## 5. Preliminary Exploration (G-3) for Graphite in Dahita Block (5.40 sq. km), District: Bargarh, Odisha

**Implementing Agency: MECL**

| | Features | Details |
|---|---|---|
| | Block ID | **Dahita Block** |
| | Exploration Agency | Mineral Exploration and Consultancy Limited (MECL) |
| | Commodity | **Graphite** |
| | Mineral Belt | Eastern Ghat Mobile Belt, Odisha |
| | Budget & Time schedule to complete the project | 203.14 Lakhs & 12 months |
| | Objectives | The present exploration program (G3) has been formulated on the basis of the outcomes of previous work and recent field traverses to fulfill the following objectives:<br>i. Geological mapping on 1:2,000 scale to delineate graphite bands and other lithounits in the area.<br>ii. Delineation of the potential subsurface mineralized zones by Geophysical Self Potential Surveys.<br>iii. Trenching will be carried out at suitable interval in the anomalous zone marked by geophysical survey to establish the continuity of the mineralization along strike direction, which is covered by soil.<br>iv. After the positive outcomes of the above activities scout drilling will be carried out to intersect the graphite mineralization at 30m vertical depth.<br>v. Assessment of quality and quantity of the resources (333) if any 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 outsource agency | Work will be carried out by the proposed agency. |
| | Name/Number | |

<table>
<tr><td></td><td>of Geoscientists</td><td colspan="4"></td></tr>
<tr><td></td><td>Expected Field days (Geology, Survey)</td><td colspan="4">Geologist Party days: Field -150 days & HQ-30 days Geophysicist Party days:<br>Survey Party Days: 40 days</td></tr>
<tr><td></td><td></td><td colspan="4">Sampling Party days: 54 days</td></tr>
<tr><td>1.</td><td>Location</td><td colspan="4">The proposed Dahita Block comprises of 5.40 sq km area and lies in Rajborasambar Taluka of Bargarh District (Toposheet No: 64P/01), Odisha. Dahita, Shantipur, Bijamal and Dahigaon, Dongachhacha, Birhapali,<br>Tentelkhunti villages are present in the proposed block.</td></tr>
<tr><td></td><td>Latitude and Longitude</td><td>Sl</td><td>Point</td><td colspan="2">GCS WGS 1984 (DMS)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Latitude</td><td>Longitude</td></tr>
<tr><td></td><td></td><td>1</td><td>A</td><td>20° 55' 34.58" N</td><td>083° 03' 55.42" E</td></tr>
<tr><td></td><td></td><td>2</td><td>B</td><td>20° 56' 5.49" N</td><td>083° 04' 59.5" E</td></tr>
<tr><td></td><td></td><td>3</td><td>C</td><td>20° 55' 52.04" N</td><td>083° 05' 7.04" E</td></tr>
<tr><td></td><td></td><td>4</td><td>D</td><td>20° 55' 49.1" N</td><td>083° 05' 35.54" E</td></tr>
<tr><td></td><td></td><td>5</td><td>E</td><td>20° 56' 7.45" N</td><td>083° 06' 14.43" E</td></tr>
<tr><td></td><td></td><td>6</td><td>F</td><td>20° 55' 40.42" N</td><td>083° 06' 28.38" E</td></tr>
<tr><td></td><td></td><td>7</td><td>G</td><td>20° 54' 49.92" N</td><td>083° 04' 36.01" E</td></tr>
<tr><td></td><td></td><td>8</td><td>H</td><td>20° 55' 3.3" N</td><td>083° 04' 27.98" E</td></tr>
<tr><td></td><td></td><td>9</td><td>I</td><td>20° 55' 2.95" N</td><td>083° 04' 11.53" E</td></tr>
<tr><td></td><td>Villages</td><td colspan="4">Dahita, Shantipur, Bijamal and Dahigaon, Dongachhacha, Birhapali, Tentelkhunti villages</td></tr>
<tr><td></td><td>Tehsil/Taluk</td><td colspan="4">Rajborasambar Taluka</td></tr>
<tr><td></td><td>District</td><td colspan="4">Bargarh</td></tr>
<tr><td></td><td>State</td><td colspan="4">Odisha</td></tr>
<tr><td>2.</td><td>Area (hectares/ square kilometres)</td><td colspan="4"></td></tr>
<tr><td></td><td>Block Area</td><td colspan="4">5.40 sq.km</td></tr>
<tr><td></td><td>Forest Area</td><td colspan="4">Non-Forest area.</td></tr>
<tr><td></td><td>Government Land Area (Bilanam)</td><td colspan="4">Data not available</td></tr>
<tr><td></td><td>Charagaha</td><td colspan="4">Data not available</td></tr>
<tr><td></td><td>Private Land Area</td><td colspan="4">Data not available</td></tr>
<tr><td>3.</td><td>Accessibility</td><td colspan="4"></td></tr>
<tr><td></td><td>Nearest Rail Head</td><td colspan="4">The nearest Railway Stations is at Nuapada (South Eastern Railway) which is 70<br>km south-west of the proposed block.</td></tr>
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| | Road | The Patnagar-Padmapur Road connecting Patnagar to Padmapur passes through the block and the State Highway-03 connecting Nuapada to Sohela Passes 6 km north of the block. The district headquarter Bargarh is 100.00 km north-east of the block and Sambalpur is 140 km north-east of the block, both of which are accessible by SH-03. Balangir is located about 70 km south-east of the block which is accessible by SH-42. All the villages in the area are well connected to each other and to the highways by motorable roads and tracks. |
| | Airport | The nearest airport is at Raipur, which is about 200 km west of the block. |
| **4.** | **Hydrography** | |
| | Local Surface Drainage Pattern (Channels) | The area falls to the northern part of the Gandhamardan range and the adjacent pediplain. There are several high points in the Gandhamardan range. The tributaries of Kumri Nala forms the main drainage fed by tributaries descending from the Gandhamardan range and also from the surrounding plane. |
| | Rivers/ Streams | Tributaries of Kumri Nala |
| **5.** | **Climate** | |
| | Mean Annual Rainfall | Average annual rainfall is 100 cm |
| | Temperature | Minimum temperatures: 10°C (Dec-Feb),<br>Maximum temperatures: up to 46°C (March-June) |
| **6.** | Topography | |
| | Toposheet Number | 64P01 |
| | Morphology of the Area | The north western part of the block has maximum elevation of 310 m. The elevation of the block ranges between 220 m to 240 m. The area comprises of mostly gently undulating plane. The average elevation of the block is 230 m above MSL. Thick alluvium accumulated due to the network of drainage has helped the area to form cultivable land. |
| **7.** | Availability of baseline geoscience data | |
| | Geological Map (1:50K/25K) | Geological Map (1:50000), NGDR Portal<br>Plate-I:Geological Map of Part of Sargipali Graphite Belt between Brahmani and Lohakhan (Scale 1:63,360), Sambalpur and Balangir, Odisha, Part of Toposheet No. 64L13 & 64P01 (F.S. 1979-80, GSI)<br>Plate-I: Geological Map of Sargipali-Bardhapali Graphite Belt (Scale: 1”=1mile),<br>Sambalpur and Balangir, Odisha (F.S.1970-72, GSI) |
| | Geochemical Map | NGCM data available in NGDR Portal |

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|---|---|---|
| | Geophysical Map (Aeromagnetic, ground geophysical, Regional as well as local scale GP maps) | NGPM Gravity and Magnetic data available in NGDR Portal |
| **8.** | Justification for taking up Preliminary Exploration | The proposed block has been carved out by amalgamating 10A 2(b) leases/ taken over leases for further exploration by the State Technical Committee (JWG) on 06.02.2023 and allotted to MECL for necessary action.<br>During MECL's initial field visit, the presence of graphite mineralization on the surface was validated by several abandoned graphite quarries. In the strike extension area however, the mineralization was concealed beneath a thick soil cover. Therefore exploration methods such as geophysical surveys and trenching will be helpful to identify the subsurface mineralized zones and enhance the graphite resource within the proposed block. A total of five graphite samples were collected from the area, and the analytical results of the bedrock samples are presented below.<br><br>During the field visit conducted by MECL, it was observed that the abandoned open-pit quarries at Dangachhancha, Sargipalli, Dahigaon, and Bijamal lie along a continuous strike extension, indicating the potential |
| | | presence of concealed graphite mineralization beyond this excavated mineralization beneath soil cover. As a follow-up to these findings, a reconnaissance survey, along with pitting, trenching as needed, and geophysical investigations, was recommended to identify possible soil covered graphite bodies.<br><br>No previous exploration data of the leases are available with the State Government. Hence the proposed exploration will help to generate data and make the block feasible for auction.<br>At present graphite is a critical mineral for the nation. The previous exploration in the surrounding area has established occurrences of graphite. Hence, the proposed Preliminary Exploration (G-3) will help to establish the vertical and lateral extension of graphite in the current block, which will definitely augment the graphite resource.<br>The Ministry of Mines, Govt. of India is actively auctioning critical mineral blocks to boost domestic production and reduce reliance on imports. The Ministry of Mines has launched several tranches of auctions, with the fifth tranche recently concluding, offering blocks of minerals like potash, halite, graphite, REE, and vanadium. Among the graphite blocks explored by MECL, Babja, Biarpalli, and Salepali blocks have been successfully auctioned, while three others- Larambha, Kanaital, and Bharatbahal are currently listed on the auction platform for 6th tranche. |

## 6. Preliminary exploration Survey (G3) for Iron ore in Gidhali-Chiklakasa block, Balod district, Chhattisgarh

**Implementing Agency: Bhushilp Mines and Minerals Private Limited**

| | Features | Details |
|---|---|---|
| | Block ID | **BMMPL/G-3/Gidhali** |
| | Exploration Agency | M/s. Bhushilp Mines and Minerals Private Limited |
| | Commodity | Iron Ore |
| | Mineral Belt | Bailadila Group (for Iron Ore) |
| | Budget & Time schedule to complete the project | Rs.196.09 Lakhs (Including GST) and Time schedule 12 Months |
| | Objectives | • Geological mapping on 1:4000 scale to delineate the outcrops of BHQ/BMQ.<br>• Systematic bed rock and channel sampling and chemical analysis.<br>• To delineate the Ore body/targeted area of Iron ore by geological survey to decipher its depth persistence, subsurface continuity and to establish the potential zones.<br>• To drill 05 Nos. of systematic boreholes (spacing 800m approx. and inclined angle BHs) to decipher depth persistence, subsurface continuity of the ore body.<br>• To evaluate the in-situ resources of Iron ore and preparation of Geological Report (GR).<br>• Carry out mineral exploration works as per Minerals (Evidence of Mineral Contents) Rule-2015, Mineral (Auction) Rules-2015 and MMDR Amendment act-2015. In turn to facilitate the Government of Chhattisgarh in auctioning of the block. |