNIKATTI AREA (G3)
ON SOI TOPOSHEET & GSI EXPLORATION BLOCK
DISTRICT - HAVERI,KARNATAKA

MTCS INTELLIGENT MINING SOLUTIONS

75°23'0"E

75°28'30"E

14°41'0"N

14°35'30"N

N

Bannihalli
Shankaripura
Malluru
Hediggonda
Timakapura
Taredahalli
Kaginelli
Kasambi
Ingalagondi
Khurda Virapura
Masanagi
Byadagi
Dasanakoppa
Kalagonda
Angaragatti
BYADGI
Agasanahalli
Kummura
Tipalapura
Nellikoppa
A
B
C
D
E
F
G
H
I
J
K
Badamalli
Chinnikatti
Keravadi
48N/6
Shidenura
Ramagondanahalli
Lakamajikoppa
Shivajinagara
Gungaragoppa
Muttura
Biranakoppa
Hale Gungaragoppa
Bannihatti
Tadasa
Kollapura
Dhulikoppa
Bisalahalli
Anura
Katenahalli
Tumarikoppa
Lingapura
Aralikatti
Hire Budihala

1:50,000
0 0.75 1.5 3 Km

- Block Boundary Corner Point
- Proposed G3 Block Boundary
- GSI Exploration Block (G4)- SRO-03997 (1970-1971)
- GSI Exploration Block (G3)- SRO-12175 (1992-1993)
- GSI Exploration Block (G2)- SRO-13309 (1998-1999)
- GSI Exploration Block (G4) - SRO-15965 (2020-21)

KARNATAKA STATE IN INDIA MAP

HAVERI DISTRICT IN KARNATAKA STATE

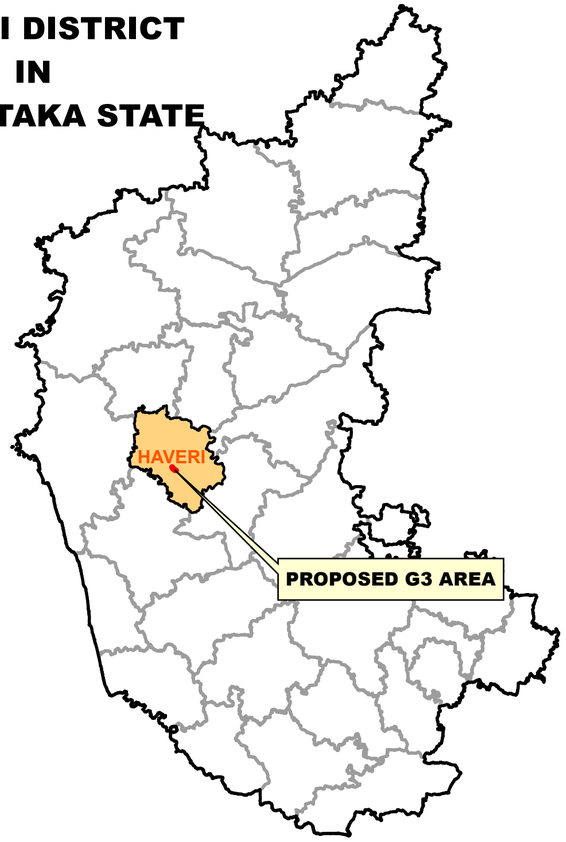


Plate No. II

REGIONAL GEOLOGICAL MAP OF PROPOSED CHINNIKATTI AREA (G3) DISTRICT - HAVERI,KARNATAKA

75°23'0"E

75°28'30"E

14°41'0"N

14°35'30"N

N

Khurda Kodihalli

Taredahalli

Kaginelli

Kasambi

Ingalagondi

Khurda Virapura

Masanagi

Byadagi

Dasanakoppa

Kalagonda

Angaragatti

Agasanahalli

Kummura

Tipalapura

Nellikoppa

Badamalli

Keravadi

Shidenura

Ramagondanahalli

Shivajinagara

Gungaragoppa

Muttura

Biranakoppa

Hale Gungaragoppa

Bannihatti

Tadasa

Kollapura

Hireanaji

Dhulikoppa

Bisalahalli

Anura

Katenahalli

amulagunda

Aralikatti

Vadenapura

Hire Budihala

Babapura

Chikka Budihala

Aladageri

Suttikoti

Shankaranah

A

B

C

D

E

F

G

H

I

J

K

Block Boundary Corner Point

Proposed G3 Block Boundary

PLANIMETRY

Known Location

Roads

Waterbodies/Lakes

MINERAL POTENTIAL

Gold Mineralization

LITHOLOGY

ARGILLITE

BANDED IRON FORMATION (BIF)

DOLERITE

QUARTZ VEIN/REEF

STRUCTURE

Fault

Fold

Lineament

1:50,000

0 0.75 1.5 3 Km

KARNATAKA STATE IN INDIA MAP

N

Karnataka

HAVERI DISTRICT IN KARNATAKA STATE

HAVERI

PROPOSED G3 AREA

Plate No. II (A)

REGIONAL GEOLOGICAL MAP OF PROPOSED CHINNIKATTI AREA (G3) WITH Au SAMPLES BY GSI DISTRICT - HAVERI,KARNATAKA

Reference : "RECONNAISSANCE SURVEY FOR GOLD IN SIDENUR AND ARALIKATTI AREAS, HAVERI DISTRICT, KARNATAKA"
(STAGE- G4)
FSP ID.: M2APMM-MEP/NC/SR/SU-KG/2020/30752
By
Hema Prashant Wagh (Senior Geologist) & Prashant Dattatray Wagh (Senior Geologist)

75°23'0"E
75°28'30"E
14°41'0"N
14°35'30"N

N

Khurda Kodihalli
Kaginelli
Taredahalli
Kasambi
Dasanakoppa
Kummura
Nellikoppa
Tipalapura
Badamalli
Keravadi
Byadagi
Agasanahalli
Shidenura
Ramagondanahalli
Shivajinagara
Gungaragoppa
Hale Gungaragoppa
Tadasa
Bannihatti
Kollapura
Bisalahalli
Anura
Katenahalli
Chinnamulagunda
Aralikatti
Yogikoppa
Vadenapura
Hire Budihala
Babapura
Chikka Budihala
Divigihalli
Aladageri
Suttikoti
Shankaranal

B, A, K, J, I, C, D, E, F, G, H

100, 205, 104, 336, 127, 1000, 142, 7880, 242, 239, 1140, 310, 150, 112, 120, 152, 114, 126, 210, 100, 144, 388, 212, 125, 120, 720, 400, 179, 303, 176, 180, 282, 312, 270, 214, 210

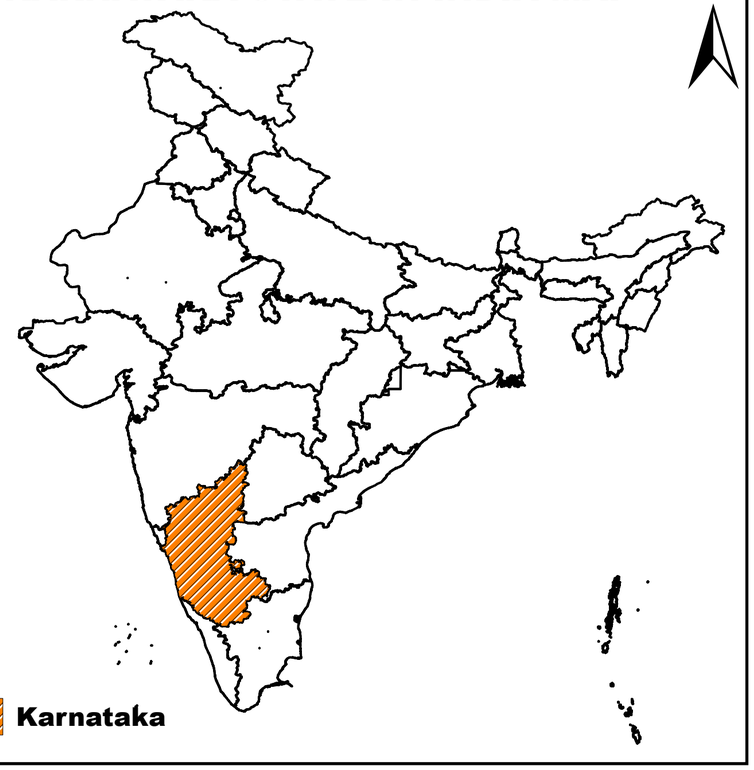
1:50,000
0 0.75 1.5 3 Km

- Known Location
- Block Boundary Corner Point
- Proposed G3 Block Boundary

STRUCTURE
- Fault
- Fold
- Lineament

LITHOLOGY
- Dolerite
- Felsic Volcanic
- Banded Ferruginous Quartzite/ Chert
- Banded Magnetite Quartzite
- Metagreywacke-Argillite
- Quartzite
- BRS sample with Au value
- Trench sample with Au value

KARNATAKA STATE IN INDIA MAP



HAVERI DISTRICT IN KARNATAKA STATE

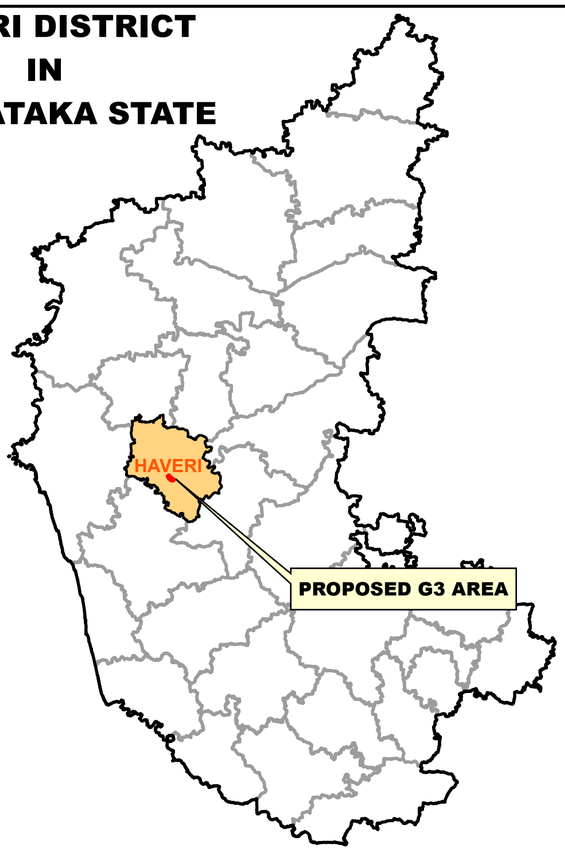


Plate No. III

ACCESSIBILITY MAP OF PROPOSED CHINNIKATTI AREA (G3)
DISTRICT - HAVERI,KARNATAKA

75°23'0"E

75°28'30"E

14°41'0"N

14°35'30"N

N

Khurda Kodihalli
Hediggonda
Timakapura
Taredahalli
Kaginelli
Kasambi
Ingalagondi
Khurda Virapura
Masanagi
Byadagi
Kalagonda
Angaragatti
Dasanakoppa
Agasanahalli
Kummura
Tipalapura
Nellikoppa
Badamalli
Keravadi
Shidenura
Ramagondanahalli
Shivajinagara
Gungaragoppa
Muttura
Biranakoppa
Hale Gungaragoppa
Bannihatti
Tadasa
Kollapura
Hireanaji
Dhulikoppa
Bisalahalli
Anura
Katenahalli
Tumarikoppa
Lingapura
Chinnamulagunda
Aralikatti
Vadenapura
Yogikoppa
Dasanakoppa
Havasbhavi
Hirekonati
Mattihalli
Karagi
Divigihalli
Shriramanakoppa

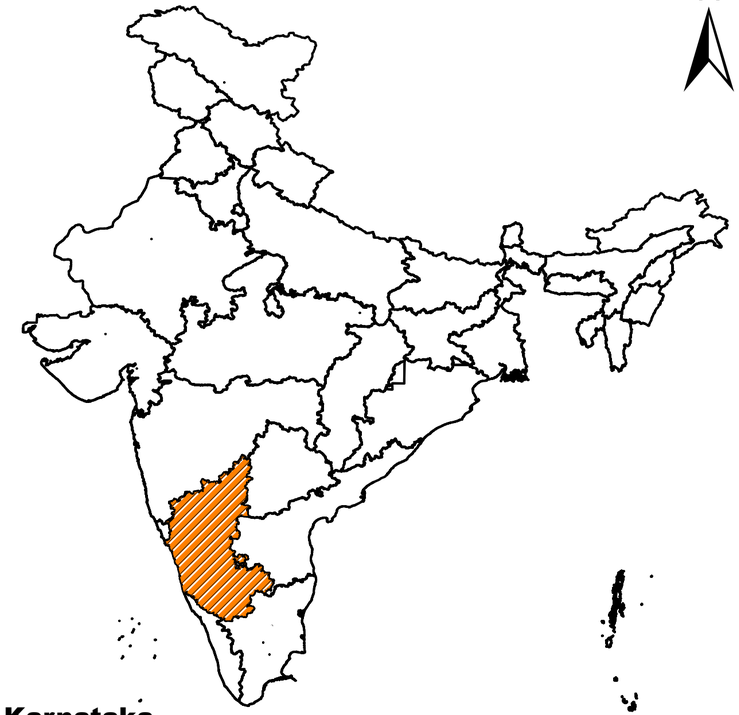
A
B
C
D
E
F
G
H
I
J
K

1:50,000
0 0.75 1.5 3 Km

Block Boundary Corner Point
Known Location
Roads
Proposed G3 Block Boundary
Waterbodies/Lakes
Scrubland

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

KARNATAKA STATE IN INDIA MAP



HAVERI DISTRICT IN KARNATAKA STATE

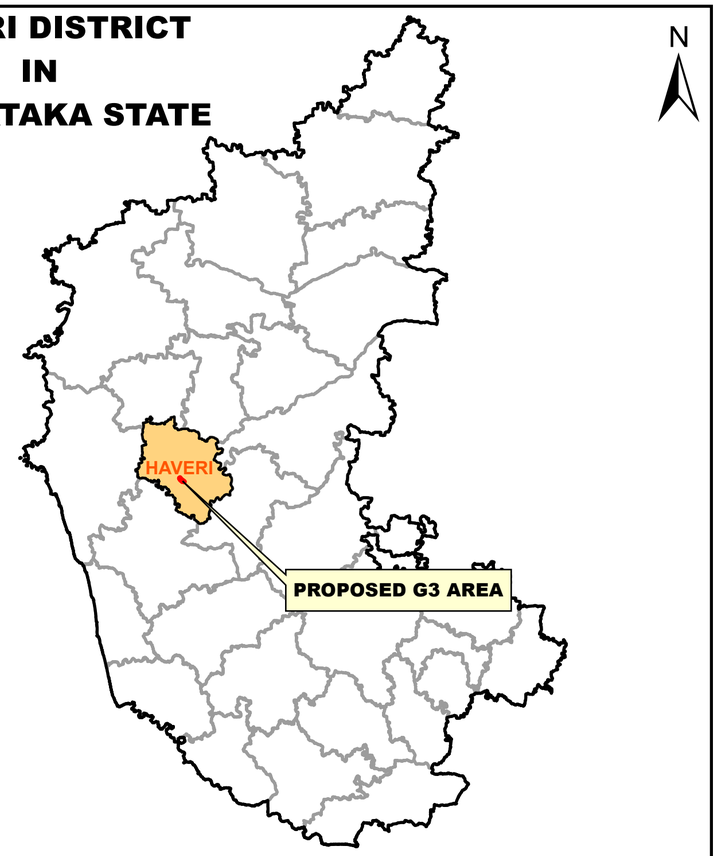


Plate No. IV

LAND USE / LAND COVER (LULC) MAP OF PROPOSED CHINNIKATTI AREA (G3) DISTRICT - HAVERI,KARNATAKA

MTCS
INTELLIGENT MINING SOLUTIONS

75°23'0"E

75°28'30"E

14°41'0"N

14°35'30"N

N

A
B
C
D
E
F
G
H
J
K

Class
- Built Up
- Current Fallow
- Deciduous Forest
- Degraded / Scrub Forest
- Double / Triple Crop
- Evergreen Forest
- Grassland
- Kharif Crop
- Littoral Swamp
- Plantation
- Rabi Crop
- Rann
- Shifting Cultivation
- Snow Cover
- Wasteland
- Waterbodies Max
- Waterbodies Min
- Zaid Crop

- Block Boundary Corner Point
- Known Location
- Proposed G3 Block Boundary

1:50,000
0 0.75 1.5 3 Km

Source : NRSC

KARNATAKA STATE IN INDIA MAP

N

Karnataka

HAVERI DISTRICT IN KARNATAKA STATE

HAVERI

PROPOSED G3 AREA