

**Proposal for Reconnaissance Survey (G-4)  
For Copper  
(G-4 STAGE)**

**Jiawan Area**

**Districts: Singrauli, State: Madhya Pradesh**

**NMET FUNDED PROJECT**



सेन्ट्रल माईन प्लानिंग एण्ड डिजाइन इन्स्टीच्यूट लिमिटेड  
(कोल इण्डिया लिमिटेड की अनुषंगी कम्पनी / भारत सरकार का एक लोक उपक्रम)  
गोन्दवाना प्लेस, कान्के रोड, राँची - 834 031, झारखंड (भारत)  
Central Mine Planning & Design Institute Limited  
(A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking)  
Gondwana Place, Kanke Road, Ranchi - 834 031, Jharkhand (INDIA)  
**CORPORATE IDENTITY NUMBER - U14292.TH19756OI001223**

**March – 2026**

**Proposal For Reconnaissance Survey (G-4) For Copper in Jiawan Area (45 Sq.Km),  
Districts: Singrauli, State: Madhya Pradesh**

**[Implementing Agency- CMPDI]**

	<b>Features</b>	<b>Details</b>
1	BlockID	Jiawan Area
2	Exploration Agency	Central Mine Planning and Design Institute Limited (CMPDI)
3	Commodity	Copper
4	Mineral Belt	Behara-Baheria Shear Zone
5	Completion Period with entire Time schedule and cost	10 months
5	Objectives	<p>Based on the evaluation of geological data available, the present exploration program has been formulated to fulfill the following objectives:</p> <p>To carry out geological mapping on 1:12,500 scale.</p> <p>To collect surface (Bedrock/Soil/Stream Sediment) and pit samples for analyses of Copper Mineralization to decide further course of exploration program.</p> <p>To drill scout coring boreholes in case, analytical results of surface/pit/trench samples are positive. The future course of exploration program will be decided after reconnaissance survey (G-4) outcome to G-3/G-2 level of exploration.</p> <p>To estimate reconnaissance resources of Copper as per UNFC norms and Minerals (Evidence of Mineral Contents) Amendment Rules, 2021 at G-4 level mineral exploration if required.</p>
6	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced	Work will be carried out by the proposed agency except drilling which is proposed to be outsourced

	And name of the outsource agency																																								
7	Name/Number of Geoscientists	Two																																							
8	Expected Field days(Geology)Geological Party Days	Geologist Party Days: 75 (Field) + 30 Days (HQ)																																							
<b>9</b>	<b>Location</b>																																								
a	Latitude & Longitudes	<table border="1"> <thead> <tr> <th>Cardinal Point</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>24° 22' 43.97" N</td> <td>082° 15' 0.0" E</td> </tr> <tr> <td>2</td> <td>24° 22' 11.37" N</td> <td>082° 15' 38.43" E</td> </tr> <tr> <td>3</td> <td>24° 21' 23.69" N</td> <td>082° 16' 34.63" E</td> </tr> <tr> <td>4</td> <td>24° 21' 33.18" N</td> <td>082° 18' 7.55" E</td> </tr> <tr> <td>5</td> <td>24° 18' 57.97" N</td> <td>082° 18' 7.55" E</td> </tr> <tr> <td>6</td> <td>24° 19' 5.85" N</td> <td>082° 15' 36.94" E</td> </tr> <tr> <td>7</td> <td>24° 19' 5.94" N</td> <td>082° 15' 36.91" E</td> </tr> <tr> <td>8</td> <td>24° 21' 16.11" N</td> <td>082° 15' 0.0" E</td> </tr> <tr> <td>9</td> <td>24° 21' 28.8" N</td> <td>082° 14' 56.4" E</td> </tr> <tr> <td>10</td> <td>24° 20' 45.05" N</td> <td>082° 11' 52.35" E</td> </tr> <tr> <td>11</td> <td>24° 23' 15.0" N</td> <td>082° 11' 52.59" E</td> </tr> <tr> <td>12</td> <td>24° 23' 14.96" N</td> <td>082° 14' 23.47" E</td> </tr> </tbody> </table>	Cardinal Point	Latitude	Longitude	1	24° 22' 43.97" N	082° 15' 0.0" E	2	24° 22' 11.37" N	082° 15' 38.43" E	3	24° 21' 23.69" N	082° 16' 34.63" E	4	24° 21' 33.18" N	082° 18' 7.55" E	5	24° 18' 57.97" N	082° 18' 7.55" E	6	24° 19' 5.85" N	082° 15' 36.94" E	7	24° 19' 5.94" N	082° 15' 36.91" E	8	24° 21' 16.11" N	082° 15' 0.0" E	9	24° 21' 28.8" N	082° 14' 56.4" E	10	24° 20' 45.05" N	082° 11' 52.35" E	11	24° 23' 15.0" N	082° 11' 52.59" E	12	24° 23' 14.96" N	082° 14' 23.47" E
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b	Villages	Rehi, Jiawan, Karthua, Kursa, Bharra
c	District	Singrauli
d	State	Madhya Pradesh
<b>10</b>	<b>Area(hectares/square kilometres)</b>	
a	Block Area	45 sq.km
b	Forest Area	Block area is free from ESZ and Wild life sanctuary area. 30% Block partly falls in forest area.
c	Government Land Area	Data Not Available
d	Private Land Area	Data Not Available

<b>11</b>	<b>Accessibility</b>	
a	Nearest Rail Head	Bargawan Railway Station is the nearest railway station which is 25 Km South East from the proposed block
b	Road	Ranchi-Rewa NH-39 passes through the middle of the block

c	Airport	The nearest airport is Lal Bahadur Shastri International Airport, Varanasi which is located at a distance of 250 km North from the proposed block.
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<b>12</b>	<b>Hydrography</b>	
	Local Surface Drainage Pattern(Channels)/	Different types of drainage patterns such as parallel, and dendritic were observed in the proposed block area. The area is drained by the Mahan River and a number of nalas (Semra nala). Mahan nala drains into the Gopad river flowing along the western boundary of the proposed area.

<b>13</b>	<b>Climate</b>	
a	Mean Annual Rainfall	The average annual rainfall is 1133 mm.
b	Temperatures(December) (Minimum) Temperatures(June)(Maximum)	The temperature starts rising from beginning of February and reaches maximum during the month of May. The daily mean maximum temperature in May is 42°C and daily mean minimum is 25.8°C January is generally coldest month of the year. The maximum daily mean temperature in January is 24.3°C and minimum daily temperature about 8.1°C .

<b>14</b>	<b>Topography</b>	
	Toposheet Number	Part of Toposheet Nos. 63L/3 and 63L/7

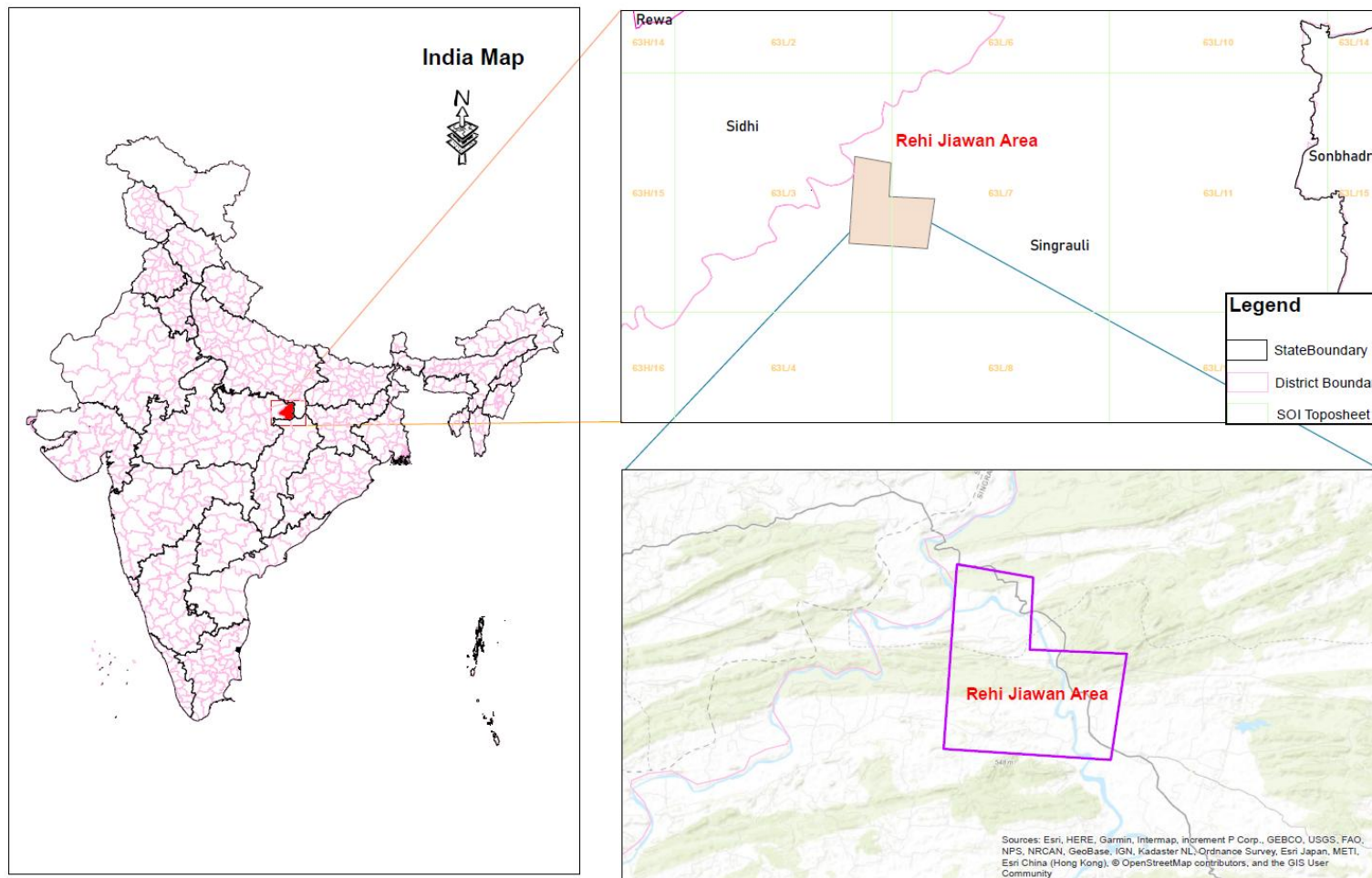
<b>15</b>	<b>Availability of baseline geosciences data</b>	
a	Geological Map(1:50K/25K)	1:25,000
b	Geochemical Map	Geochemical Map were generated from the data mentioned in the report of NGCM program and also verified from NGDR portal.
c	Geophysical Map	Area is Covered by NGPM & NAGPM program of GSI. Bouguer Gravity and Magnetic anomaly map is available and they are background of the taking up the proposal.

16	<p><b>Justification for taking up Reconnaissance Survey (G- 4) in the area.</b></p>	<ul style="list-style-type: none"> <li>• The proposed area is located at eastern extension of the Bahera –Baharia Shear Zone. Several occurrences of copper and Graphite mineralization have been reported within the Bahera –Baharia Shear Zone</li> <li>• Previous exploration works in nearby areas have revealed the presence of old workings and favorable geological setting of copper ore &amp; graphite mineralization. Proposes area also have similar type of Geological setup.</li> <li>• Occurrence of Graphite Mineralization: Carbonaceous phyllite observed near south of Rehi village. The carbonaceous phyllite occurs as linear bands, lensoidal body and some time as pockets within phyllite of Mohakoshal belt in the area of investigation. BRS sample from carbonaceous phyllite showing Fixed carbon values upto 11% (STM Report GSI-2023). One BRS collected by MCPDI near Rehi Village has yielded FC value 5.2%</li> <li>• Base metal mineralisation mainly associated with the phyllite, metabasic and dolomite or dolomitic marble. The mineralisation occurs in the form of chalcopyrite, malachite, covellite and bornite. Presence of chalcopyrite and pyrite also observed in the dolomite present near Rehi village (STM Report GSI-2023).</li> <li>• During the reconnaitre survey of the proposed area, MCPDI team observed profuse malachite stain on Quartzite formation exposed due to road cutting of NH-39 about 3km north of Jiawan. The analysis of two BRS from the quartzite outcrop has given result for Copper concentration of 871pmm &amp; 1145ppm.</li> <li>• In view of above facts proposal for <b>Reconnaissance Survey (G- 4) for Copper mineralization in the Jiawan Area has been formulated.</b></li> </ul>
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**Proposed Quantum of Works**

Sl no.		Particulars	Unit	Proposed Quantity
1		<i>Geological Mapping (on 1:12,500 Scale).</i>	Sq. Km	45
2		<i>Trenching and Pitting</i>		
		Trenches	Cu.Meter	50
3.		Core Drilling (5 scout boreholes)	m	300
4.		<i>Sample Preparation and Laboratory Studies</i>		
	<b>A.</b>	<b>BRS/Trench/Borehole samples</b>		
	<b>i.</b>	Primary Samples for 6 radicals (Cu, Pb, Zn, Cr, Co & Ni) by AAS)	No	160 (BRS:50, Trench:50, BH:60)
	<b>ii.</b>	External Check samples of 6 radicals (10% of Primary samples)	No	16 (BRS:5, Trench:5, BH:6)
	<b>iii.</b>	Fire Assay for Gold	No.	25 (BRS:10, Trench:5, BH:10)
	<b>iv.</b>	10% Check Samples	No.	3 (BRS:1, Trench:1, BH:1)
	<b>v.</b>	Whole Rock Analysis for Major Oxides	No	15 (BRS:10, Trench:5)
	<b>vi.</b>	10% Check Samples	No	2 (BRS:1, Trench:1)
	<b>vii.</b>	ICPMS for Trace (14)/REE(9) Elements	No	25
	<b>viii.</b>	10% Check Samples	No.	3
	<b>ix.</b>	Proximate Analyses for Graphite	No.	5
		<i>Petrographic Studies</i>		
	<b>(a).</b>	Preparation of Thin Section	No	10
	<b>(b).</b>	Study of Thin Section	No	10
		<i>Mineragraphic Studies</i>		
	<b>(c).</b>	Preparation of Polished Section	No	10
	<b>(d).</b>	Study of Polished Section	No	10
6.		<i>Geological Report Preparation</i>	No	1
7.		<i>Exploration Scheme Preparation</i>	No	1

**Location Map,Rehi Jiawan Area, District : Singrauli, Madhya Pradesh**



**All Maps Not to Scale**

