

1. Proposal Reconnaissance Survey (G4) for Rare Earth Elements (REE) & Rare Metals (RM) in Meghawas-Nagana, Barmer District, Rajasthan

**[Implementing Agency: Mining Tech Consultancy Services Limited (MTCS),
Ahmedabad]**

	Features	Details						
	Block ID	MTCS/NMET-001/2025/RJ/Meghawas						
	Exploration Agency	Mining Tech Consultancy Services Limited (MTCS), Ahmedabad						
	Previous Exploration Agency	Geological Survey of India – G4 Level						
	Previous Stage Geological Report	GSI carried out Field Season Programs during 1975-76 for Rare Metals and 2 NGCM programs during 2021-22 in toposheet no. 45B/8 & 45B/12.						
	Commodity	Rare Earth Elements (REE) & Rare Metals (RM)						
	Mineral Belt	-						
	Completion Period with entire Time schedule and cost	5 months						
	Objectives	The exploration scheme of Meghawas-Nagana REE-RM block has been formulated with the following objectives: 1. Preparation of geological map on 1:12,500 scale. 2. To collect Bedrock samples for analyses of REE & RM for identification of mineralization and host rock including pitting in sand covered areas. 3. Preparation of Geological Report as per Minerals (Evidence of Mineral Contents) Amendment Rules 2015 including further course of exploration program within a board area covered by the rocks having high REE & RM content.						
	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 (Mining Tech Consultancy Services Limited).						
	Name/ Number of Geoscientists	Four (2 Field + 1 HQ). Names will be provided prior to filed work.						
	Expected Field days (Geology) Geological Party Days	Geology – 60 days						
1.	Location							
	Latitude and Longitude	<table border="1"> <tr> <th align="left" colspan="3">Block-A</th></tr> <tr> <td align="center">Boundary</td><td align="center">Latitude</td><td align="center">Longitude</td></tr> </table>	Block-A			Boundary	Latitude	Longitude
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	Villages	Meghawas, Nagana																											
	Tehsil/ Taluk	Baltora																											
	District	Barmer																											
	State	Rajasthan																											
2.	Area (hectares/ square kilometers)																												
	Block Area	1,800 Ha. / 18.00 sqkm																											
	Forest Area	Not Available																											
	Government Land Area	Not Available																											
	Private Land Area	Not Available																											
3.	Accessibility																												

	Nearest Rail Head	Jodhpur (75 km)
	Road	Amritsar-Jamnagar Expressway
	Airport	Jodhpur (80 km)
4.	Hydrography	
	Local Surface Drainage Pattern (Channels) /	The drainage pattern of the area is dendritic in nature with small streams.
	Rivers/ Streams	There is no major river/tributary.
5.	Climate	
	Mean Annual Rainfall	374 mm (1971-2012)
	Temperatures (December) (Minimum)	Minimum – 1°
	Temperatures (June) (Maximum)	Maximum – 49°
6.	Topography	
	Toposheet Number	45 B/8 & 45 B/12
	Morphology of the Area	The area is mostly barren, undulating with sand dunes & small hillocks having minimum & maximum elevation of 140m and 285m respectively.
7	Availability of baseline geosciences data	
	Geological Map (1:50K/ 25K)	Available
	Geochemical Map	Available
	Geophysical Map	Available
8.	Justification for taking up G-3 or G-2 Stage mineral Exploration	<p>1. Geologically parts of Jodhpur, Jaisalmer and Barmer districts are occupied by Malani Igneous Suite and Marwar Supergroup of rocks. The Malani Igneous Suite is represented by basalt & rhyolitic flows inter bedded with the minor occurrences of pyroclastics whereas Marwar Supergroup is represented by sandstone and pebbly sandstone. Both the rock units are mostly covered by the quaternary sediments of Thar Desert Formation.</p> <p>2. As per previous studies undertaken by GSI during field season programs:</p> <ul style="list-style-type: none"> ➤ REE and RM mineralization is reported within Malani Igneous Suite of rocks (basalt & rhyolites). ➤ Existence of 3 Rhyolite flows was reported around Chiriya, Thob-Patodi & Bagawas areas in Barmer, Rajasthan. ➤ Low gravity values (-25.0mGal to -11.0mGal) were reported near to Thob-Patodi & Bagawas villages in geophysical mapping (Rajan Kumar et.al. 2022); the possible reason is due to the presence of Marwar basin (Jodhpur Formation: Sandstone,

		<p>Shale, Chert) underlain by deeper basement (Malani Formation: Rhyolite porphyry, Dolerite, Gabbro & Phonolite).</p> <p>➤ GSI NGCM programs carried out during 2022 indicate anomalous values of REEs (La, Ce, Hf, Nd) and Y & Zr within Malani Rhyolites near Patodi, Thob & Bagawas in toposheet 45B/8 (Satheesh S.R et.al. 2022) and near Meghawas, Nagana & Korna villages in toposheet 45B/12 (Atish Thapa et.al. 2022).</p> <p>3. Based on the outcome of these studies, GSI has taken up Reconnaissance Survey (G4) for REE mineralization around Patodi-Thob area within 100 sqkm area in toposheet 45B/08 for FSP 2024-25.</p> <p>4. Considering the above background, MTCS had identified an area of 100 sqkm covering all the rock outcrops and the anomalous zones present in toposheet 45B/08 & 45B/12 near Meghawas & Nagana villages to carry out Reconnaissance Survey (G4) for REE & RM and accordingly submitted their application to NMET for In-Principle approval.</p> <p>5. This initial proposal of 100 sqkm was discussed in the 4th Technical-cum-Cost Committee-II (TCC-II) meeting held on 26th & 27th December 2024 in which the committee advised to focus on the REE anomalous zones derived from GSI NGCM data.</p> <p>6. As per the advice of the committee, MTCS had identified 2 blocks having a total area of 18.00 sqkm with prominent REE anomalies near Meghawas (Block-A: 8 sqkm) & Nagana (Block-B: 10 sqkm) for conducting Reconnaissance Survey (G4 Level) for REE & RM.</p> <p>7. This project proposal was deliberated again in the 5th TCC-II meeting held during 27th to 28th January 2025. The committee had recommended the proposal to the Executive Committee (EC) and also advised to include the following activities:</p> <ul style="list-style-type: none"> ✓ Gravity & Magnetic survey in 200m x 200m grid and bed rock sampling along profile lines with excavating pits in sand covered area. ✓ Radiometric survey in selective zones. ✓ Preparation of predictive geological & structural map with soil cover & REE potentiality map. ✓ Identification of exploratory drilling targets
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		<p>derived from the above activities.</p> <p>This proposal has been discussed in the 40th EC meeting held on 19th February 2025 (Pre-EC) & 20th February 2025 (EC). EC has opined to revisit the proposal and consider geological mapping & geochemical sampling only to test the REE & RM content in this zone prior to conducting detailed study. Based on the outcome of these activities further study is to be taken up.</p> <p>With this background, MTCS has formulated this proposal to carry out geological mapping, geochemical sampling (bedrock sampling) & pitting under G4 level for REE & RM within the 2 areas near Meghawas (Block-A: 8.0 sqkm) and Nagana (Block-B: 10.0 sqkm) covering 18.00 sqkm in total.</p> <p>On the basis of the results of the above activities, MTCS will take up further study within the initial block area of 100 sqkm.</p> <p>Recommendation TCC</p> <p><i>The committee recommends the proposal for approval of EC for “Reconnaissance Survey (G4) for Rare Earth Elements (REE) & Rare Metals (RM) in Meghawas-Nagana area, Barmer District, Rajasthan” with an estimated cost of ₹30.47 Lakh (including GST) within the time schedule of 5 Months and submission of the report as per Annexures 9A & 9B.</i></p>
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