

**Regional Survey for Evaluation of Placer Mineral Xenotime in
Sabarkantha Block, Gujarat.**

To



**National Mineral Exploration and Development Trust (NMEDT)
Ministry of Mines,
Room No. 325 & 326, Wing-F,
Udyog Bhawan, Rafi Ahmed Kidwai Marg, Rajpath Area,
Central Secretariat, New Delhi-110011**

By



**Geo Marine Solutions Pvt. Ltd.
15-17-909/9, Leslie Haven, 5th Cross,
Shivabagh, Mangalore-575005, Karnataka**

May 2026

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**Mangalore
May 2026**

Summary of the Proposal for “Regional Survey for Evaluation of Placer Xenotime Prospect in Sabarkantha Block, Gujarat”

	Features	Details
	Block ID	
	Current Exploration Agency	Geo Marine Solutions Pvt. Ltd., Mangalore for Reconnaissance Survey
	Previous Exploration Agency	Geological Survey of India; Geovale services in the adjacent block
	G4 stage Geological Report	No GR is available pertaining to exploration of HMs and Xenotime in the proposed area.
	Commodity	Xenotime and Associated placer minerals
	Mineral Belt	Alluvial/Colluvial Heavy Mineral Placers genetically derived from Godhra granite of Neo-Proterozoic age.
	Completion Period with entire Time schedule to complete the project	Mobilization: 30 days Desktop work: 30 days Remote sensing: delineation of geomorphic and drainage map of the area Field work: Auger drilling: 90 days HM Separation and Analysis: 90 days Report: 60 days Total: Nine Months
	Objectives	The primary objective of the project is to assess the potential for economic concentration of placer xenotime and associated heavy minerals within the alluvial and colluvial sediments derived from the metaluminous to peraluminous Godhra Granite in the Meshwa River Basin, Sabarkantha Block, Gujarat, and to delineate potential exploration targets for inland paleo-placer deposits through geological investigations and laboratory studies involving gravity, magnetic & EM separation techniques and microscopic analysis.
	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof.	The NABET accredited exploration agency (Geo Marine Solutions Pvt Ltd., Mangalore) will be carrying out all the components of the proposed exploration. The chemical analysis will be done at NABL accredited lab.
	Name/Number of Geoscientists	2
	Expected Field Months (Geology)	Field work: Ninety days (Auger Drilling: Ninety days;)

1.	Location	Sabarkantha district, Gujarat		
			LONGITUDE (DD)	LATITUDE(DD)
		A	73° 17' 56.71" E	23° 31' 0.47" N
		B	73° 12' 40.28" E	23° 38' 16.00" N
		C	72° 57' 14.04" E	23° 25' 18.68" N
		D	72° 59' 04.42" E	23° 22' 34.61" N
		E	72° 52' 50.65" E	23° 17' 32.03" N
		F	72° 55' 53.24" E	23° 13' 38.01" N
	Villages	Since the block covers 675 sq.km. area, several villages fall within the proposed block		
	Tehsil/Taluk	Himatnagar, Idar, Vadali, Talod and Prantij		
	District	Sabarkantha, Aravalli, Gandhinagar		
	State	Gujarat		
2.	Area (hectares/square kilometers)			
	Block Area	675 sq.km.		
	Forest Area	25.4 sq. km. 3.76 % of the area		
	Government Land Area	3.76%		
	Private Land Area	96.23%		
3.	Accessibility			
	Nearest Rail Head	The Sabarkantha district in Gujarat is primarily served by Himatnagar Junction (HMT), which acts as the central hub for the region.		

	Road	The Sabarkantha Block is well connected by a network of national highways, state highways, district roads, and village roads, ensuring easy accessibility throughout the area. NH-48 (Delhi–Mumbai–Ahmedabad Corridor) passes through major towns such as Himatnagar, Prantij, and Shamlaji, providing direct connectivity to Ahmedabad, Gandhinagar, Udaipur, and Mumbai. NH-68 terminates near Prantij and connects the district with northern Gujarat and Rajasthan. The block is further linked by state highways connecting Idar, Talod, Vijaynagar, Khedbrahma, Vadali, and Prantij.
	Airport	Sardar Vallabhbhai Patel International Airport (Ahmedabad Airport - AMD), located approximately 70–100 km south of the district headquarters Himatnagar and connected via NH-48.
4.	Hydrology	
	Local Surface Drainage Pattern (Channels)	The Sabarkantha Block falls within the upper and middle catchment of the Meshwo River Basin and exhibits tectonically-influenced dendritic drainage pattern, primarily controlled by regional topography and local litho-structural features.
	Rivers/Streams	Meshwo River, however, small parts of Mahe river basin and Sabarmathi river basin are falling within the proposed block.
5.	Climate	
	Mean/Average Annual Rainfall	The annual mean precipitation is about 800-900 mm mainly during southwest monsoon season (June-September).
	Temperatures (December)(Minimum) Temperatures (June)(Maximum)	The area of investigation experiences a semi-arid to sub-humid tropical climate characterized by hot summers, a southwest monsoon season, and mild winters. Summer temperatures generally range from 25°C to 45°C , while winter temperatures vary between 10°C and 28°C .
6.	Topography	
	Toposheet Number	Toposheet No. 46A/15, 46A/16, 46E/02, 46E/03, 46E/06, 46E/07

	Morphology of the area	The area exhibits a varied physiography comprising undulating plains, dissected pediplains, low to moderate relief hills, river valleys, and alluvial tracts. The northeastern part of the block, adjoining the Aravalli hill ranges, is characterized by rugged terrain with structural hills and moderate slopes, whereas the central and southern parts consist predominantly of gently sloping pediplains and broad alluvial plains.
7	Availability of baseline geoscience data	
	Geological Map (1:50K/25K)	The present proposal is based on the reconnaissance-level exploration work carried out by Geovale Services Pvt. Ltd. in the Ujol block. Geovale proposed five similar prospective blocks for REE-RM mineralization, that includes Sabarkantha Block. The study area falls within Survey of India toposheets 46A/15, 46A/16, 46E/02, 46E/03, 46E/06 and 46E/07. Existing geological and geomorphological data generated from the earlier investigation, along with available regional geological maps of 1:50,000 and 1:25,000 scale, form the baseline geoscientific database for the proposed regional survey (Source: NGDR)
	Geochemical Map	Geochemical inputs pertaining to the area is available and studied.
	Geophysical Map (Aero-geophysical, Ground geophysical, Regional as well as local scale GP maps)	Geophysical inputs (Ground geophysical – gravity & magnetic) pertaining to the area is available and studied.
8	Justification for taking up Regional G4, G3 or G2 stage mineral exploration	The proposed project has been conceived to evaluate the placer potential of xenotime and associated heavy minerals within the alluvial and colluvial sediments of the Meshwa River Basin, Sabarkantha Block, Gujarat. This proposed block has been assigned by 8th Joint TCC -NMEDT (Annexure) to Geo Marine Solutions. The sediments in the study area are primarily derived from the weathering and

	erosion of various rock types including metaluminous to peraluminous phases of the Godhra Granite, which is considered to be repository for xenotime, allanite, apatite etc well-known carriers of REE. The geomorphological setting of the Meshwa River Basin, comprising river terraces, channel bars, flood plains and colluvial deposits, provides suitable environments for concentration and preservation of heavy minerals. Preliminary regional geological studies and available geoscientific data indicate favourable source rock characteristics and sediment dispersal patterns for inland placer mineralization. In view of the increasing strategic importance of REE and other critical minerals for sectors such as renewable energy, electronics, electric vehicles and defence applications, systematic reconnaissance-level investigation of such potential inland placer deposits has become important. The proposed regional survey involving auger sampling from the favourable geomorphic units, followed by gravity and magnetic separation, EM separation and microscopic studies will help in delineating prospective zones and generating baseline data for detailed follow-up exploration.
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DETAILED DESCRIPTION OF THE PROPOSAL

1. Block Summary:

a) Physiography

The area exhibits a varied physiography comprising **undulating plains, dissected pediplains, low to moderate relief hills, river valleys, and alluvial tracts**. The northeastern part of the block, adjoining the **Aravalli hill ranges**, is characterized by rugged terrain with structural hills and moderate slopes, whereas the central and southern parts consist predominantly of gently sloping pediplains and broad alluvial plains.

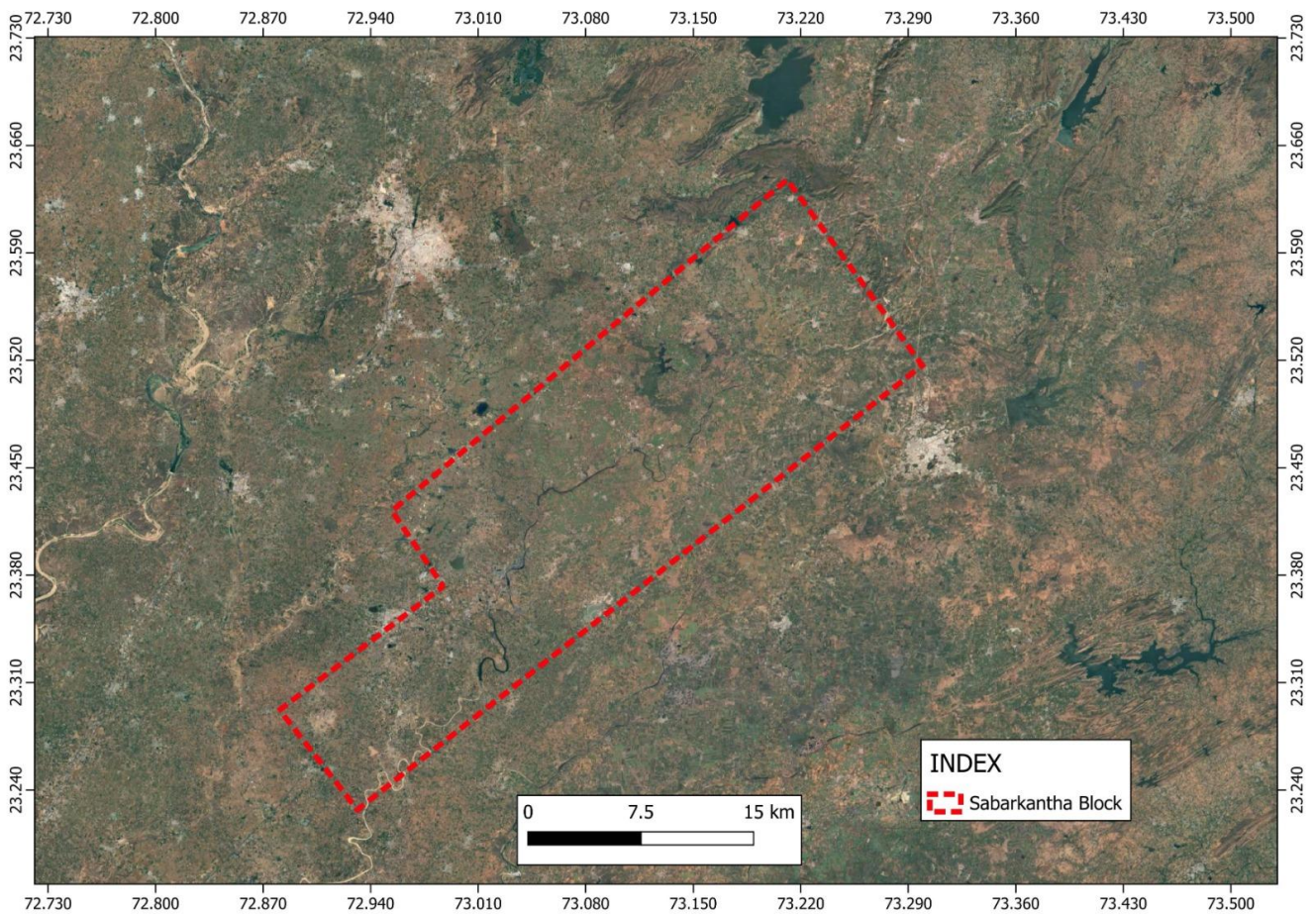


Fig 1: Proposed Sabarkantha block boundary on Google Earth Imagery

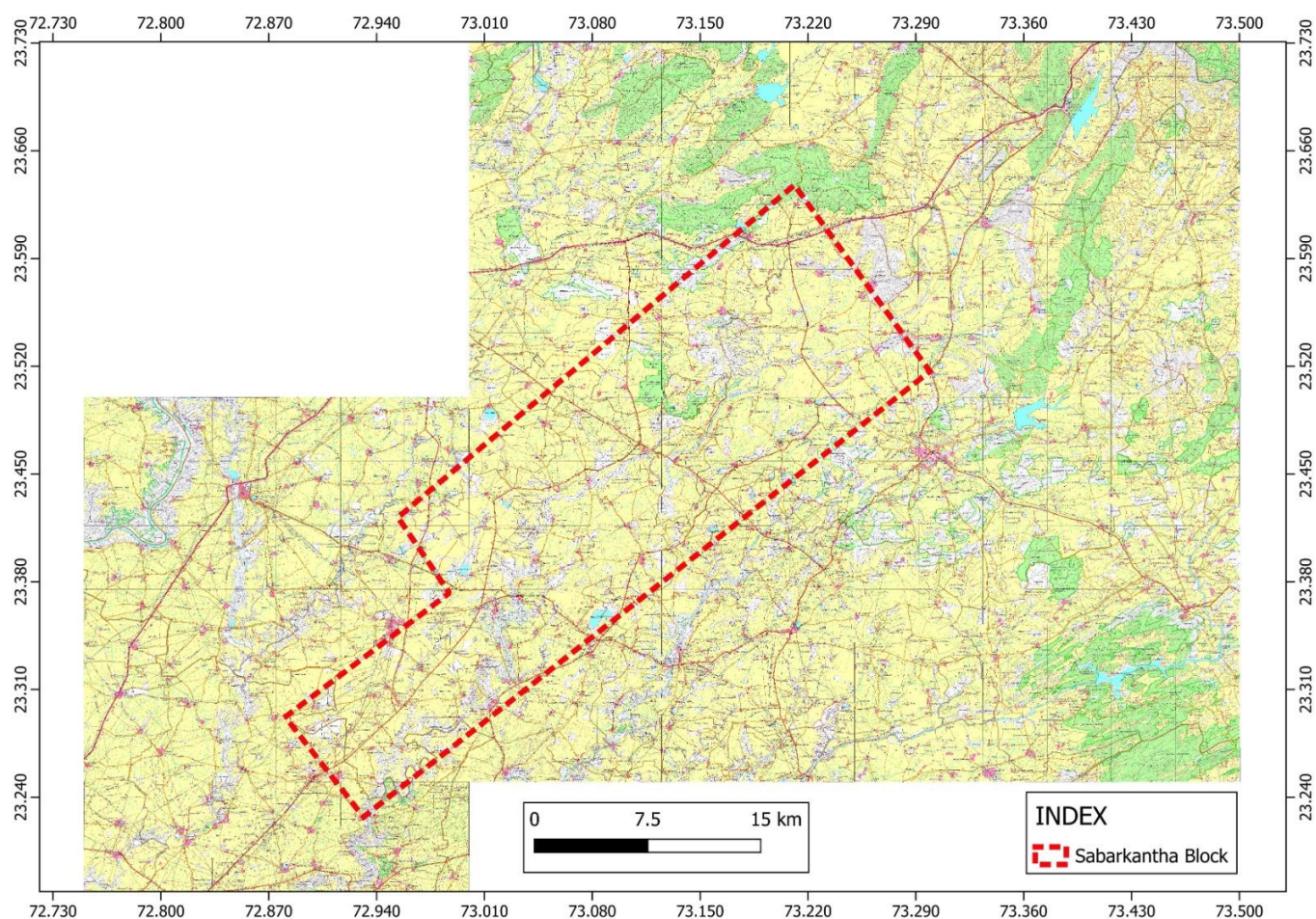


Fig 2: Proposed block boundary on Toposheets No. 46A/15, 46A/16, 46E/02, 46E/03, 46E/06, 46E/07

b) Background Geology

The Sabarkantha Block is situated in the northeastern part of Gujarat along the southwestern extension of the **Aravalli–Delhi Fold Belt**, one of the oldest Proterozoic mobile belts of the Indian Shield. The area is underlain by a complex assemblage of **Archaean basement gneisses and granitoids**, overlain by metasedimentary sequences belonging to the **Aravalli and Delhi Supergroups**. The lithological assemblage comprises **quartzite, phyllite, schist, gneiss, calc-silicate rocks, marble and intrusive granites/pegmatites**, which have undergone multiple phases of deformation, metamorphism and tectonic reworking.

The northeastern part of the district, particularly around **Vijaynagar, Khedbrahma and Poshina**, is characterized by rugged Aravalli hill ranges composed predominantly of quartzites, schists and gneisses, while the central and southern parts are covered by pediplains, alluvial deposits and fluvial sediments derived from prolonged weathering and erosion of the surrounding Precambrian rocks. The regional geology is marked by prominent NE–SW to NNE–SSW structural trends represented by folds, faults,

fractures and lineaments that control drainage development and sediment dispersal.

The prolonged denudation of granitic, pegmatitic and high-grade metamorphic source rocks of the Aravalli terrain has supplied resistant heavy minerals to the fluvial system. Subsequent hydraulic sorting and repeated sediment reworking within river terraces, floodplains, channel bars, point bars and palaeochannels have created favourable conditions for the concentration of heavy minerals and xenotime, within the Quaternary alluvial deposits targeted in the present exploration programme.

Regional Stratigraphy

The Sabarkantha Block forms part of the southwestern extension of the Aravalli–Delhi Fold Belt and is underlain by Precambrian crystalline rocks unconformably overlain by Quaternary alluvium. The oldest rocks belong to the **Banded Gneissic Complex (Archaean)** comprising granite gneiss, migmatite and granitoids. These are succeeded by metasedimentary rocks of the **Aravalli Supergroup**, represented mainly by the Jharol and Lunavada Groups consisting of phyllite, quartzite, chlorite-mica schist, garnetiferous schist, calc-amphibolite schist and metagreywacke. Localized bodies of serpentinite and talc-carbonate rocks belonging to the **Rakhabdev Ultramafic Suite** are also present. The succession is overlain by rocks of the **Delhi Supergroup**, comprising quartzite, schist, phyllite, calc-gneiss and marble. The younger cover consists of Quaternary/Recent alluvial deposits, including river terrace, floodplain, channel-bar and point-bar sediments deposited by the present drainage system. These unconsolidated fluvial sediments constitute the principal target horizon for heavy mineral and xenotime exploration.

c) Mineral potentiality based on geology, geophysics, ground geochemistry etc.

The Sabarkantha Block exhibits favourable conditions for the occurrence and concentration of **rare earth element (REE)-bearing heavy minerals, particularly xenotime**, owing to the presence of Godhra granite suit within the southwestern extension of the **Aravalli–Delhi Fold Belt**.

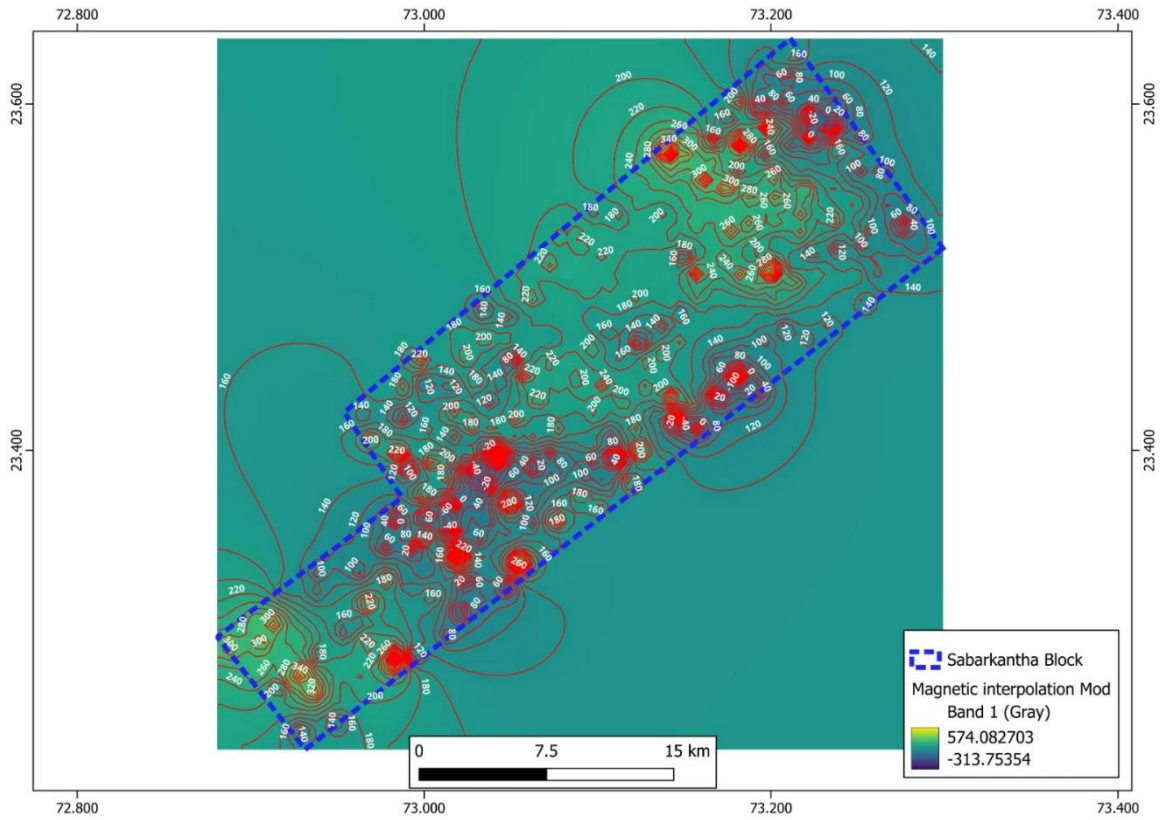


Fig. 3: Magnetic map of the area (NGPM data, GSI)

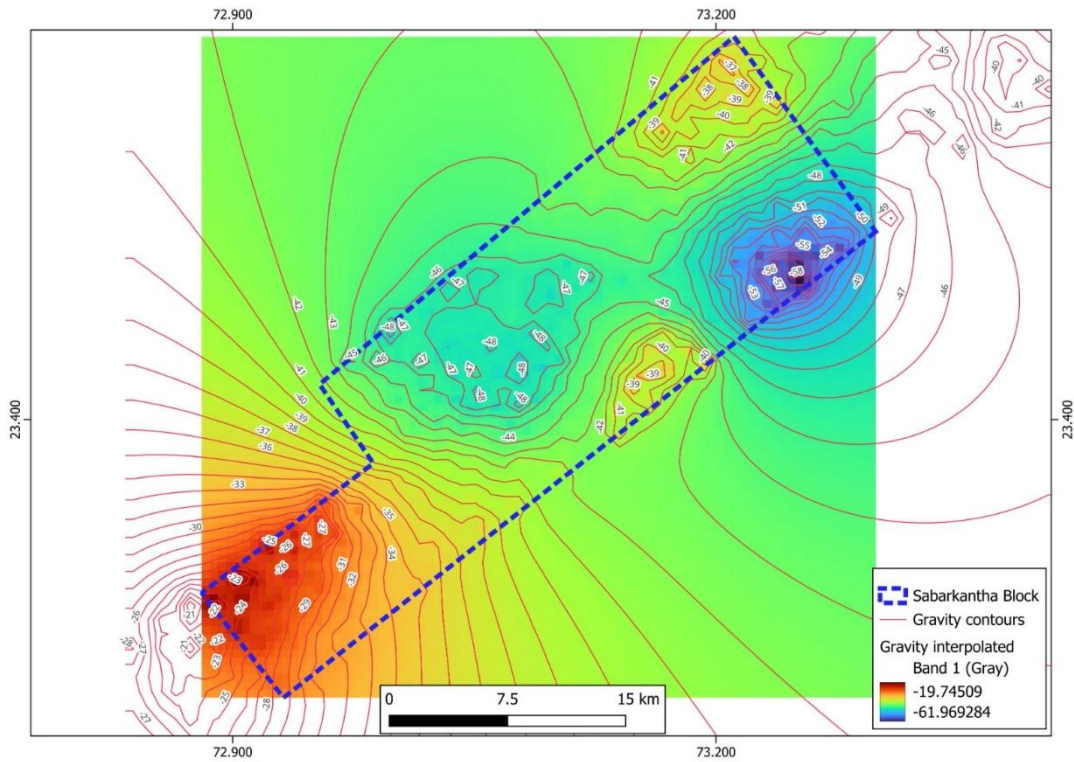
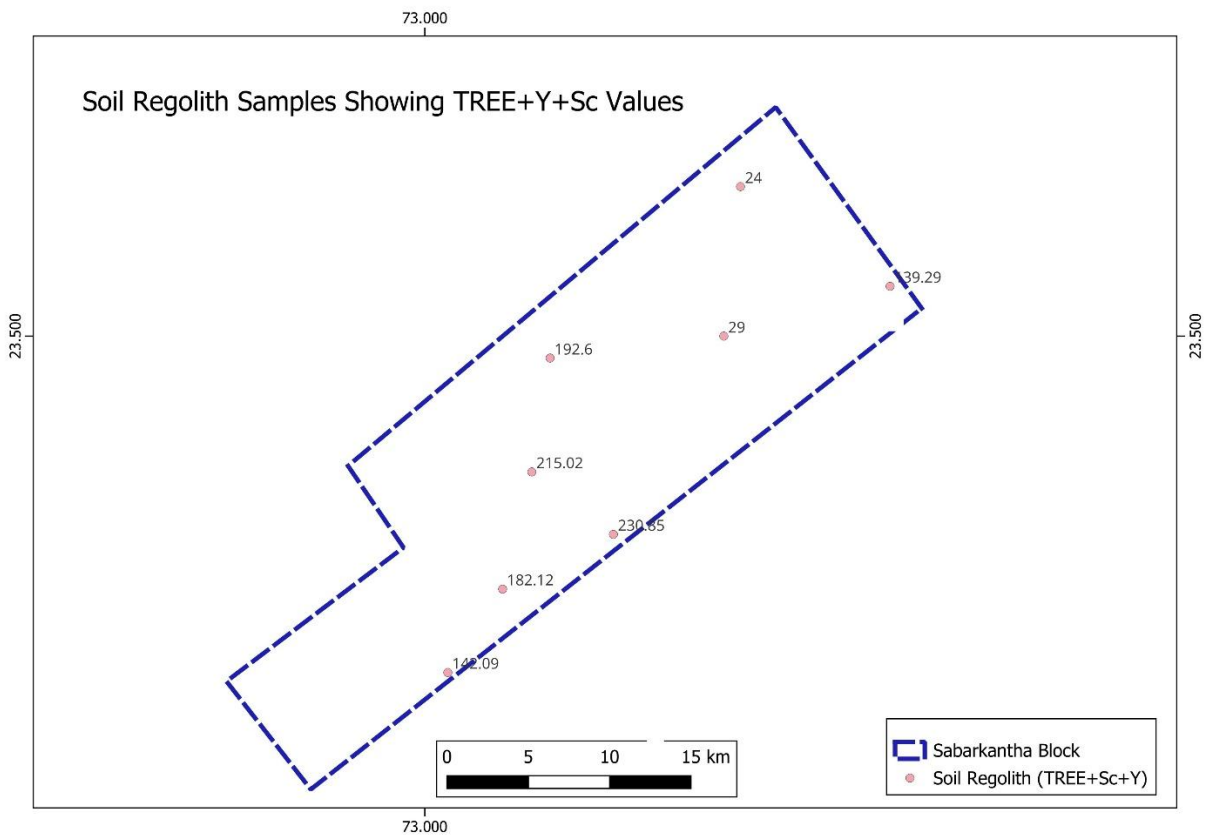
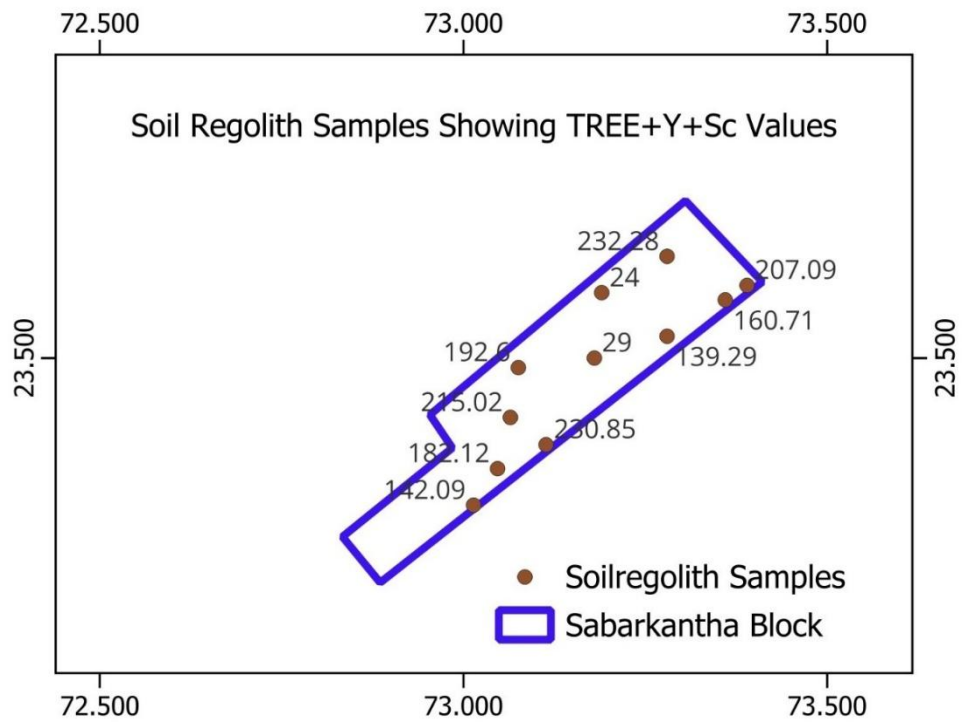


Fig. 4: Bouguer anomaly gravity map of the area (NGPM data, GSI)



- Auger Drilling (1.0 m)
- HM separation and analysis
- Geological report preparation.

2. Previous work

a) Previous Geological Report

There is no GR pertaining to HM exploration available for this area. However, a reconnaissance-level exploration programme titled “*Ujol Critical Minerals Project*” in adjacent area was carried out by Geovale Services Pvt. Ltd., a Ministry of Mines-notified Private Exploration Agency (NPEA), under funding from the National Mineral Exploration Trust (NMET). The project covered approximately 350 sq. km within the Ujol, Goma and Panam river basins of eastern Gujarat and was executed during October 2023 to May 2025.

The objective of the programme was to evaluate the potential for economic concentration of Rare Earth Elements (REE) and Rare Metal (RM) bearing mineral phases within inland alluvial and colluvial paleo-placer sediments and to delineate prospective exploration targets. The study involved geological, geophysical and geomorphological investigations, sediment sampling and laboratory-based heavy mineral separation studies.

The results of the Ujol project demonstrated that inland alluvial and colluvial environments associated with granitic terrains of Gujarat may host significant concentrations of REE-bearing heavy minerals such as xenotime. The outcome of the study provides a conceptual and geological basis for undertaking similar reconnaissance-level investigations in the Meshwa River Basin of Sabarkantha Block, where sediments derived from the metaluminous to peraluminous Godhra Granite occur under favorable geomorphological conditions.

b) Previous exploration in adjoining area (Regional area)

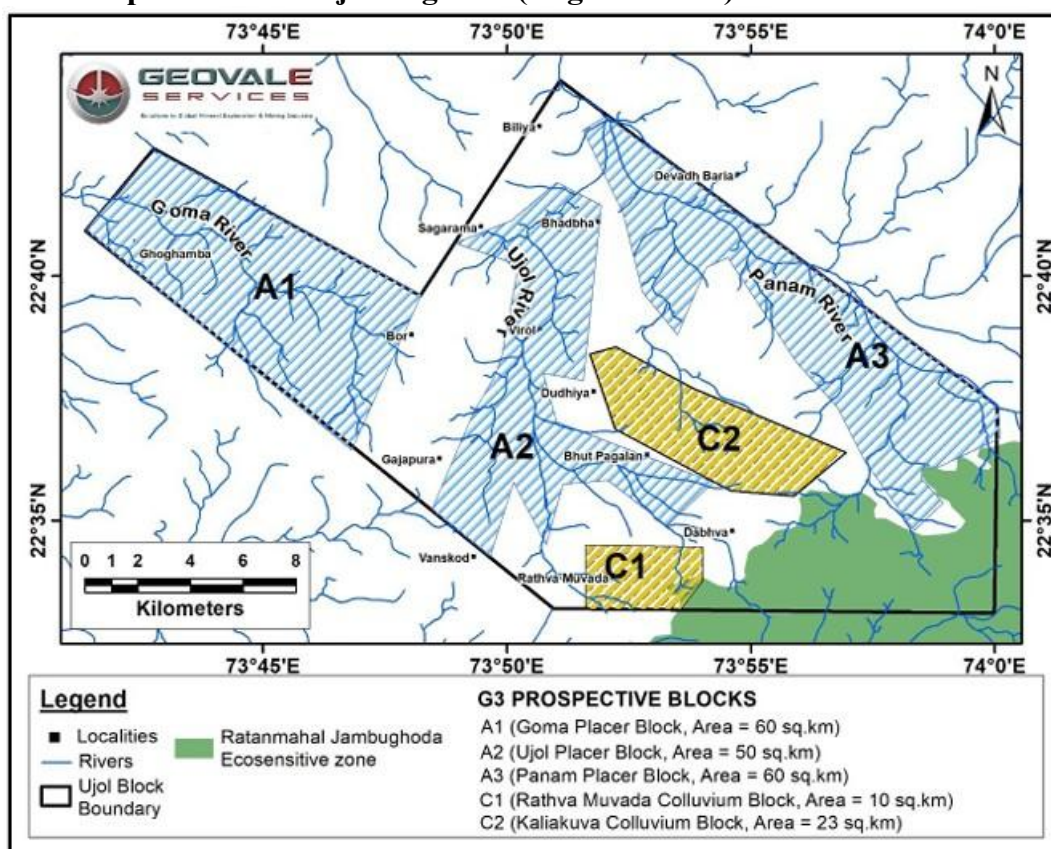


Fig 6: Map showing the five priority blocks (A1–A3 and C1–C2) identified and proposed by Geovale Services Pvt. Ltd. for G3 level exploration within the Ujol Project area. These blocks, ranging from 10 to 60 sq. km in extent, were delineated based on the integrated analysis of geological, geomorphological and geochemical criteria indicating favorable potential for REE-RM bearing paleo-placer mineralization., demarcated on Geological Map (1:50000 scale) of GSI (Source: Report titled “Ujol Critical Minerals Project” by Geovale Services Pvt. Ltd.,)

- c) **Previous Exploration details in the proposed block area:** No such exploration for placer Heavy minerals especially Xenotime has been carried out within the proposed Sabarkantha block. The Sabarkantha block has been assigned by TCC-NMEDT to Geo Marine Solutions Pvt Ltd for a regional survey for xenotime and associated heavy minerals as alluvial and colluvial placers.

1. **a. Block description (Sabarkantha Block):** Boundary Coordinates of Sabarkantha Block are given below.

Block Corner Points	LONGITUDE (DMS)	LATITUDE(DMS)
A	73° 17' 56.71" E	23° 31' 0.47" N
B	73° 12' 40.28" E	23° 38' 16.00" N
C	72° 57' 14.04" E	23° 25' 18.68" N
D	72° 59' 04.42" E	23° 22' 34.61" N
E	72° 52' 50.65" E	23° 17' 32.03" N
F	72° 55' 53.24" E	23° 13' 38.01" N

- b. Coordinates of Proposed Sample Locations:** Since the exact location of the samples depend up on the outcome of systematic geomorphological/geological mapping, only a schematic layout of sampling areas are prepared.

2. Planned Methodology

The proposed regional survey programme has been designed to evaluate mainly the placer potential of xenotime and associated heavy minerals within the alluvial and colluvial sediments of the Meshwa River Basin and partly within the Mahe river basin of Sabarkantha Block, Gujarat. The methodology employs an integrated source-to-sink exploration approach wherein the metaluminous to peraluminous Godhra Granite acts as the primary source terrain for REE-bearing heavy minerals, while the fluvial, colluvial and aeolian depositional environments within the basin act as potential concentration loci.

The drainage network of the Meshwa River Basin and its tributaries mainly traverses through the metamorphic rocks of Lunawada group of Aravalli Super Group in the upper catchments and through Godhra Granite in the middle catchment areas and through Quaternary/Recent sedimentary units, thereby establishing a direct genetic linkage between the granitic source rocks and downstream heavy mineral-bearing sedimentary domains. Continuous weathering, erosion and sediment transport processes operating within the granitic terrain are expected to release resistant REE-bearing heavy mineral phases such as xenotime, which may subsequently undergo hydraulic sorting and concentration within suitable depositional environments.

1. Compilation and Interpretation of Baseline Geoscience Data

Initially, all available geological, geomorphological and drainage datasets pertaining to the study area will be compiled and integrated within a GIS platform. Geological maps, drainage maps, detailed geomorphological maps using satellite data will be utilized to delineate favorable sampling loci.

Particular emphasis will be placed on understanding the geomorphology of the Meshwa River Basin and identifying depositional environments favorable for preservation of paleo-placer and active placer deposits. Interpretation of the geomorphology map prepared for the area indicates the presence of river terraces, alluvial plains, colluvial slopes, badland topography, aeolian sand patches, point bars, channel bars and mature meandering channel segments, all of which are considered favorable geomorphic settings for heavy mineral accumulation.

2. Delineation of Exploration Targets

Based on geological and geomorphological analysis, the study area has been classified into primary, secondary and tertiary exploration targets.

Primary Target

The fluvial sediments derived from Godhra Granite and deposited/concentrated in the vicinity as first order stream and colluvial sediments constitute the primary target for the proposed investigation. The granite is predominantly metaluminous to peraluminous in nature and is considered favourable for hosting REE-bearing accessory minerals such as xenotime. The drainage network of the Meshwa River Basin and its tributaries traverses through the granitic terrain, thereby facilitating weathering, erosion and downstream transportation of resistant heavy mineral fractions into the basin. Continuous fluvial activity operating over geological time is expected to have contributed to the release, transport and concentration of REE-bearing heavy minerals within suitable depositional environments.

Secondary Target

The secondary target zones include aeolian sand deposits, older fluvial terraces and active alluvial depositional environments developed within the Meshwa River Basin. The older fluvial terraces associated with the Varahi Formation are considered particularly significant owing to their potential to preserve paleo-placer concentrations formed during earlier depositional episodes. Aeolian reworking of fluvial sediments may additionally contribute toward secondary enrichment of resistant heavy mineral phases. Active channel

deposits including point bars, channel bars, sand-dominated dry river reaches and floodplain sediments are also considered prospective due to favorable hydraulic sorting conditions associated with the mature meandering nature of the Meshwa River system.

Tertiary Target

The tertiary target zones comprise conglomerate sandstone, sandstone, lower sandstone and middle sandstone units along with associated clay–silt–sand sequences, sandstone–shale–claystone successions occurring in the downstream areas. These lithological units are interpreted to represent intermediate repositories, sediment transport pathways and zones of temporary concentration where resistant heavy minerals derived from the Godhra Granite may undergo repeated cycles of transportation, reworking and hydraulic sorting prior to final deposition within younger alluvial systems. The presence of mixed clastic horizons and weathered sedimentary successions further enhances the possibility of localized heavy mineral enrichment within favorable geomorphic settings.

3. Geomorphological and Drainage Analysis

A detailed geomorphological and drainage analysis will be undertaken to identify favorable sediment accumulation zones and hydraulic trap sites within the Meshwa River Basin.

The Meshwa River exhibits a mature meandering nature particularly toward the southwestern part of the block, indicating low-gradient depositional conditions conducive for hydraulic sorting of heavy minerals. The river system is non-perennial in nature and displays alternating zones of water-dominated and sand-dominated active channels. The sand-dominated reaches, representing relatively dry channel segments, are considered highly suitable for placer sampling owing to the enhanced concentration of hydraulically sorted heavy mineral fractions.

Special emphasis will be given to the following geomorphic domains:

- Older/younger river terraces associated with the Varahi Formation
- Point bars and channel bars
- Meander loops and scrolls
- Floodplain deposits
- Dry channel sand accumulations
- Alluvial plains
- Colluvial slope deposits
- First-order stream confluences
- Sediment accumulation zones downstream of granitic terrain

The lower order stream confluences will be considered highly prospective because they function as natural sediment traps where heavy minerals transported from upstream source rocks may accumulate due to reduction in flow velocity and hydraulic energy.

The occurrence of badland topography within parts of the basin indicates active erosion and sediment remobilization processes, which may contribute additional sediment supply into the drainage system. The influence of existing dam structures on sediment transport, sediment retention and downstream depositional characteristics will also be evaluated during field investigation.

4. Field Investigation and Sampling Strategy

Systematic field investigations will be conducted to validate the interpreted geomorphological units and also geological information. This would help to identify suitable sampling locations.

Sediment sampling will primarily target alluvial and colluvial depositional environments developed along the Meshwa River and its tributaries. Samples will be collected from:

- River/stream sand deposits
- Channel bar sediments
- Point bar sediments
- Older and younger river terrace deposits
- Floodplain sediments
- Sand-dominated dry channel zones
- Silt and clay horizons (where applicable)

Priority will be given to depositional sites exhibiting visible sediment sorting, heavy mineral enrichment indicators and favorable geomorphic trapping conditions. Sampling density and distribution will be optimized based on drainage characteristics, accessibility and geomorphology.

Representative bulk sediment samples will be collected following standard reconnaissance-level sampling procedures. Field observations regarding lithology, grain size, sediment maturity, geomorphic setting, sediment color and channel characteristics will also be recorded systematically during the survey.

5. Laboratory Processing and Heavy Mineral Separation

Sample Processing

Bulk samples will be subjected to coning and quartering to get representative sample and will undergo slime determination using ASTM #325 sieve to remove fine mud that may interfere with heavy mineral separation. Subsequently, oversize material will be removed using ASTM #25 sieve in order to retain the optimum grain-size fraction suitable for heavy mineral occurrence/separation, after removal of size fractions smaller than ASTM #325 and larger than ASTM #25.

Heavy Mineral Separation Methodology

The processed samples will then be subjected to heavy media separation using bromoform to segregate light minerals from dense heavy mineral fractions. The light mineral fraction will be discarded, while the heavy mineral concentrate will be retained for further separation and mineral identification.

The heavy mineral concentrate will first undergo magnetic separation for removal of strongly magnetic minerals such as magnetite. The remaining non-magnetic fraction will subsequently be processed through electromagnetic (EM) separation within a magnetic intensity range of approximately 4000–8000 Gauss to separate ilmenite-bearing fractions from non-ilmenite heavy mineral assemblages.

The non-ilmenite fraction will further undergo high-intensity electromagnetic (EM) separation within a range of between 10000–20000 Gauss to isolate xenotime-bearing fractions from the remaining non-magnetic heavy mineral concentrate.

The final xenotime concentrate obtained through successive magnetic gravity and EM separation stages will be subjected to microscopic analysis for mineral identification/validation, characterization and assessment of REE-bearing heavy mineral assemblages. The generated mineralogical data will be integrated with geological and geomorphological observations to delineate prospective placer zones for follow-up exploration.

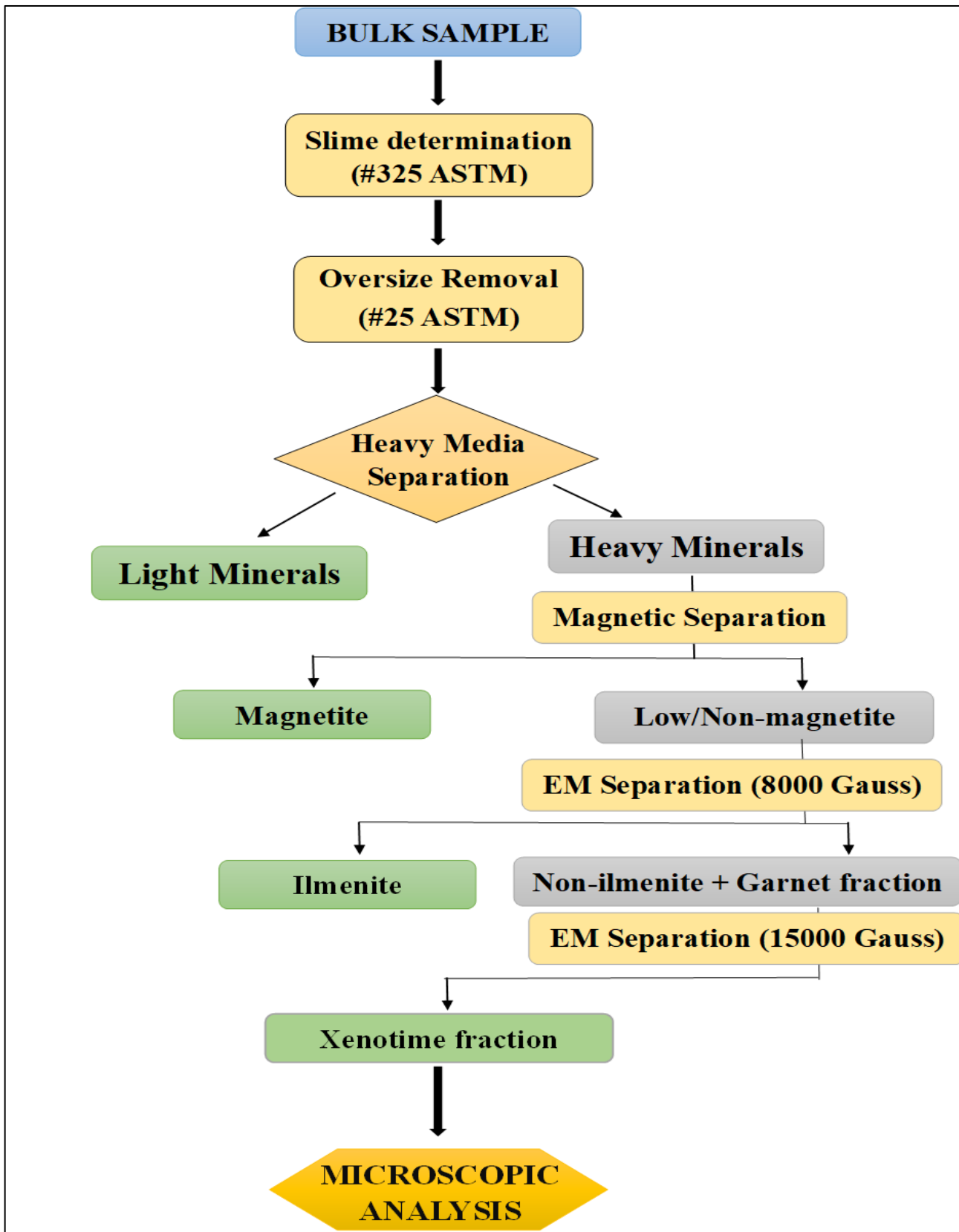


Figure 7:. Flowchart showing sequential heavy mineral separation methodology adopted for concentration of xenotime-bearing fractions from bulk sediment samples.

6. Data Integration and Target Delineation

All field observations, geological interpretations, geomorphological analyses and laboratory results will be integrated within a GIS environment for preparation of thematic layers and prospectivity maps.

The integrated analysis will be used to:

- Establish sediment dispersal pathways
- Identify heavy mineral concentration trends
- Delineate favorable placer accumulation zones
- Prioritize prospective sectors for follow-up exploration
- Recommend areas for detailed G3 level investigation

The final outcome of the study will provide a scientific basis for evaluating the placer potential of xenotime, and associated heavy minerals within the Meshwa River Basin and for identifying priority targets for future detailed exploration programmes.

3.Nature Quantum and Target

Sl. No.	Description of Work	Quantum (Sq. Km/ Number)
1.	Preparation of detailed geomorphological map using satellite data	796 sq. km
2.	Field check of geomorphic units and Auger sampling (top 1m)	300 Nos.
3.	Two level gravity, magnetic separation and EM separation	300 Nos.
4.	Study under Microscope & Modal analysis	75 nos.
5	XRD studies	5 nos.
6	ICP MS analysis for REE	33 nos.
7	Preparation of report	1

Break-up of expenditure and Time schedule: Attached as Excel

- 1. Exploratory Drilling**
- 2. Manpower deployment**
- 3. Break-up of expenditure**
- 4. References**

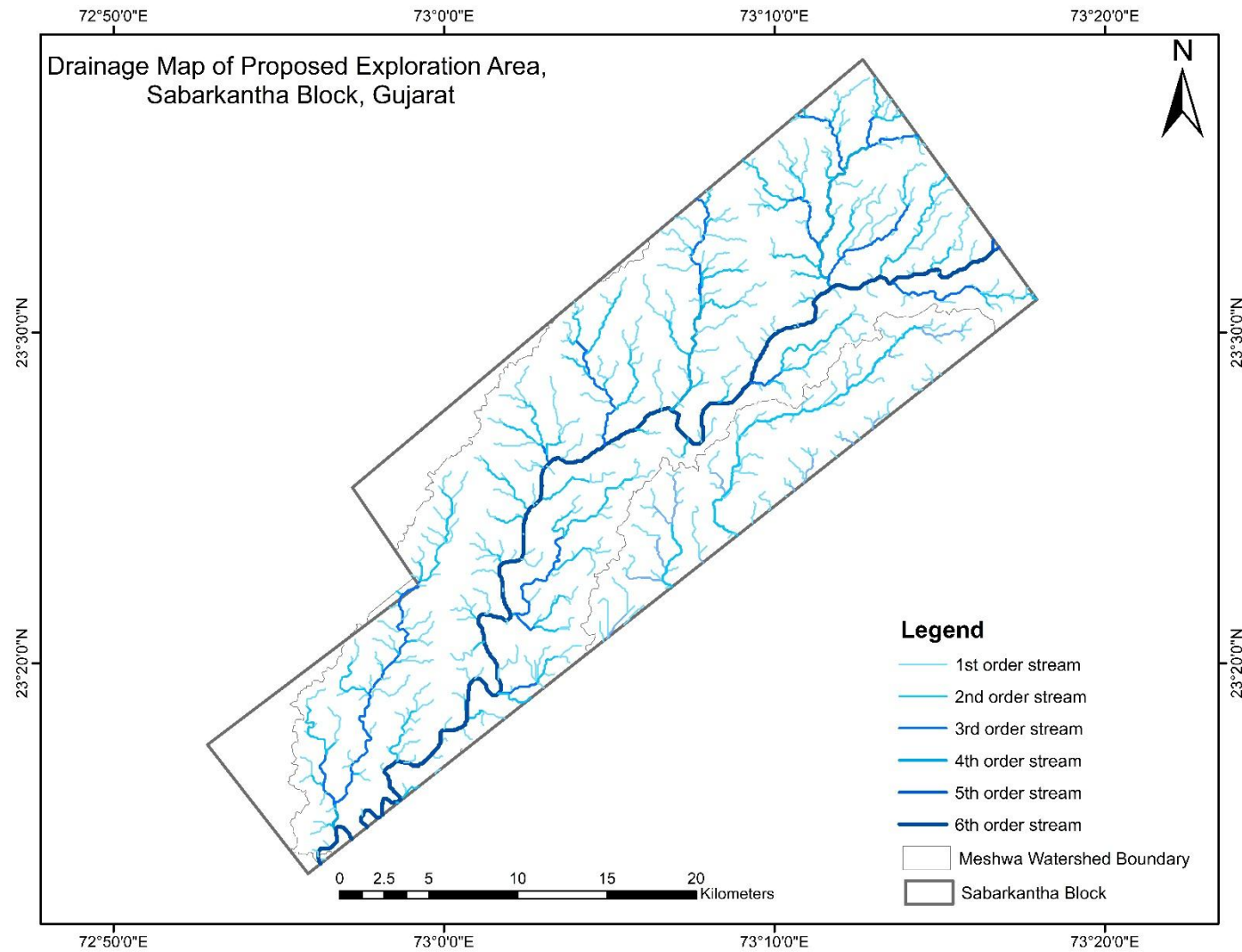


Figure 8: Drainage map of the Meshwa River Basin, Sabarkantha Block, Gujarat, showing the drainage network, watershed characteristics and major fluvial geomorphic features controlling sediment transport and heavy mineral concentration.(SRTM Data)

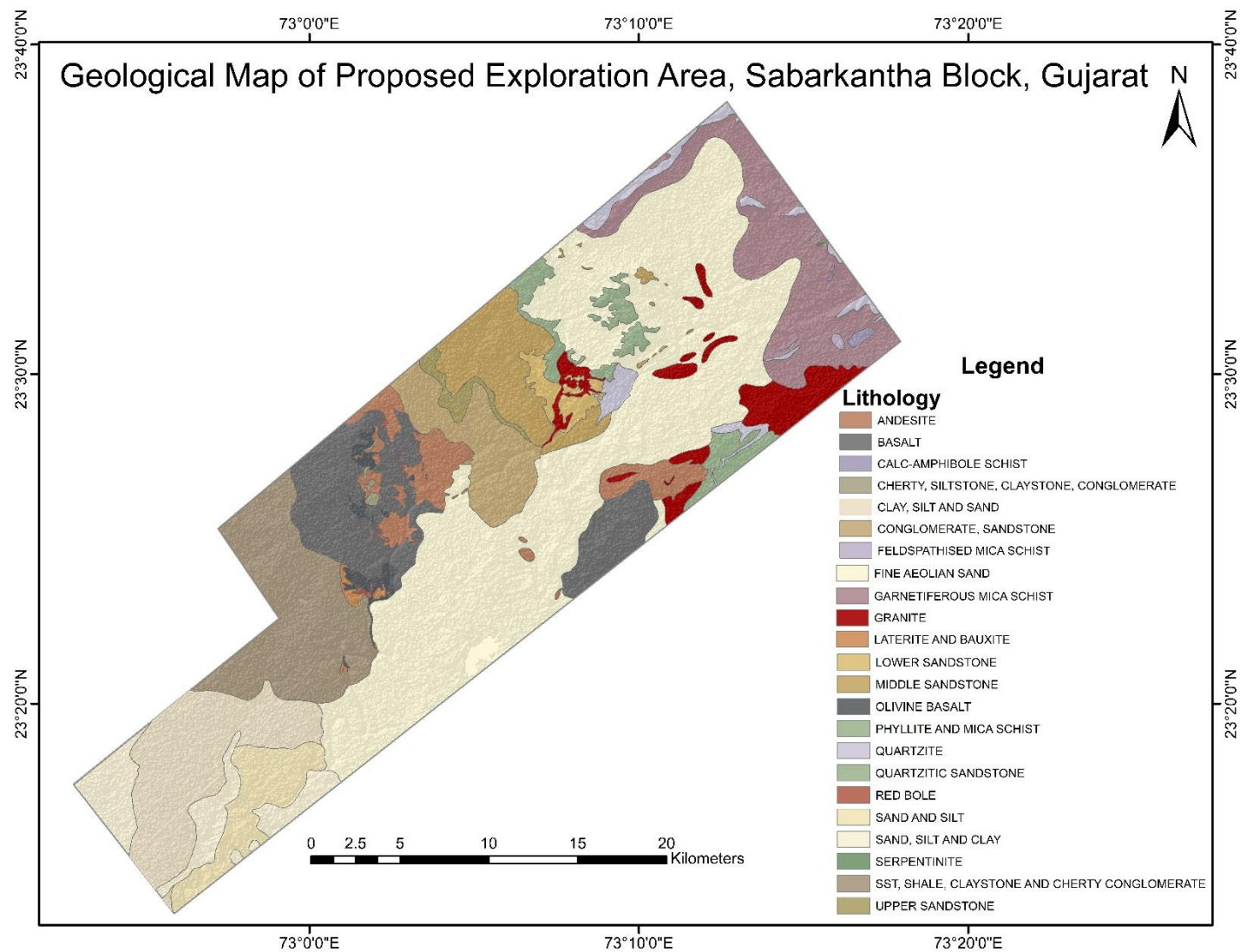


Figure 9: Geological map of Meshwa River Basin, Sabarkantha Block, Gujarat, showing lithological units, Godhra Granite and associated geological formations controlling sediment generation and heavy mineral dispersal. (Source: NGDR)

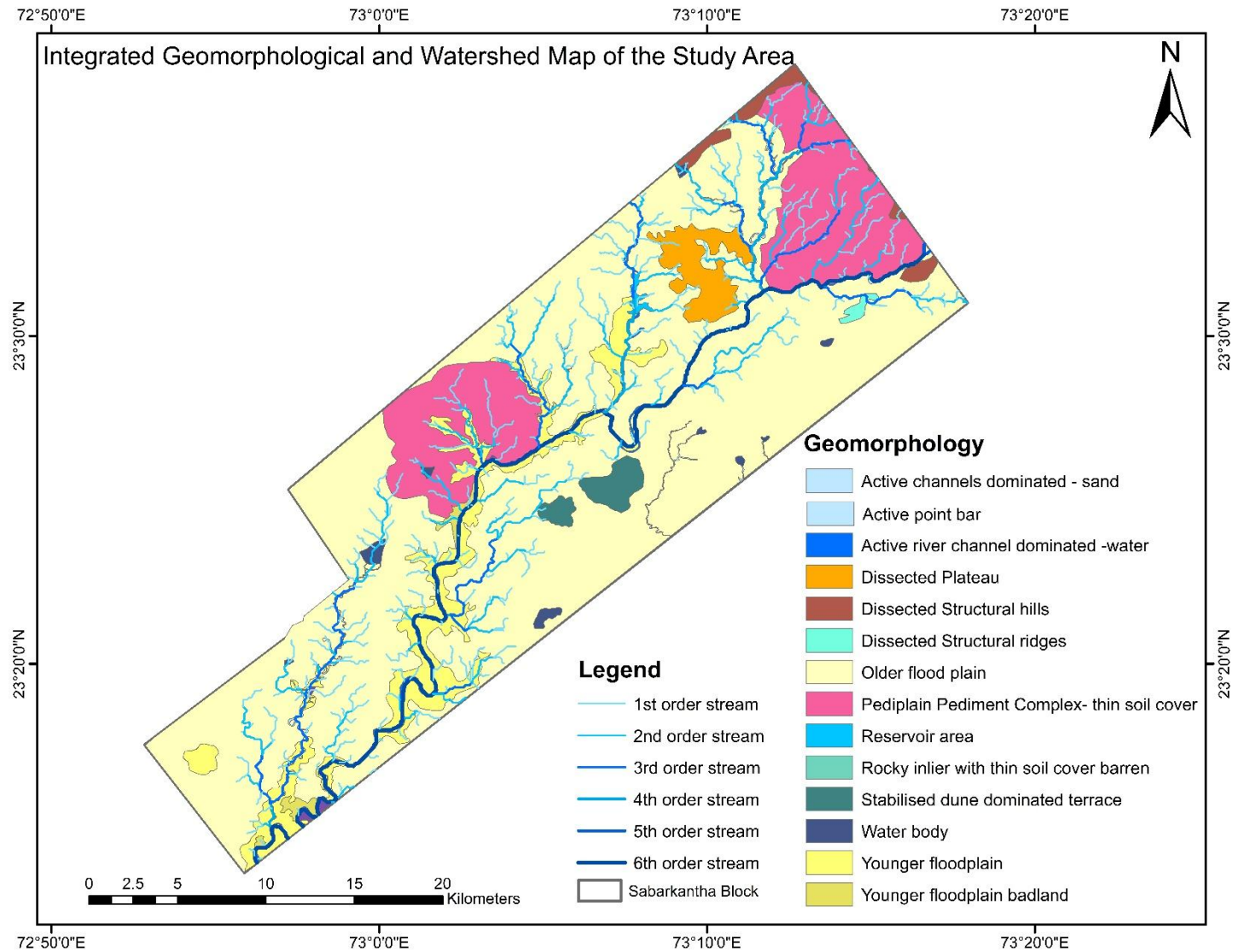


Figure 10: Integrated geomorphology (using satellite data) and watershed map of the Meshwa River Basin, Sabarkantha Block, Gujarat, showing drainage characteristics, geomorphic units and prospective depositional environments for heavy mineral concentration

CHECKLIST FOR EXPLORATION AGENCIES FOR SUBMISSION OF EXPLORATION PROJECT PROPOSALS/DPR

Name of Project/Block: Regional Survey for Evaluation of Placer Minerals in Proposed Sabarkantha Block, Gujarat.

Agency: GEO MARINE SOLUTIONS PRIVATE LIMITED

Nodal Personnel (Agency): P Praveen Kumar

Nodal Personnel (Agency): P Praveen Kumar

Date: 03/06/2026

Sl. No.	Items to be Verified by Agency	Yes/No	Page Number in submitted Document
1	Geospatial scrutiny completed using KML/coordinate dataset and AOI assessed (including exploration activities, mining areas, eco zones, dependencies).	Yes	Given in Page No. 14
2	Total Forest area in proposed block - with pic from PM Gatishakti portal. Type of forest (RF/PF/Sanctuary/National Reserve Forest) to be mentioned.	Yes	Given in Page No. 2
3	Overlap study of previous exploration work carried out in any exploration agencies/departments, or ongoing/proposed exploration work by any agencies/departments done	Yes	Given in Page No.13
4	Baseline data availability (NGCM, NGPM, Geological Maps, Airborne geophysical data etc.) on NGDR confirmed and reflected in comments.	Yes	Geophysical map given on page no. 9 Geochemical map given on page no. 10 and 11. Geological map is given in page no. 23
5	Processing of Baseline Geoscience data (NGCM, NGPM, Geological Maps, Airborne geophysical data etc.), legacy exploration data of proposed area, integration, analysis and interpretation presented in the project proposal/DPR	Yes	Geophysical map given on page no. 9 Geochemical map given on page no. 10 and 11. Geological map is given in page no. 23

Sl. No.	Items to be Verified by Agency	Yes/No	Page Number in submitted Document
6	Existing leases (ML/CL/EL etc.) in and around project area verified through NGDR/State DGM/Ministry of Mines	Yes	ML/CL/EL etc. is present in the project area (NGDR)- Harsol bauxite ML block in Southern part of the block
7	Whether the area falling within the buffer zone of International Boundary, Wildlife sanctuary, no-go zone, Biodiversity Park etc.	No	No major notified Wildlife Sanctuary or National Park falls directly within the proposed block boundary.
8	Literature review and previous findings submitted by agency verified and reflected in DPR/In-principle (Page number of the particular to be mentioned in Reference / Bibliography)	Yes	Given in Page no. 12
9	Whether the agency has carried out field work in the proposed area, collected samples and presented their findings with analytical data in project proposal/DPR	No	Field visit not conducted. The block has been assigned to Geo Marine Solutions Pvt Ltd by the 8 th Joint TCC. (Annexure)
10	Justification for proposed commodities and details of previous work included in DPR/In-principle. Reference to NMEDT's ongoing/completed projects verified and included in comments.	Yes	Given in Page No.4 and 9

Other Information

Accreditation of Agency:

Date: 13.08.2025

Valid Upto: 17.08.2028

Notification of Agency:

Date: 19.03.2025

Valid Upto: 18.03.2028

Personnel Deployed

As per QCI NABET – 2 Geologists

Current strength -27 (21- Geologist + 3- Geophysicist + 2- RS & GIS + 1- Hydrogeologist)

Total no. of Projects funded by NMEDT: 11

Approved - 11

Completed - 6

Ongoing - 5

Comments of Nodal Personnel (Agency), if any:

Certification

I hereby certify that the above checklist has been duly completed and all verifications have been carried out as per the guidelines.



Signature of Nodal Personnel (Agency):

Name: P. Praveen Kumar

Designation: Director

Date: 03/06/2026

Annexure 8- Extract from the Minutes of 8th Joint TCC- Sabarkantha Project assigned to Geo Marine Solutions Pvt Ltd

8.6 (Addl. Agenda) Allocation of block submitted by M/s Geovale Services Pvt. Ltd. in association with GSI

- a. Geovale Services Pvt. Ltd. have carved out 5 blocks with cumulative ~4,500 sq. km target area on major river systems, palaeo-terraces and inland placer potential for systematic mapping and targeted geochemical evaluation on the basis of outcome of the recently concluded G-4 stage exploration for evaluation of placer xenotime prospect in Ujol river basin, Gujarat.
- b. The proposal was discussed in 7th meeting of Joint TCC and it was decided that one block may be allotted to an NPEA on a nomination basis for preliminary work for six months, involving systematic sampling, with further work to be considered based on analytical outcomes The Block No. 2, i.e., Sabarkantha block was selected for this purpose.
- c. Continuing with the decision, the committee decided that Sabarkantha block may be allocated to M/s Geomarine Services Pvt. Ltd., owing to their experience as well as recently completed work on placers along the Saurashtra Coast.
- d. Geomarine Services Pvt. Ltd. is instructed to submit the DPR in 15 days.

