DETAILED PROJECT REPORT FOR PRELIMINARY EXPLORATION OF BAUXITE IN DAKOR BLOCK (G3) [2.10 SQ. KM.], KHEDA DISTRICT, GUJARAT.

COMMODITY: BAUXITE

To

NATIONAL MINERAL EXPLORATION & DEVELOPMENT TRUST (NMEDT)

(THROUGH THE COMMISSIONER OF GEOLOGY & MINING, GUJARAT)

BY

M/s Gems Projects Pvt. Ltd. Ranchi

E-mail: md@gemsgroup.in

www.gemsgroup.in

PLACE: RANCHI

DATE: 21st MAR2026

Ref No – NMEDT/E/023/26
Date- 21st MAR 2026

To
The Director & HoD
National Mineral Exploration & 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

Sir,

We are herewith submitting the following details for granting 'in-principle' approval by NMET on the proposal of reconnaissance or prospecting surveys to NMET under the "Scheme for Engagement of Notified Private Exploration Agencies in Mineral Exploration directly through National Mineral Exploration Trust issued by Ministry of Mines vide OM No. 6/3/2015-NMET/28 dt-10.05.2022.

1. Name and Address of the Applicant:

(a)	Name of NPEA:	**Gems Projects Private Limited**
(b)	Name of Authorized Signatory	**Deepak Kumar Swain**
(c)	Postal address:	**Street:** 1236/2, Lajpat Nagar, Near Lala Lajpat Rai School Pundag, **City:** Ranchi, **State:** Jharkhand -
(d)	Telephone Number (Office):	
(e)	Fax number (Office):	
(f)	Mobile No:	+91-9431115961, +91- 9934307900
(g)	Telephone Number (Residence):	
(h)	E-mail address:	md@gemsgroup.in

2. Details of Accreditation as Private Exploration Agency and Notification under the provision to Section 4(1) of the MMRD Act:

(a)	Date of accreditation granted by QCI-NABET:	18 January 2024
(b)	Date of expiry of accreditation:	17 January 2027
(c)	Date of Notification under the proviso to Section 4(1) of the MMRD Act:	19 January 2024
(d)	Date of expiry of Notification:	17 January 2027

(e)	Category of the exploration Agency (Category A or B) under Notification:	A Category Exploration Agency

3. Location Details of Proposed Block Area:

(a)	State	Gujarat
(b)	District (s)/ Taluka(s)/ Block(s)	Kheda/Thasra
(c)	Nearby Village (s)	Dakor, Vanoti, Agarwa, Dhundi
(d)	Survey of India (SOI) Toposheet (s) No.	46F/01
(e)	Area in sq. km.	2.10 Sq.Km.
(f)	Boundary coordinates of the proposed block (inDegree Minute Second)	

Sl. No.	Northing	Easting
A	22° 46’37.55” E	73°11’46.33” E
B	22° 46' 26.80" N	73° 12' 18.37" E
C	22° 46' 2.740" N	73° 12' 8.947" E
D	22° 45' 37.896"N	73° 11'35.304" E
E	22° 45’ 52.478” N	73° 11’01.64” E

4. Mineral Potential of the Area:

(a)	Name of Mineral(s) identified/ expected in the area/ block	BAUXITE
(b)	Title of the Project with name of the block	**PRELIMINARY EXPLORATION OF BAUXITE IN DAKOR BLOCK (G3) [2.10 SQ. KM.], KHEDA DISTRICT, GUJARAT.**
(c)	Stage of Exploration	G3
(d)	List of documents relied upon in support of item	Location map of the block area, Geological map

5. Documents to be enclosed with the application:

(i) Location of the proposed block demarcated on Survey of India (SOI) Toposheet No **46F/01 enclosed as Plate No-Plate II**

(ii) Documents mentioned in item 4(d) above – Project Proposal in Prescribed Format along with its related drawings.

Yours Faithfully

D. K Swain,
Managing Director

Place: Ranchi
Date: 21st MAR 2026

Gems Projects Private Limited

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PLACE: RANCHI

DATE: 21st MAR 2026

SUMMARY OF THE BLOCK FOR PRELIMINAR EXPLORATION (G3)

	Features	Details
	Block ID	**DAKOR BLOCK(G3) FOR BAUXITE**
	Exploration Agency	Gems Project Private Limited
	Commodity	BAUXITE
	Mineral Belt	Bauxite of Pleistocene-Holocene age
	Completion Period with entire Time schedule to complete the project	08Months
	Objectives	1. To determine the extent of the bauxitic area in the block. 2. To assess the grade of bauxite deposit in the block area. 3. To drill 10 bore holes on 500X500m grid as per MEMC rules 2015 to decipher its depth and subsurface continuity to establish the different zones having different grades of bauxite deposits. 4. To estimate the resources and reserves of bauxite as per MEMC Rule-2015. 5. To estimate the in-situ resources of bauxite for G3 stage of exploration (333), and preparation of Geological Report (GR).
	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; Gems Projects Private Limited.
	Name/ Number of Geoscientists	02 Geologists

<table>
<tr><td></td><td>Expected Field days (Geology)Geological Party Days</td><td>70</td></tr>
<tr><td>1</td><td>Location</td><td></td></tr>
<tr><td></td><td>Latitude & Longitude</td><td>
<table>
<tr><th>Sl. No.</th><th>Northing</th><th>Easting</th></tr>
<tr><td>A</td><td>22º 46’37.55” E</td><td>73º11’46.33” E</td></tr>
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</table>
</td></tr>
<tr><td></td><td>Villages</td><td>Dakor, Vanoti, Agarwa, Dhundi</td></tr>
<tr><td></td><td>Tehsil/ Taluk</td><td>Thasra</td></tr>
<tr><td></td><td>District</td><td>Kheda</td></tr>
<tr><td></td><td>State</td><td>Gujarat</td></tr>
<tr><td>2</td><td>Area (hectares/ square kilometers)</td><td></td></tr>
<tr><td></td><td>Block Area</td><td>2.10 Sq.Km.</td></tr>
<tr><td></td><td>Forest Area</td><td>NA</td></tr>
<tr><td></td><td>Government Land Area</td><td>NA</td></tr>
<tr><td></td><td>Private Land Area</td><td>Major part in agricultural area private land</td></tr>
<tr><td>3</td><td>Accessibility</td><td></td></tr>
<tr><td></td><td>Nearest Rail Head</td><td>Thasra-3 Km.</td></tr>
<tr><td></td><td>Road</td><td>GJ SH 12 is nearest state highway road from block area.</td></tr>
<tr><td></td><td>Airport</td><td>Ahmedabad is the nearest airport about 60Km from block area.</td></tr>
<tr><td>4</td><td>Hydrography</td><td></td></tr>
<tr><td></td><td>Local Surface Drainage Pattern (Channels)</td><td>Direction is southern to south-western</td></tr>
</table>

	Rivers/ Streams	Mahi river is a major river flow east side of the block area. Mahi canal flow inside block originate from Mahi rive at Wanakbori Dam.
5	**Climate**	
	Mean Annual Rainfall	The mean annual Rain Fall recorded in the area is 790 mm
	Temperature (December) (Min) Temperature (June)(Max)	Minimum temperature 5^0C Maximum temperature 46^0C
6	**Topography**	
	Toposheet Number	46F/1
	Morphology of the Area	The area is more or less a plain except for a low ridge.
7	**Availability of baseline geosciences data**	
	Geological Map (1:50K/ 25K)	Geological map on 1:50,000 scale (Source: NGDR)
	Geochemical Map	NA
	Geophysical Map (Aeromagnetic, ground geophysical, Regional as wellas local scale GP maps)	NA
8	**Justification for taking up Reconnaissance Survey / Regional Exploration**	**A.** The proposed area is located over Deccan Traps. Several occurrences of Bauxite mineralization have been reported in and around the proposed block area. Here the Bauxite occurs as a pocket deposit associated with ferruginous/aluminous laterite.

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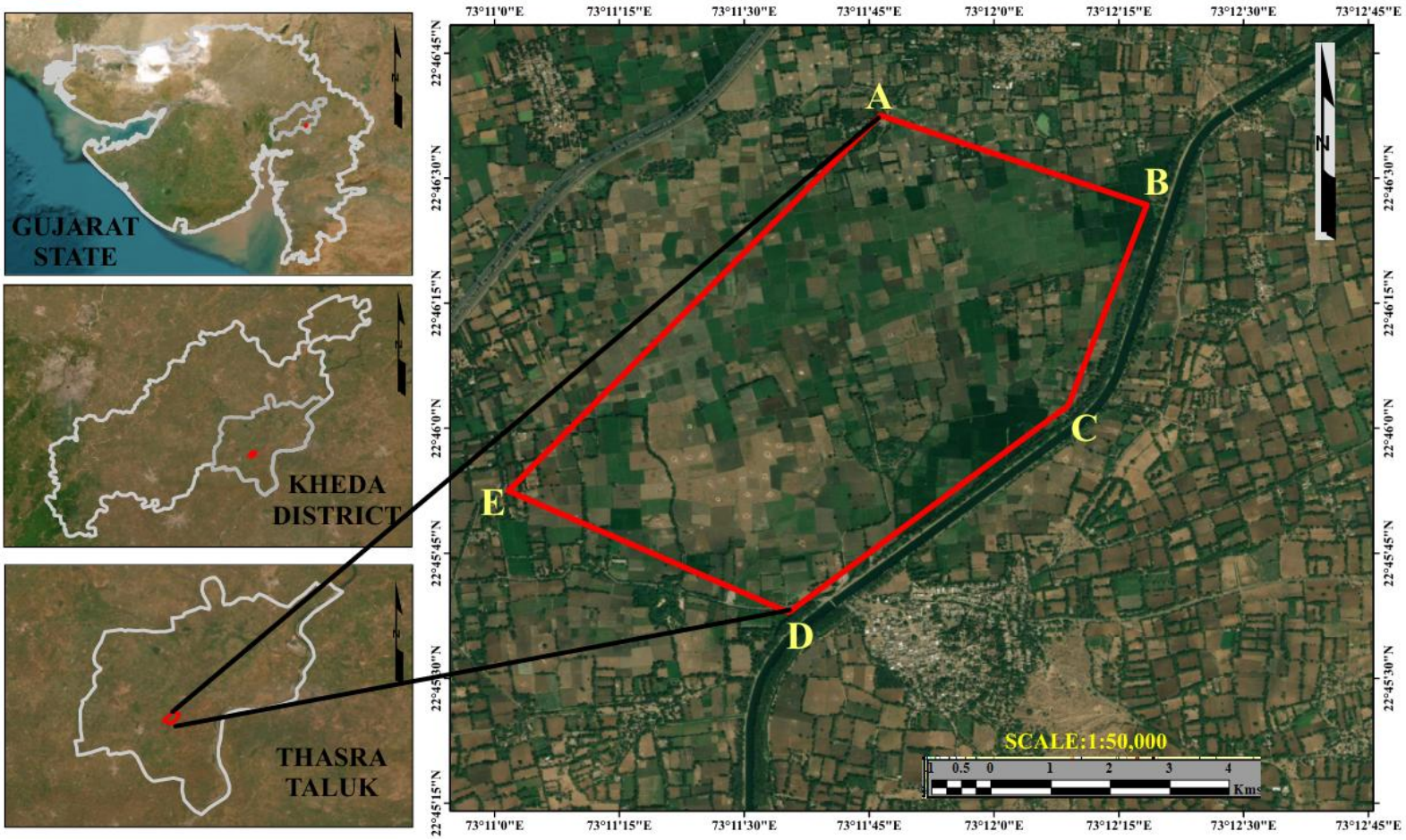
B. CGM Gujarat carried out pitting, 5-6 km away from the N-W part of the proposed block area. Chemical analysis of those pits samples reveals the following values which is promising to carry out further exploration within the proposed area.
<table>
<tr><td>Al_2O_3</td><td>51.41-43.42%</td></tr>
<tr><td>SiO_2</td><td>4.04-5.04%</td></tr>
<tr><td>Fe_2O_3</td><td>8.90-20.16%</td></tr>
<tr><td>TiO_2</td><td>6.15-7.68%</td></tr>
<tr><td>CaO</td><td>0.06-2.75%</td></tr>
<tr><td>MgO</td><td>Nil-0.01%</td></tr>
</table>
C. As per report of CGM Gujarat; Associated Cement Company's query reveals that; the top zone is composed mostly of nodules of bauxite, the middle zone is of big massive boulders of bauxite and the bottom zone is of lithomarge.

D. Bauxite leases and a working bauxite mine is located in the close vicinity of the block, so it can be considered as an extension of the already existing bauxite deposit. (CGM Gujarat)

E. CGM Gujarat issued NOC on 29th January 2026 to the Gems Projects for carrying exploration in this block.
</td>
</tr>
<tr>
<td>9</td>
<td>Documents to be enclosed with the application</td>
<td>1. Location map of study area plotted on satellite image.
2. Location of the proposed block demarcated on Survey of India Toposheet No.46F/01
3. Geological map of block area.</td>
</tr>
</table>

1. LOCATION MAP OF STUDY AREA PLOTTED ON SATELLITE IMAGE.

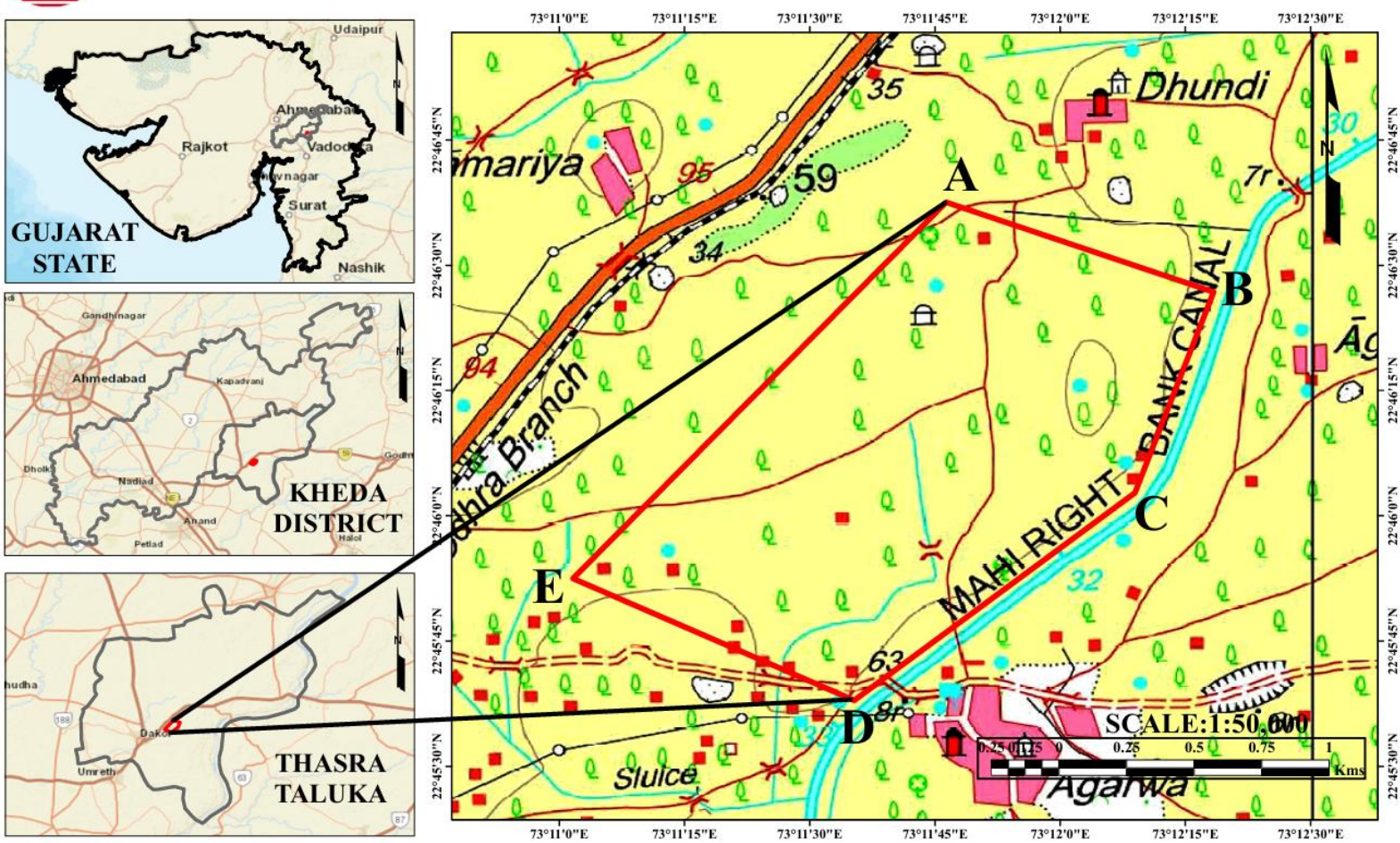
LOCATION MAP OF DAKOR BLOCK (2.10 SQ. KM.) **PLATE-I**



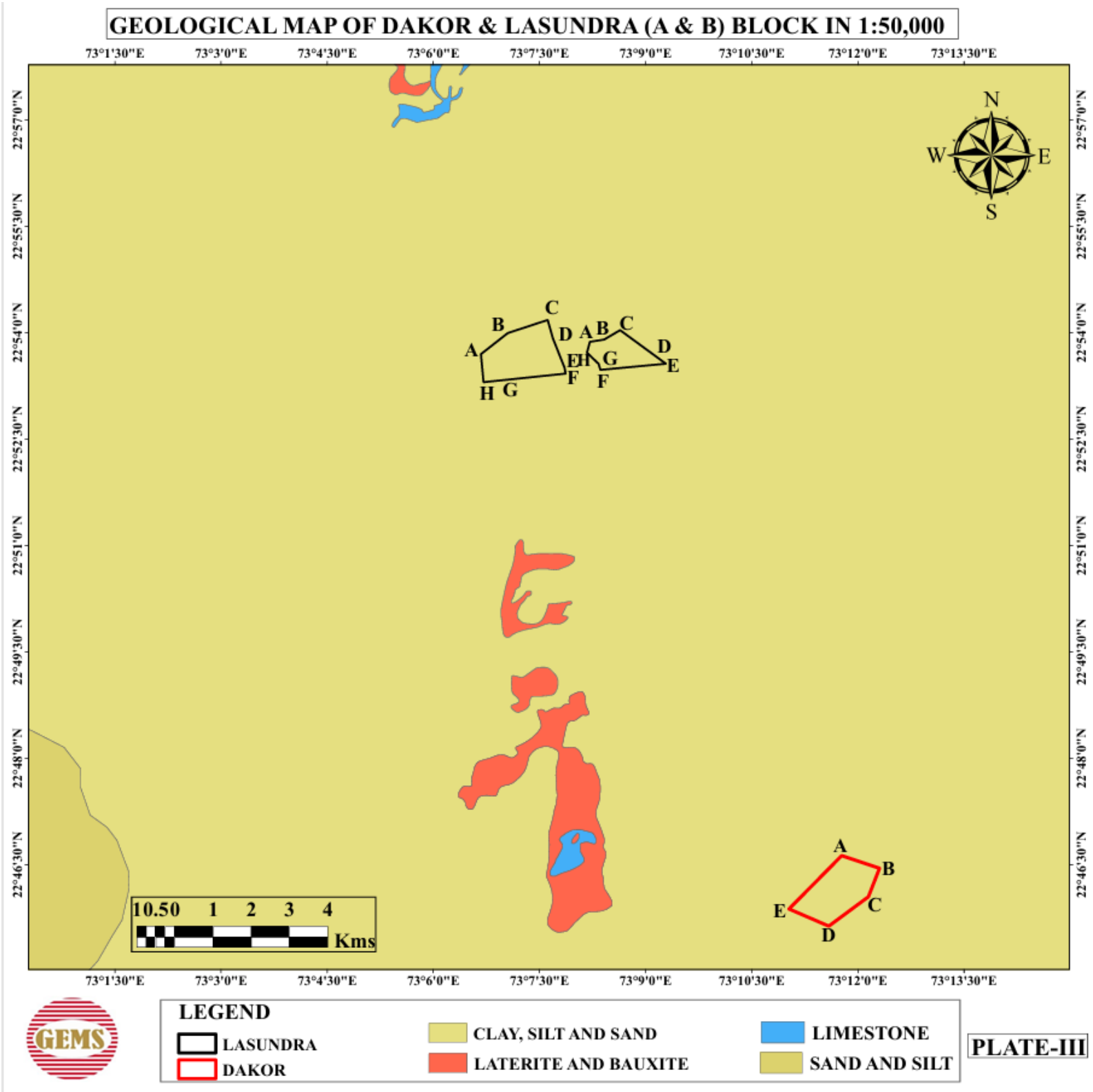
2. LOCATION OF THE PROPOSED BLOCK DEMARCATED ON SURVEY OF INDIA TOPOSHEET NO. 46F/01.

DAKOR BLOCK ON TOPOSHEET NO.46F/01 OF SOI

PLATE-II



3. GEOLOGICAL MAP OF THE BLOCK :



1. BLOCK SUMMARY

A. Location and details of the study area:

The entire study area comes under Thasra taluka of Kheda district covers parts of Agarwa & Dhundi village. Kheda district covers an area of 3,667 km² and population of the district is 2,299,885 as per 2011 population. Dakor is located around 35 km towards north east from district headquarters Nadiad and around 60 km from state capital Gandhinagar. Dakor block falls under the survey of India Toposheet No.46F/1. The block area is nearly 3.21Sq.Km. Co-ordinates of the cardinal points are tabulated below;

Sl. No.	Northing	Easting
A	22° 46'37.55" E	73°11'46.33" E
B	22° 46' 26.80" N	73° 12' 18.37" E
C	22° 46' 2.740" N	73° 12' 8.947" E
D	22° 45' 37.896"N	73° 11'35.304" E
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B. Infrastructure & Accessibility:

The Dakor block accessible from Thasra & Dakor town via SH-12. The nearest airport is around 60 Km. Nearest railway station is the Thasra railway station which is 3Km away from the block. The area is accessible throughout the area.

C. Physiography & Drainage:

The area is more or less a plain except for a low ridge. The minimum and maximum elevations of ground level from the mean sea level are 60.96 meters and 76.2 meters respectively.

The direction of drainage of the area is southerly to south-westerly. River Shedhi which enters the area from the east and flows for a certain distance in the south west direction veers towards south near village Muliad, draining the area near Thasra and Dakor along with its tributaries. River Mahor flowing roughly in south, south-west direction drains the remaining area along with its tributaries Kharvo River and Luni River. The flow direction of these two rivers is towards south west.

D. Climate:

The climate of area can be classified as tropical, hot and dry. Winter is dry and cool. December and January are the coolest months. Summer is quite hot and dry and temperature rises even up to 46°C during the months of April and May, Hot winds and dust storms are common during this period. Heat subsides in middle of June when the south-west monsoon sets in maximum precipitation of rain takes place in July and August. The mean annual rainfall of the area 790 mm.

E. Vegeation:

The area is mainly covered under agriculture and practically devoid of forest. However, main trees of the area are Neem, Mango, Bor, Asopalav etc. No major wild life is seen in the area. The main agriculture crops of the area are tobacco, wheat, sugarcane, maize and millet.

F. Previous Work:

I. B. A. Amin (1970). Report on The Preliminary Mineral Investigation in Part of Kaira District, Gujarat State (CGM Gujarat), **p.g.:6-17**

II. J. M. Parikh (1970-71). Report on The Investigation for Bauxite in Some Villages of Thasra; Kaira District; Gujarat State (CGM Gujarat), **p.g.:7-15**

III. K. M. Patel (1998-99). Report on The Detailed Geological Survey for Bauxite Around Ladvel, Dujevar etc. Viliages of Kapadwanj Taluka of Kheda District in Parts of (Toposheet No.46E/4 & 46F/1) (CGM Gujarat), **p.g.:7-12**

IV. Commissioner of Geology and Mining, Gujarat (2024). Gujarat's Mineral Wealth: A Responsible Exploration and Development Paradigm.**p.g.:18-19**

G. Planned Methodology:

- **Detailed Geological Mapping:** The detailed geological mapping (DM) on a 1:4,000 scale is to be carried out in and around **3.21 sq km** area. The detailed geological map will be finalized by adding physical features beyond geological features, attitudes of beds, structural features etc. to be picked up and plotted during mapping.
- **Pitting:** To know near-surface geology **05 nos.** of pits will be excavated. **[2mx2mx3mx10= 120 Cum]**
- **Drilling:** The entire area will be drilled in a grid pattern of **500mx500m**, (**10 nos.** down to **25m** = **300m**), total drilling will be **300m**.
- **Geochemical sampling:** Pit samples, Trench samples & Core samples etc. will be collected for analysis.
- **Chemical Analysis:** XRF analysis of major oxides & trace element study of selected samples.
- **Petrographic and mineralogical studies:** Petrographic & mineralogical studies of possible host rock.
- **Exploration Report:** Generate a detailed report (Final G3 stage Report), identifying and establishing area worthy of being raised to a G-2 scheme as per MEMC-2015.Data generated from G-3 level works, shall be presented in the Report as per the laid guidelines.

2. GENERAL GEOLOGY OF THE AREA:

Age	Lithology
Recent to sub-recent	Soil, Blown Sand, Alluvium and Kankar
……..Erosional Unconformity…….	
Miocene	Gray shale interbedded with beds of yellow coloured argillacious limestone
……..Unconformity……..	
Eocene	Laterite and Bauxite, Lithomerage
	Concretionary limestone
……..Unconformity……..	
Cretaceo-Eocene	Deccan Traps

i. Deccan trap is the oldest rock formation in the area investigated. Thin section study of this rock showed two district phases, the matrix is comparatively coarse basalt, and the embedded grains are fine grained in texture and richer in glass. The major constituents of the embedded grains are saussuritized plagioclase and a few large crystals of Actinolite Tremolite pseudo morphs after pyroxene in a glassy ground mass.

ii. Concretionary limestone formation directly rests over the trap. The thickness of this limestone varies from a few centimeters to a few metres. At many places below the laterite and bauxite capping, the low ridge occurring between Kapadwanj and Dakor, pinkish white concretionary limestone was also noted.

iii. The laterite and bauxite formations rest over the concretionary limestone. Two types of laterite formations can be recognized in the field. (i) Ferruginous laterite which is the more extensive formation of the two is a porous, pitted and earthy rock at tines rich enough in iron to form low grade iron ore. (ii)The second variety is nodular of boundary in nature, generally ash grey of pinkish grey in colour. The first variety is low in alumina while the second one is generally high in alumina.

iv. Greenish grey and yellowish shales, probably of Miocene age, rest over the laterite and concretionary limestone. These shales occur at various depths varying form few metres to few tens of metres below the alluvial cover in the area to the west of the low ridge between Kapadwanj and Dakor.

v. Recent Alluvium directly rests on the Traps and the Tertiary formations in the area. Lithology is composed of different lenticular beds of clays, Silts, sands and gravels. The soils in the area vary from medium black (loamy) clay to sandy. Medium black soil generally prevails in the area to the east of the ridge where Trap formation occurs at shallow depths. The tropical Kankar below the soil cover is noted almost everywhere.

3. FIELD PHOTOGRAPHS:

(Field visit has done by our fellow Geologist on 10th of February 2026, but sample was not taken due to no surface exposure.)

4. QUANTUM OF WORK:

Sl. No.	Item of Work *	Unit *	Proposed Qua. (b)	
A	**Geological Mapping Other Geological Work & Surveying**			
	Geological mapping, (1:4,000 scale) & Trenching, drilling work	Sq. Km.	2.10	
	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work (02 Geologist)	day	70	
	b. Labours Charges; Base rate	day	140	
	c. Charges for Geologist per day (HQ)	day	30	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	25	
B	**Survey work**			
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	14	
b	Charges of Surveyor (1 party) for Geophysical survey layout work & Block boundary demarcation	one surveyor per day	20	
c	Labours Charges for survey work;	day	80	
C	**Trenching/Pitting**			
	b) Excavation of Pits **(2x2x3)**	per cu.m	120	**12 nos.**
D	**DRILLING (after review)**			
1	Drilling up to 300m (Soft Rock)	m	250	**10 BHs, 25m each**
2	Borehole deviation Survey by Multishot Camera	m		
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	12	
4	Construction of concrete Pillar (12"x12"x30")	per borehole	12	
E	**LABORATORY STUDIES**			

1	**Chemical Analysis**			
i)	**Pit, BRS, Core Sample (Primary)**			
	Major oxides	Nos	170	Pit:50, BRS:20, Core Samples:100
ii)	**Pit, BRS, Core Sample (Check)**			
	Major oxides	Nos	17	
iii)	ICPMS	Nos	10	
2	**Physical & Petrological Studies**			
i	Preparation of thin section	Nos	5	
ii	Study of thin section	Nos	5	
viii	Bulk Density	Nos	2	
x	Reactive Silica	Nos	5	

5. TENTATIVE COST ESTIMATION OF THE PROJECT:

Sl. No	Item	Total
1	Geological Work	16,98,120
2	Survey	5,90,480
3	Pitting/Trenching	5,67,000
4	Drilling	20,37,500
5	Laboratory Studies	8,92,400
	Sub total	**57,85,500**
6	Report	2,50,000
7	Peer Review	30,000
8	Proposal Preparation	1,15,710
	Total	**61,81,210**
9	GST 18%	**11,12,617.80**
Total cost including 18% GST		**72,93,828**
SAY, in Lakhs		**72.94**

6. TIME SCHEDULES:

ESTIMATED TIME SCHEDULE FOR PRELIMINARY EXPLORATION OF BAUXITE IN DAKOR BLOCK (G3) [2.10 SQ. KM.], KHEDA DISTRICT, GUJARAT 2.10 sq. km										
Sl. No.	**Item of work**	**Months**								
		1	2	3		4	5	6	7	8
1	Camp Setting/Mobilization									
2	Geologist Days (Field)									
3	Pitting/Trenching									
4	Survey Days (01 party)				**REVIEW**				**REVIEW**	
5	Drilling									
6	Sampling Days									
7	Laboratory Studies									
8	Camp winding									
9	Geologist Days, HQ									
10	Preparation of Geological report									
11	Peer review & Report Final Submission									