DETAILED PROJECT REPORT(DPR) FOR PRELIMINARY EXPLORATION (G-3 STAGE) FOR BAUXITE & ASSOCIATED MINERALS IN SUKHPUR BLOCK, DEV BHUMI DWARKA DISTRICT,GUJARAT

(10.70 Sq.Km Area)

COMMODITY: BAUXITE

To

NATIONAL MINERAL EXPLORATION DEVELOPMENT TRUST (NMEDT)

Submitted by

M/s APC DRILLING & CONSTRUCTION PRIVATE LIMITED
NAMAKKAL
E-mail:apcdrilling @gmail.com

MARCH 2026

Summary of the Block for Preliminary Exploration (G-3)
for Bauxite and Associated Minerals in Sukhpur Bauxite Block,Porbandar District, Gujarat

GENERAL INFORMATION ABOUT THE BLOCK

	Features	Details
	Block ID	**SUKHPUR BAUXITE BLOCK**
	Exploration Agency	APC Drilling & Construction Private Limited
	Previous Exploration Agency	COMMISSIONER OF GEOLOGY & MINING,GUJARAT
	Geological Report (Previous Stage Geological Report0	**GSI Report 1972-73 TO 75-76** **Directorate of Geology and Mining,Gujarat State 1965-1966**
	Commodity	**Bauxite**
	Mineral Belt	The area is Western extension of Mangrol- Keshod laterite belt in coastal Saurashtra, Gujarat
	Completion Period with entire Time schedule to complete the project	8 months
	Objectives	Sahasrabudeh (1958-59) studied the bauxite deposits in the coastal belt in parts of Jamnagar , Junagadh, Amreli and Bhavnagar districts. He has described in detail the mineralogical and chemical composition of the bauxite and geological setting of laterization. The investigation for concealed bauxite in the Porbandar taluk, Junagadh district commenced in October, 1972 and exploration by test drilling ended in December 1972. Shri Narayaswamy then DDG, GSI in 1973 visited the Porbandar area and opined that the Pre-Gaj topography and the mode of occurrence of laterite and bauxite should be studied in detail. During the GSI Field Season 1974-75 & 75-76 carried out investigation for bauxite consisting of geological mapping with the help of aerial photo mosaic b) study of dug wells sections, c)Test drilling, d) core-sampling of the bauxite for chemical analysis.

		The insitu bauxite deposits are located on flat tops of low masas, or long gentle side of cuestas type of slopes in the palaeotopography. The deposits are not encountered in the deeper portion of the valley. A total of 112 boreholes were drilled in the Porbandar taluk of Juriagadh district, out of which 88 boreholes have intersected bauxite, bauxitic clay and Laterite. A total of 456 core samples and 24 samples from dug-wells, outcrops and quarry sections were subjected to chemical analyses.The complete analysis were' carried out only' for those samples which analysed more than 40% A1203. The concealed bauxite in the Porbandar taluk, Junagadh district is of low grade; the silica percentage varies from 1.93 to 25.00 % and the Ti02% varies from 0.65 to 3.3% and Fe203 varies from 1.00 to 27.00%. A total of 54 areas of concealed bauxites (kaolinite bearing bauxitic clay), were demarcated in the area. GSI estimated 16.36 m. tonnes of inferred reserves of possible category, the bauxite to overburden ratio ranges between 1:1 to 1 :33. The present exploration program (G3) has been formulated to fulfill the objectives of delineating the strike & continuity and depth persistence of Bauxite- Laterite-Titanium-Vanadium and associated minerals in the proposed area and decipher its disposition both surface and subsurface by carrying the following activities ❖ Geological Mapping on 1:4000 scale ❖ Surface Sampling (Grab/Bedrock/soil samples) & chemical analysis ❖ Pitting ❖ Systematic drilling of 14 number of Boreholes in 800 x 800 grid to prove lateral (strike) and vertical (depth) continuity of mineralized zones depending on results of Geological Mapping, Geochemical Studies, Geophysical Investigation and Pitting ❖ To estimate reconnaissance category resources (333) of Bauxite-Aluminous/Ferruginous Laterite-Titanium-Vanadium and associated minerals in the block as per

<table>
<tr><td></td><td></td><td>UNFC norms & MEMC Rule- 2015 and Minerals (Evidence of Mineral Contents) Amendment Rule, 2021.</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td>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</td><td>The Remote Sensing Studies, Geological Mapping, Geochemical Studies, Pitting, Drilling, core logging, sampling and Geological Report writing will be carried out by APC Drilling & Construction Private Limited.

Surface Geophysical investigation will be carried out through outsourcing.

Chemical Analyses and Petrographic Studies will be carried out by NABL accredited Laboratories</td></tr>
<tr><td></td><td>Name/ Number of Geoscientists</td><td>Geologists: 01 HQ
Geologists: 01 Field</td></tr>
<tr><td></td><td>Expected Field days (Geology, Surveyor) Geological Party Days</td><td>Geologist: 180days
Surveyor: 30 days</td></tr>
<tr><td>1.</td><td>Location</td><td>The proposed block is located about 2 km North of Palakhda and 1 km East of Visavada towns and 20 km NW of district Headquarter Porbandar. T</td></tr>
<tr><td></td><td>Latitude & Longitude</td><td>
<table>
<tr><td>Block Corner points /Cardinal Points</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td>A</td><td>N21.76891</td><td>E69.49491</td></tr>
<tr><td>B</td><td>N21.77376</td><td>E69.48946</td></tr>
<tr><td>C</td><td>N21.76383</td><td>E69.48251</td></tr>
<tr><td>D</td><td>N21.76509</td><td>E69.47341</td></tr>
<tr><td>E</td><td>N21.77567</td><td>E69.46032</td></tr>
<tr><td>F</td><td>N21.79795</td><td>E69.46828</td></tr>
<tr><td>G</td><td>N21.79497</td><td>E69.48633</td></tr>
<tr><td>H</td><td>N21.79699</td><td>E69.50446</td></tr>
<tr><td>I</td><td>N21.79400</td><td>E69.50392</td></tr>
<tr><td>J</td><td>N21.79166</td><td>E69.49798</td></tr>
<tr><td>K</td><td>N21.78429</td><td>E69.49479</td></tr>
</table>
</td></tr>
</table>

		<table><tr><td>L</td><td>N21.77508</td><td>E69.49432</td></tr><tr><td>M</td><td>N21.77194</td><td>E69.49798</td></tr></table>
	Villages/Towns	Sukpur (Hathiani),Keshav, Palakhda and Visavada
	Tehsil/ Taluk	Porbandar Taluka
	District	Dev Bhumi Dwarka
	State	Gujarat
2.	**Area (hectares/ square kilometers)**	
	Block Area	10.70 sq.km
	Forest Area	No Forest
	Government Land Area	Data not available
	Private Land Area	Data not available (mostly agricultural land)
3.	**Accessibility**	The area under investigation is approachable from Visavada and Palakhda towns by metalled road. The Highway Dwarka-Porbandar passes to the west of the area.
	Nearest Rail Head	Porbandar
	Road	The proposed block is well connected by roads from Palakhda and Visavada town. The Highway Dwarka-Porbandar passes to the west of the area.
	Airport	Porbandar Airport located 25 km SE of the area
4.	**Hydrography**	The area is drained by a few small seasonal streams, flowing towards the Arabean sea.
	Rivers/ Streams	Streams flowing in SW direction within the block area and joins Arabean sea
5.	**Climate**	Climatically the area is generally dry and hot. The maximum temperature during summer season rose up-to 40^0C to 45^0 C. The minimum temperature in winter goes to 10 to 14^0 C
	Mean Annual Rainfall	The average annual rainfall between 600 to 750 mm per annum
	Temperature	Winter: Minimum temperatures 10^0C (December-January) Summer: Max.45^0 C (May- June)

6	**Topography**	
	Toposheet Number	No.41G/05 & 41 G/09
	Morphology of the area	The area under investigation consists of flat cultivated plains.
7	**Availability of baseline geoscience data**	
	Geological Map (1:50K/ 25K)	Geological map on 1:50,000 scale (Source: NGDR/Bhukosh)
	Geochemical Map	**Not Available**
	Geophysical Map (Aeromagnetic, ground geophysical, Regional as well as local scale GP maps)	**Not Available**
8.	**Justification for taking up G4 stage mineral exploration**	**Justification:** During the GSI Field Season 1974-75 & 75-76 carried out investigation for bauxite consisting of geological mapping with the help of aerial photo mosaic b) study of dug wells sections, c)Test drilling, d) core-sampling of the bauxite for chemical analysis. The insitu bauxite deposits are located on flat tops of low masas, or long gentle side of cuestas type of slopes in the palaeotopography. The deposits are not encountered in the deeper portion of the valley. A total of 112 boreholes were drilled in the Porbandar taluk of Juriagadh district, out of which 88 boreholes have intersected bauxite, bauxitic clay and Laterite. A total of 456 core samples and 24 samples from dug-wells, outcrops and quarry sections were subjected to chemical analyses.The complete analysis were' carried out only' for those samples which analysed more than 40% A1203. The concealed bauxite in the Porbandar taluk, Junagadh district is of low grade; the silica percentage varies from 1.93 to 25.00 % and the Ti02% varies from 0.65 to 3.3% and Fe203 varies from 1.00 to 27.00%. CGM Gujarat vide email dated 20 sept 2025,provided the list of 42 blocks identified as non-overlapping and requested APC to convey interest. APC submitted EoI for

		22 blocks and CGM vide their email dated 29th January 2026, issued NoC for 9 blocks to APC Drilling & Construction Private Limited. Sukhpur Bauxite Block is one such proposed G4 block. CGM,Gujarat has published Gujarat's Mineral Wealth indicating several blocks for exploration of Bauxite in the state of Gujarat. The proposed area comprises of laterite/bauxite of Bhatia Formation, with Miliolite Limestone and basalt of Khambalia volcanics occurring in the region. The satellite imagery analysis results of the proposed region indicate the presence of laterite/bauxite deposits. There are bauxite mines in the vicinity which suggest potential of bauxite in the area. The bauxite is considered to have originated as the result of alteration in the Deccan traps, which are part of the proposed region's geology along with the Bhatia Formation. CGM, Gujarat recommended for Sukhpur Bauxite Block for Reconnaissance survey (G4-Exploration) for assessment of good quality and quantity of Bauxite The proposed area is the part of GSI Report **"Report On Investigation for Concealed Bauxite in Porbandar,Verawal Belt, Junagadh Districts, Gujarat State"(**GSI Field Season 1974-75 & 75-76)**.** Recently,CGM Gujarat has given NOC to APC Drilling & Construction Private limited. Further,APC Geology Team conducted site visits and collected three (3Nos.) numbers of samples in the proposed block area. The analysis results reveal Al2O3 content ranges from 16.45 - 25.29%, Fe2O3 between 21.71% to 47.98%, Titanium(TiO2) varying from 0.90 to 1.62% and Vanadium varying between 370 - 570 ppm. Based on evaluation of GSI previous exploration report and chemical analysis results of APC collected samples the proposal for G3 level of Exploration in Sukpur Bauxite Block has been proposed around Sukhpur,Palakhda, Visavada and Keshavi villages of Dev Bhumi Dwarka District, to fulfill the objective for delineating the occurrence of Bauxite and associated minerals.

DETAILED DESCRIPTION

1.0.0 Background information

CGM,Gujarat has identified several blocks for exploration of Limestone as non-overlapping blocks based on their previous works and published the information of these blocks in Gujarat's Mineral Wealth. CGM, Gujarat vide official email dated Sep 20, 2025, requested some NPEA's including APC to send an expression of Interest (EoI) to take up exploration in 42 blocks for upgradation to G4/G3. On 29th January 2026, CGM Gujarat provided NoC for 9 exploration blocks to APC.The proposed Sukhpur Bauxite block and associated minerals is included in the list of 9 blocks.

The geology of the area comprises laterite/bauxite of Bhatia Formation, with Miliolite Limestone and basalt of Khambalia volcanics occurring in the region. The bauxite is considered to have originated as the result of alteration in the Deccan traps, which are part of the proposed region's geology along with the Bhatia Formation. The basaltic lava flows upwards into bentonite clays which in turn grade upwards into lithomarge, bauxitic clay, bauxite and laterite. The proposal for G4 level exploration for limestone has been formulated covering a total area of 10.70 sq.km.

2.0.0 Block Summary

Location and Accessibility

The Sukhpur Bauxite block falls in Survey of India Toposheet No.41 G/05 & 41 G/09 and is bounded by the following co-ordinates in Dev Bhumi Dwarka district of Gujarat.

Proposed Talgajarda -Longadi Block Boundary Coordinates

Block Corner /Cardinal Points	Latitude	Longitude
A	N21.76891	E69.49491
B	N21.77376	E69.48946
C	N21.76383	E69.48251
D	N21.76509	E69.47341
E	N21.77567	E69.46032
F	N21.79795	E69.46828
G	N21.79497	E69.48633
H	N21.79699	E69.50446
I	N21.79400	E69.50392
J	N21.79166	E69.49798
K	N21.78429	E69.49479
L	N21.77508	E69.49432
M	N21.77194	E69.49798

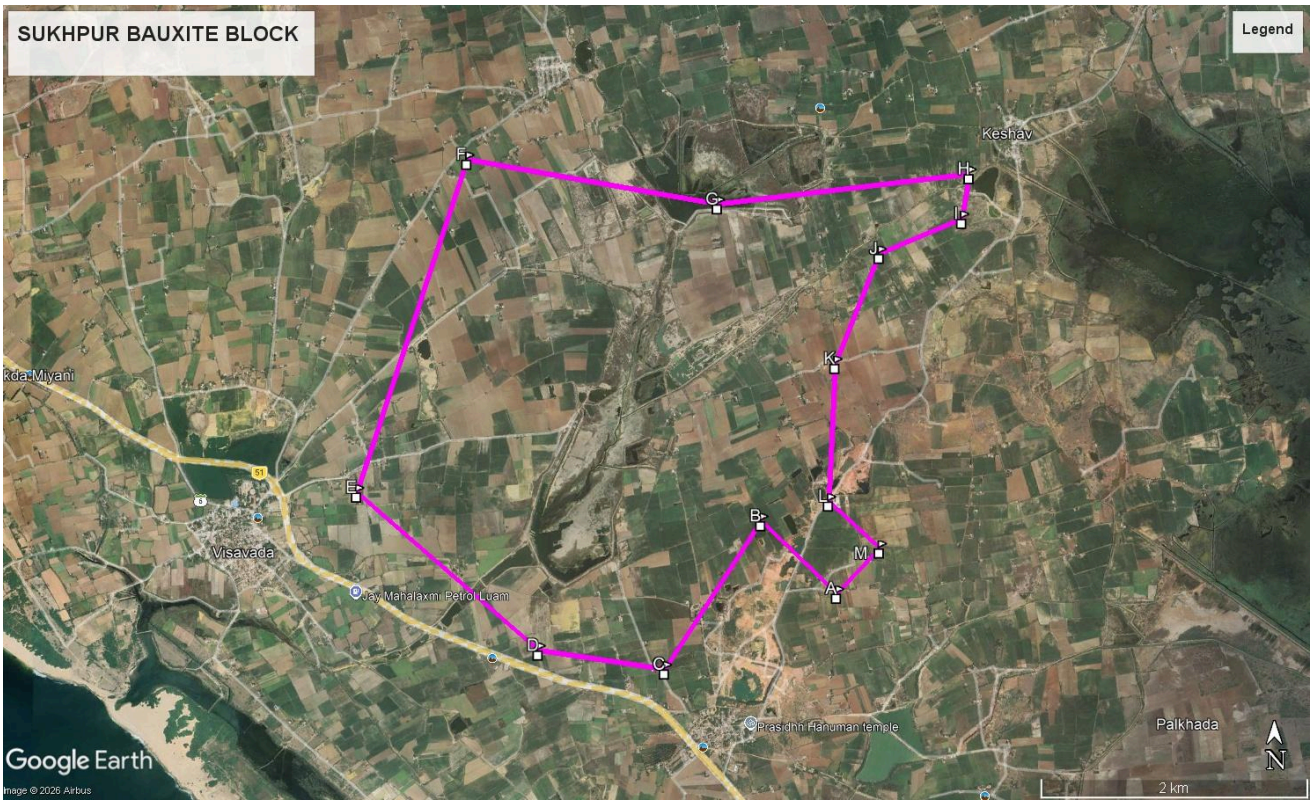


Figure-1: Location of Sukhpur Bauxite Block on Google image

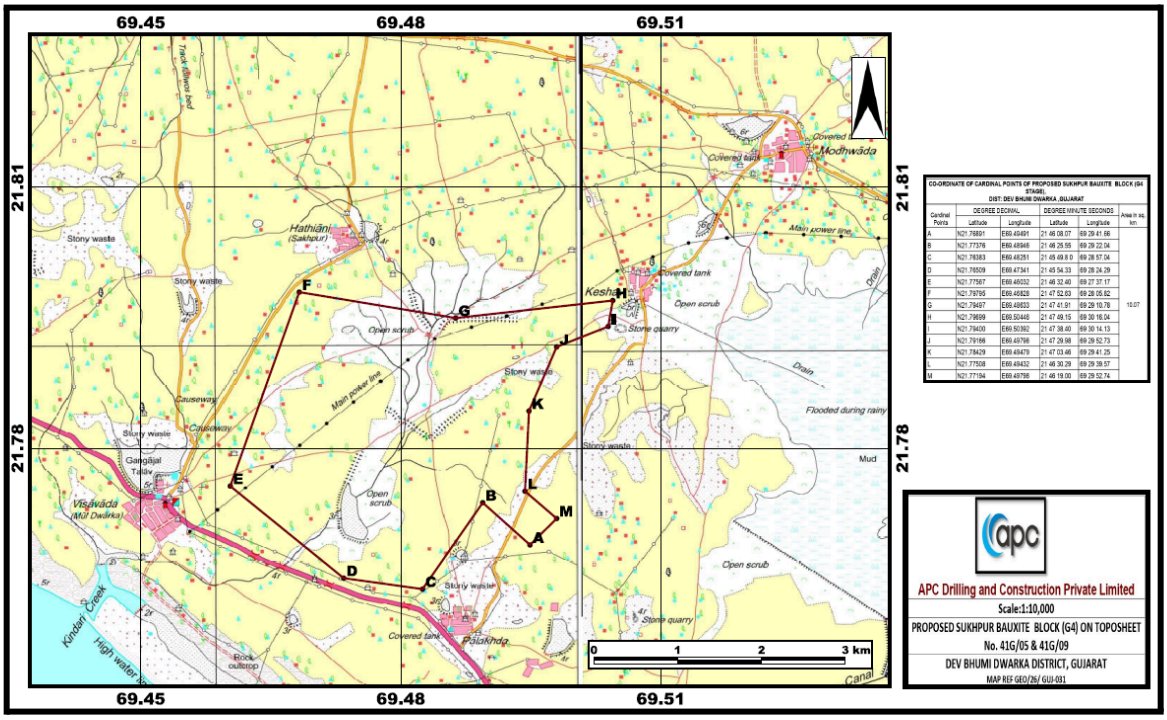


Figure-2: Location of Longadi block on Toposheet No. 41G/05 &41G/09

Physiography

The area in general is flat to undulating. At places, mounds of trap and miliolitic dunes are seen. The area north of Porbandar exhibits rugged topography where hills attain an elevation of 200 mts. are noticed. The proposed area exhibits flat agricultural land.

3.0.0 Previous Work

During the GSI Field Season 1974-75 & 75-76 carried out investigation for bauxite consisting of geological mapping with the help of aerial photo mosaic b) study of dug wells sections, c)Test drilling, d) core-sampling of the bauxite for chemical analysis.

The insitu bauxite deposits are located on flat tops of low masas, or long gentle side of cuestas type of slopes in the palaeotopography. The deposits are not encountered in the deeper portion of the valley. A total of 112 boreholes were drilled in the Porbandar taluk of Juriagadh district, out of which 88 boreholes have intersected bauxite, bauxitic clay and Laterite.

A total of 456 core samples and 24 samples from dug-wells, outcrops and quarry sections were subjected to chemical analyses.The complete analyses were' carried out only' for those samples which analysed more than 40% A1203. The concealed bauxite in the Porbandar taluk, Junagadh district is of low grade; the silica percentage varies from 1.93 to 25.00 % and the Ti02% varies from 0.65 to 3.3% and Fe203 varies from 1.00 to 27.00%.

4.0.0 Brief Regional Geology and Structural framework

Regional Geology:

The parts of coastal Saurashtra from Chara to Bhogat revealed that the Deccan Trap suite of rocks are the dominant and oldest rock unit exposed in the area. The post trappen Tertiary rocks occupying the margin of the trap rocks are noticed along the coast. The younger miliolitic limestones occur as continuous strip overlying Tertaries and traps. The exposures of miliolitic limestone are observed along the coast. Miliolite limestone occurs extensively in the area, and is seen unconformably overlying the, Dwarka, Gaj formation and Deccan Traps.

Geological sequence: The geological sequence established by the earlier workers, summarized on the basis of observation made during the field work is as under:-

Alluvium: **Recent**

Milliolite limestone Gaj sediments: **Post Pliocene**

Gritty, calcareous and variegated clays: **Miocene**

—----------unconfimity —----------

Bentonite/Deccan trap: **Oligocene**

Geology of the Block:

The geology of the area comprises laterite/bauxite of Bhatia Formation, with Miliolite Limestone and basalt of Khambalia volcanics occurring in the region. The bauxite is considered to have originated as the result of alteration in the Deccan traps, which are part of the proposed region's geology along with the Bhatia Formation. The basaltic lava flows upwards into bentonite clays which in turn grade upwards into lithomarge, bauxitic clay, bauxite and laterite.

Lithounits: The lithounits of the proposed area comprises Deccan traps, Laterite, Fossiliferous limestone & Milionitic Limestone.

Geophysical Exploration : No previous geophysical Investigation has been carried out

5.0.0 Scope for proposed exploration

The proposed Preliminary Exploration (G3 Stage) for Bauxite and associated Minerals in Sukhpuri Bauxite Block, Dist: Dev Bhumi Dwarka, Gujarat, comprises of Geological mapping of 10.70 Sq.km area on 1:4000 scale, Surface/ Geochemical sampling (Bedrock, soil),Pitting, Drilling of 14 Nos.boreholes involving about 560 m drilling, associated survey, chemical analysis, Petrological analysis and estimation of resources under G3 category and Geological Report preparation.

6.0.0 Planned Methodology

The exploration program is proposed in accordance with the objective set for Preliminary Exploration (G-3) of the block. The Exploration shall be carried out as per Minerals (Evidence of Mineral Contents) Rules-2015 and Amendment 2021. Accordingly, the following scheme of exploration is formulated.

Topographic Survey:

The area under investigation, measuring 10.70 Sq Km will be surveyed with a triangulation network in 1:4000 scale. Contouring is to be carried out at a 5m interval. The block boundary and the borehole points will be surveyed by DGPS & Total Station in WGS-84 Datum.

Borehole Collar Point Survey by DGPS

RL's and co-ordinates of survey and Borehole points will be determined with reference to the Survey of India Bench Mark as available. All the important surface features, survey stations, geological outcrop & Pits will be surveyed

Geological Mapping (1:4000 Scale)

Geological Mapping will be carried out in Large Scale Mapping (LSM) on 1:4000 scale in the block by taking geological traverses to demarcate the surface manifestations and lateral disposition of the mineralized

zones with the structural features i.e. strike, dip, lineation / foliations etc. The contacts of different formations, identification of different lithological units, structural features, etc., will be carried out in detail. The geological map will be generated on the 1:4000 scale.

Geochemical Sampling (BedRock/ Soil/ channel/Pit)

Bed Rock Sampling

During the course of Geological mapping, the bed rock / soil/stream samples shall be collected. A total of 45 nos. Bed rock/ soil samples will be collected from the proposed block block. Total 5 nos. check samples Complete analysis of bauxite.

Pitting

Pitting will be carried out on the surface up to a depth of 2 m after removal of soil/weathered column in the area. Pitting shall be carried out in the potential zones identified, based on the observations of geological mapping and the results of geochemical sampling and Geophysical Investigation. A provision of pitting in mineralized zones (1m x 1m X 2m deep) of 30 cubic meters is proposed from 15 No. of pits with provision of 15 Nos. of primary.

Core Drilling

A total of 14 vertical boreholes (coring) are proposed for the G-3 stage of Exploration, on basis of the results of surface exploration such as Geological Mapping & Geochemical Survey and Pitting in an area of 10.70 Sq.km.The average depth of the boreholes is considered to be 40 m and a total of 560.00 m of drilling is proposed in selected locations to find out the continuity of mineralized zones in strike & dip direction and to assess subsurface disposition of the targeted mineralized bodies.

Drill Core Logging and Sampling

Geological core logging will be carried out carefully by recording minute details and lithological characters of the rock formations including colour, texture, mineralogical composition, structural details and lithological variations encountered in the boreholes.

Core Sampling

The drilled borehole cores will be sampled for a uniform length of 1.00m so that each sample falls between fixed reduced levels in all the boreholes. But the top and the bottom samples will usually be less than 1.00m length as the R.L of the collar of the borehole and the floor of the mineralized zone will be in fraction of the whole number. Around 140 core samples will be generated from 14 boreholes. Each sample thus obtained, will be crushed to (-) 60mesh size and its quantity will be further reduced to 500 grams by coning and quartering. The material will be further crushed to (-)120 mesh size. Representative samples weighing about 100 grams each will be taken from this, one of which will be sent for primary analysis for six radicals, i.e., Al_2O_3, Fe_2O_3,SiO_2, TiO_2, V & LOI, and other part of the samples needs to be kept for the purpose of check analysis.

Check Samples: 11% of the total primary samples(20 No. of samples) shall be analyzed for Complete analysis of bauxite samples.

Mineragraphic and Petrographic Studies:

During the course of Geochemical sampling and core logging,to know about the mineralogical composition and interrelation among the constituent minerals 5 rock specimens will be taken up for Petrographic studies. 7 nos. of ore specimens from the mineralized zones will also be studied in a polished section to know about the constituent ore minerals, their mode of occurrence, textures and other mineragraphic characteristics.

X-Ray Diffraction Studies: A total of 5 Nos Bauxite samples representing the deposit will be subjected to X-Ray Diffraction studies to know about the general distribution pattern of the constituent minerals of the ore.

Specific Gravity Determination

5 nos. of samples are proposed to be subjected for specific gravity determination.

Combined determination of Trihydrate Alumina (THA-140°C), Monohydrate Alumina (MHA-240°C) & Reactive Silica: A total of 5 samples are proposed.

7.0.0 Nature Quantum and Target

Proposed Quantum of work:

Sl. No.	Description and Nature of Work	Unit	Target
A	**GEOLOGICAL WORK AND SURVEYING**		
1	Geological Mapping (1:4000 scale)	Sq. km	10.7
2	Topographic Survey (Contour interval 5m) at 1:4000 scale	Sq. km	10.7
3	Bore Hole Fixation and determination of co-ordinates & Reduced Level (RL) of the boreholes and demarcation of lease hold boundary points by DGPS	Nos.	14
4	Boundary survey by DGPS	Nos.	13
5	Bedrock samples		80
B	**PITTING**		
10	**Pitting (1m x 1m x 2m) (15Nos.)**	Cum.	30
C	**EXPLORATORY DRILLING**		
11	Drilling up to 300m (Hard Rock)	m	560
12	Drill Core Preservation	Per m	200

D	**Sampling & Chemical Analysis**		
13	Complete analysis of bauxite samples		200
i)	Bedrock samples	Nos .	45
ii)	Pit samples	Nos .	15
iii)	Borehole Core samples	Nos .	140
iv)	Check samples (15% external)	Nos .	20
14	**Spectroscopic Studies**		
a	Quantitative analysis of 14 REE + 9 trace elements	Nos.	25
b	X-RD studies for mineral identification		10
15	**Physical,Petrological, Mineralogical Studies**		
	Preparation of thin polished section	Nos.	5
	Complete petrographic study report	Nos.	5
	X-RD studies for mineral identification	Nos.	5
	Specific Gravity Determination	Nos.	5
16	Combined determination of Trihydrate Alumina(THA-140°C), Monohydrate Alumina (MHA- 240°C) & Reactive Silica	Nos.	5
E	**Geological Report Preparation -As per MEMC Rules-2015}**	Nos.	1

8.0.0 Time Schedule and Cost Estimates

Time Schedule: The total duration of the project proposed is of 8 months.

Time Schedule for Preliminary Exploration (G-3) for Aluminous Laterites, Bauxite and associated critical minerals, Sukhpur Block, District: Deva Bhumi Dwarka, State: Gujarat												
Sl.			Months									
No.	**Activities**	Units	1	2	3		4	5	6		7	8
1	Camp Setting	Months										
2	Geological Mapping & Sampling (Bed Rock /Pit/Grab/ Soil)	Months				**REVIEW**				**REVIEW**		
3	Survey Work(1 Party) (Topography + BH Survey)	Days										
4	Pitting	Cu.m										
5	Drilling	m.										
6	Geological Work(1 Geologist)	Days										
7	Sampling Work -BRS/Pit/Core Samples	Days										

8	Camp Winding	Months										
9	Laboratory Studies	Months										
10	Geological Work, HQ	Days										
11	Report Writing and Peer Review	Months										

9.0.0 Cost Estimates:

Tentative cost has been estimated based on the Schedule of Charges (SoC) of projects funded by NMEDT. The total cost estimate of Rs.**113.34** Lakhs(Including GST) is being proposed for completion of exploratory work up to G-4level. Activity wise break up of cost is given in table below.

Activity wise break up of cost of the project

Sl.No.	Item	Total Cost
1	Geological Work	2921904
2	Pitting	141750
3	Laboratory Studies	1126525
4	Drilling	4952000
	Sub total	**9142179**
5	Report	250000
6	Peer Review	30000
7	Proposal Preparation	182844
	Total	**9605023**
8	GST (18%)	1728904.14
	Total cost including 18% GST	**11333927**

10.0.0 Justification

During the GSI Field Season 1974-75 & 75-76 carried out investigation for bauxite consisting of geological mapping with the help of aerial photo mosaic b) study of dug wells sections, c)Test drilling, d) core-sampling of the bauxite for chemical analysis.

- A total of 112 boreholes were drilled in the Porbandar taluk of Juriagadh district, out of which 88 boreholes have intersected bauxite, bauxitic clay and Laterite.

- A total of 456 core samples and 24 samples from dug-wells, outcrops and quarry sections were subjected to chemical analyses.The complete analysis were' carried out only' for those samples which analysed more than 40% A1203. The concealed bauxite in the Porbandar taluk, Junagadh district is of

low grade; the silica percentage varies from 1.93 to 25.00 % and the Ti02% varies from 0.65 to 3.3% and Fe203 varies from 1.00 to 27.00%.

CGM Gujarat vide email dated 20 sept 2025,provided the list of 42 blocks identified as non-overlapping and requested APC to convey interest. APC submitted EoI for 22 blocks and CGM vide their email dated 29th January 2026, issued NoC for 9 blocks to APC Drilling & Construction Private Limited. Sukhpur Bauxite Block is one such proposed G4 block.

CGM,Gujarat has published Gujarat's Mineral Wealth indicating several blocks for exploration of Bauxite in the state of Gujarat. The proposed area comprises of laterite/bauxite of Bhatia Formation, with Miliolite Limestone and basalt of Khambalia volcanics occurring in the region. The satellite imagery analysis results of the proposed region indicate the presence of laterite/bauxite deposits. There are bauxite mines in the vicinity which suggest potential of bauxite in the area. The bauxite is considered to have originated as the result of alteration in the Deccan traps, which are part of the proposed region's geology along with the Bhatia Formation. CGM, Gujarat recommended for Sukhpur Bauxite Block for Reconnaissance survey (G4-Exploration) for assessment of good quality and quantity of Bauxite

The proposed area is the part of GSI Report **"Report On Investigation for Concealed Bauxite in Porbandar,Verawal Belt, Junagadh Districts, Gujarat State"(**GSI Field Season 1974-75 & 75-76**).** Recently,CGM Gujarat has given NOC to APC Drilling & Construction Private limited.

APC Geology Team conducted site visits and collected three (3Nos.) numbers of samples in the proposed block area. The analysis results reveals Al2O3 content ranges from 16.45 - 25.29%, Fe2O3 between 21.71% to 47.98%, Titanium(TiO2) varying from 0.90 to 1.62% and Vanadium varying between 370 - 570 ppm. The details of sample analysis is given below:

	Al2O3	CaO	Fe2O3	MgO	SiO2	TiO2	Ti	V2O5	V	LOI
Sample ID	%	%	%	%	%	%	%	%	%	%
GJ/PB/SU/BUX/BRS/04	16.45	6.49	47.98	0.25	14.81	0.9	0.54	0.102	0.057	12.52
5GJ/PB/SU/BUX/BRS/05	25.29	17.7	21.71	0.23	5.88	1.62	0.97	0.071	0.04	27.04
GJ/PB/SU/BUX/BRS/06	24.86	17.91	23.65	0.34	3.16	1.18	0.71	0.065	0.036	28.19

Reference:

1. GSI Report on the Investigation for Concealed Bauxite in the Porbandar, Verawal Belt, Junagarh District , Gujarat (GSI Field Season 1972-73,1973-74, 1974-75 & 1975-76)

2. CGM, GUJARAT "GEOLOGICAL REPORT OF SOUTHERN PART OF SAURASHTRA COVERED UNDER TOPOSHEET NOS. 41 G/5, G/10+6, 41 K/4, G/15+11, 41 L/5+1. L/9+10 (BASED ON INTERPRETATION OF SATELLITE IMAGERY WITH LIMITED FIELD CHECKS)(FIELD SEASON 1995-96 AND 1996-97)"

List of Plates:

1. Location Plan of Proposed Sukhpur block on Toposheet No. 41 G/05 & 41G/09 (1:10000) (ANNEXURE-1)
2. Location of Proposed Sukhpur block on Geological Map (1:10000)(ANNEXURE-2)
3. Location of Proposed Sukhpur Bauxite block on CGM Gujarat Geological Map(Annexure-3)

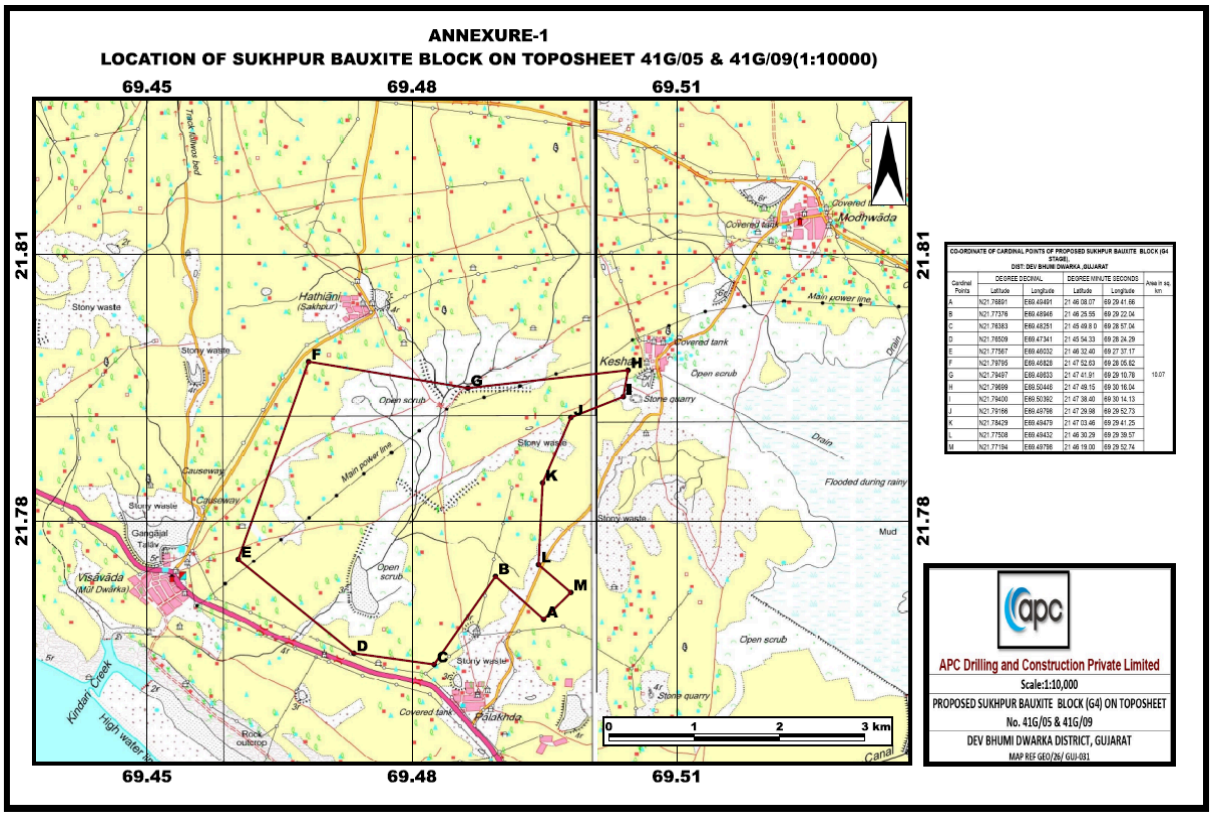


Figure-3: Location Map of Proposed Sukhpur Bauxite block on Toposheet No. 41 G/05 & 41G/09

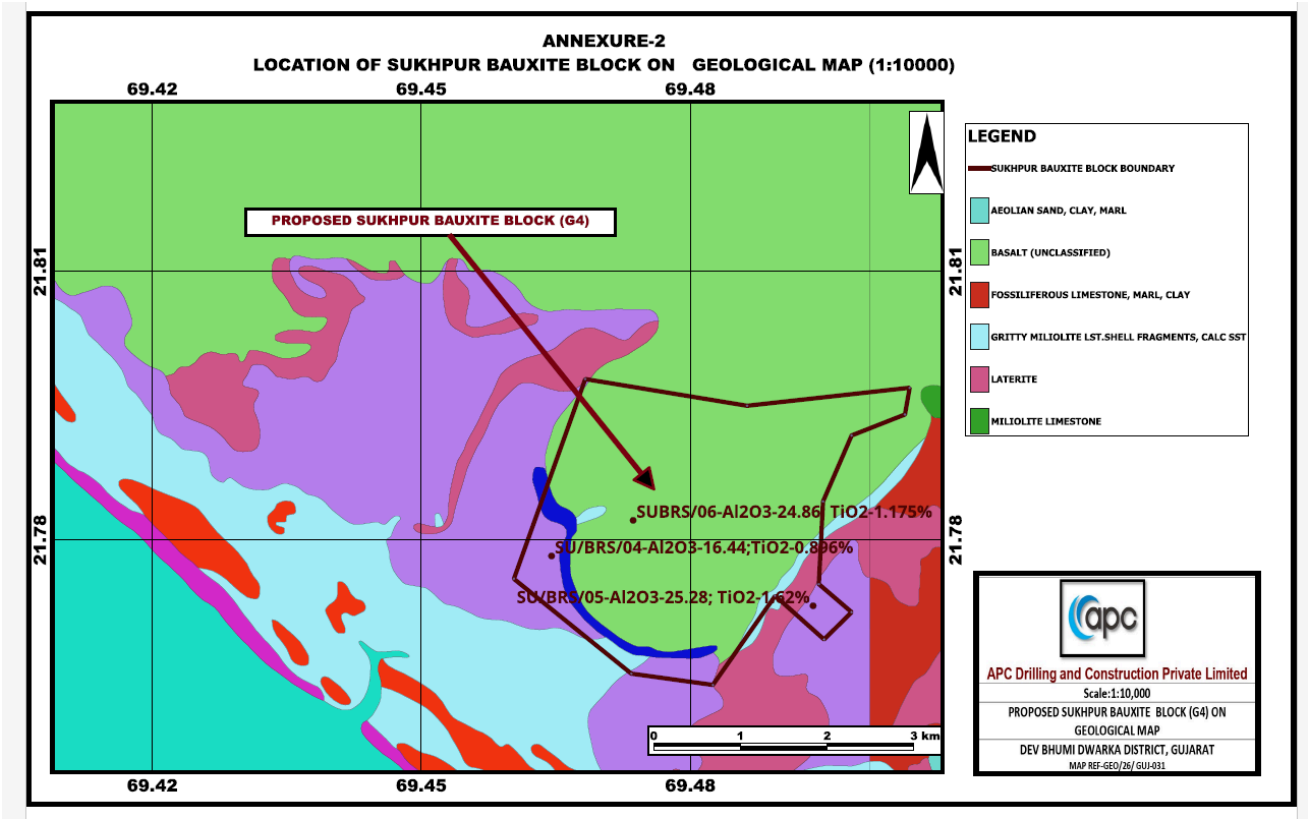


Figure-4:Location of Proposed Sukhpur Bauxite block on Geological Map

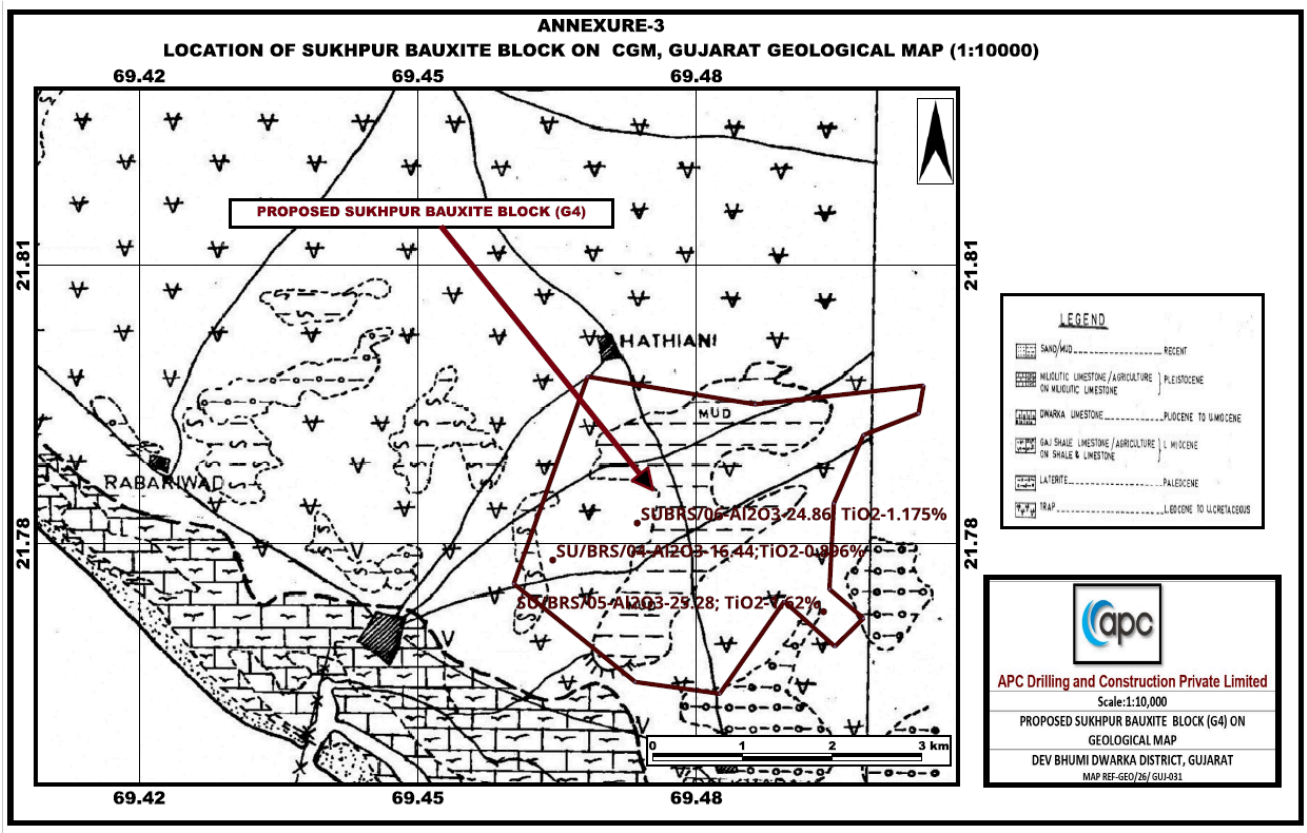


Figure-5 :Location of Proposed Sukhpur Bauxite block on GSI Geological Map(GSI Report 1972-1976)

The detailed estimated cost of the project is given below in Table-3

Preliminary Exploration (G-3) for Aluminous Laterites, Bauxite and associated critical minerals, Sukhpur Block, District: Deva Bhumi Dwarka, State: Gujarat [Block area- 10.70 sq. km; Schedule timeline- 8 months; Review- After 3 and 6 months. Drilling: 560 m; BH-14 Nos Depth 40.00 m]							
SL No.	**Item of Work**	**Unit**	**Rates as per NMET SoC**		**Estimated Cost of the Proposal**		**Remarks**
			SoC-Item -Sl No.	**Rates as per SoC**	**Qty.**	**Amount (Rs)**	
A	**GEOLOGICAL WORK & TOPOGRAPHICAL SURVEY (1:4000 scale) with contouring**						
i	Geological Mapping	Sq.km	1.1	18300	10.7	195810	
ii	Charges for Geologist- Field	day	1.2.1a	14500	90	1305000	Including Drilling, Sampling, Core logging)
iii	Charges for two Geologist - HQ	day	1.2.1a	10500	30	315000	

iv	2 labours / Party(As per rates of Central Labour Commissioner)	day	5.7	556	180	100080	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
v	Sampling Party days-1 Samplers Labour charge not included	day	1.2.1b	7850	31	243350	
vi	4 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	556	124	68944	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
vii	Survey Party Days for topographical contour survey and borehole points fixation	day	1.3.1	10500	30	315000	
viii	Boundary survey by DGPS	Nos	1.3.2	24000	13	312000	
ix	4 labours for surveyor	day	5.7	556	120	66720	
					Sub Total- A	**2921904**	
B	**PITTING**						
i	Pitting(1 x1 x2 m) 15 No. of Pit	Cu m	2.1.2	4725	30	141750	Pit Samples -15
					Sub Total- B	**141750**	
C	**DRILLING**						
i	Drilling (soft rock)	m	2.2.1.1c	5500	560	3080000	14BHS @40m depth (800m grid)
ii	Land / Crop Compensation	per BH	5.6	30000	14	420000	
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7	2000	14	28000	
iv	Miscellaneous charges -Transportation of Drill Rig, Accomodation of Drill Camp, Camo setting & winding,Construction of Approach Road and Drill Core Preservation (One complete borehole plus mineralised cores of all the remaining BHs)	Lumpsum	2.2.9			770000	25% of the Drilling cost if total drilling < 50 lakhs

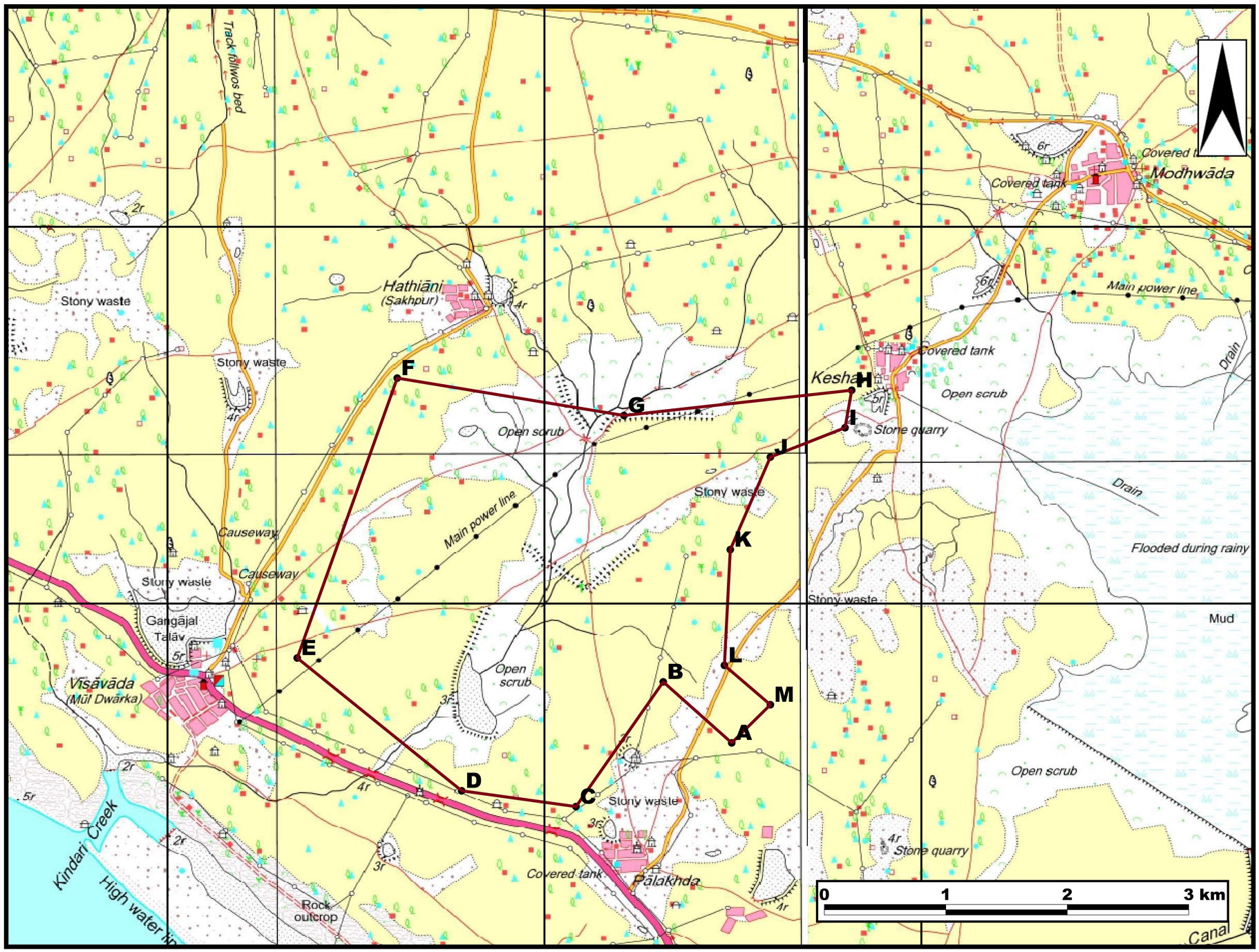
v	Bore Hole Fixation and determination of co- ordinates & Reduced Level of the boreholes by DGPS	Nos	1.3.2	24000	14	336000	
vi	Preservation of Cores	per m	5.3	1590	**200**	318000	1 complete BH plus mineralised Zone
					Sub Total- C	**4952000**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
	Primary & Check samples forAluminous Laterite Titanium-Vanadium BRS/Pit/Chip/Channel/Stream/Soil/ BH samples)						
	a. Complete analysis of bauxite samples	Nos	4.1.11	3900	200	780000	BH-140, BRS-45, Pit-15
	b.Check samples(10%) for Complete analysis of bauxite samples	Nos	4.1.11	3900	20	78000	
	c.Quantitative analysis of 14 REE + 9 trace elements	Nos	4.1.15	7400	25	185000	
2	**Physical,Petrological, Mineralogical Studies**						
i	Preparation of thin polished section	Nos	4.3.3	800	5	4000	
ii	Complete petrographic study report	Nos	4.3.4	2800	5	14000	
iii	X-RD studies for mineral identification	Nos	4.5.1	4,000	5	20000	
vii	Specific Gravity Determination	Nos	4.8.1	1605	5	8025	From BH sample
viii	Combined determination of Trihydrate Alumina(THA-140°C), Monohydrate Alumina (MHA- 240°C) & Reactive Silica	Nos	4.1.19a	7500	5	37500	
					Sub Total- D	**1126525**	
					Total A to D	**9142179**	

E	Geological Report Preparation		5.2	For the projects having cost exceeding Rs.50 lakhs & < 150 Laks, A minimum of Rs.2.5 lakhs		250000	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
F	Peer review Charges		As per EC			30000	
G	Preparation of Exploration Proposal	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs.5.0 Lakhs whichever is lower		182844	
H	Total Estimated Cost without GST					**9605023**	
I	Provision for GST (18% of I)					**1728904**	GST will be reimburse as per actual and as per notified prescribed rate
J	Total Estimated Cost with GST					**11333927**	
					or Say Rs. In Lakhs	**113.34**	

Note:	
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agencies as per prevailing govt. of India rules/guidelines on procurement.
3	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.
5	Any item of work not mentioned above shall be added as per SoC.
6	All the Geological Reports and data are to be uploaded on NGDR as per MERT template by the agency

ANNEXURE-1

LOCATION OF SUKHPUR BAUXITE BLOCK ON TOPOSHEET 41G/05 & 41G/09(1:10000)



CO-ORDINATE OF CARDINAL POINTS OF PROPOSED SUKHPUR BAUXITE BLOCK (G4 STAGE), DIST: DEV BHUMI DWARKA ,GUJARAT					
Cardinal Points	DEGREE DECIMAL		DEGREE MINUTE SECONDS		Area in sq. km
	Latitude	Longitude	Latitude	Longitude	
A	N21.76891	E69.49491	21 46 08.07	69 29 41.66	10.07
B	N21.77376	E69.48946	21 46 25.55	69 29 22.04	
C	N21.76383	E69.48251	21 45 49.8 0	69 28 57.04	
D	N21.76509	E69.47341	21 45 54.33	69 28 24.29	
E	N21.77567	E69.46032	21 46 32.40	69 27 37.17	
F	N21.79795	E69.46828	21 47 52.63	69 28 05.82	
G	N21.79497	E69.48633	21 47 41.91	69 29 10.78	
H	N21.79699	E69.50446	21 47 49.15	69 30 16.04	
I	N21.79400	E69.50392	21 47 38.40	69 30 14.13	
J	N21.79166	E69.49798	21 47 29.98	69 29 52.73	
K	N21.78429	E69.49479	21 47 03.46	69 29 41.25	
L	N21.77508	E69.49432	21 46 30.29	69 29 39.57	
M	N21.77194	E69.49798	21 46 19.00	69 29 52.74	

APC Drilling and Construction Private Limited

Scale:1:10,000

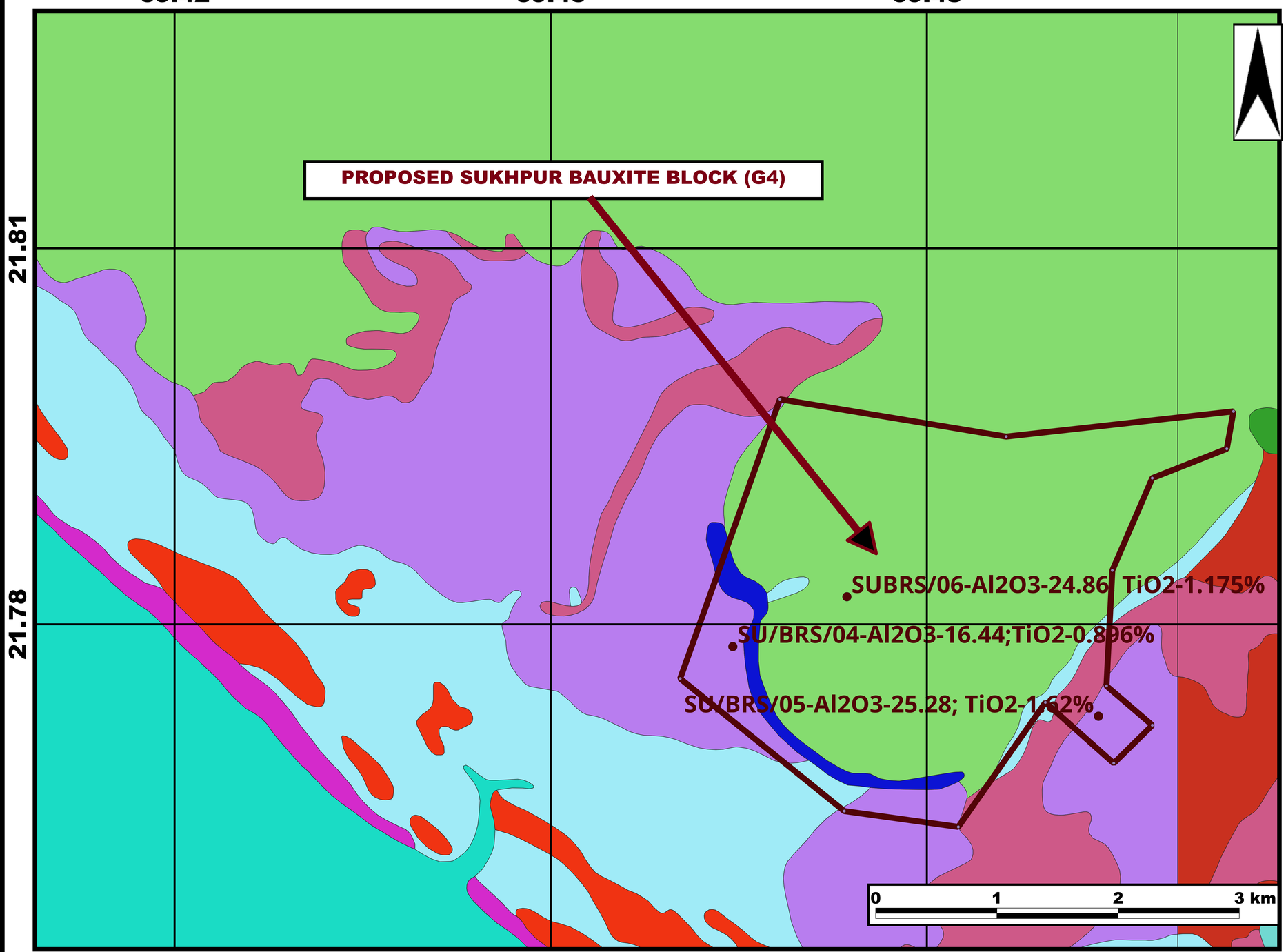
PROPOSED SUKHPUR BAUXITE BLOCK (G4) ON TOPOSHEET No. 41G/05 & 41G/09

DEV BHUMI DWARKA DISTRICT, GUJARAT

MAP REF GEO/26/ GUJ-031

ANNEXURE-2

LOCATION OF SUKHPUR BAUXITE BLOCK ON GEOLOGICAL MAP (1:10000)



LEGEND

- SUKHPUR BAUXITE BLOCK BOUNDARY
- AEOLIAN SAND, CLAY, MARL
- BASALT (UNCLASSIFIED)
- FOSSILIFEROUS LIMESTONE, MARL, CLAY
- GRITTY MILIOLITE LST.SHELL FRAGMENTS, CALC SST
- LATERITE
- MILIOLITE LIMESTONE

APC Drilling and Construction Private Limited

Scale:1:10,000

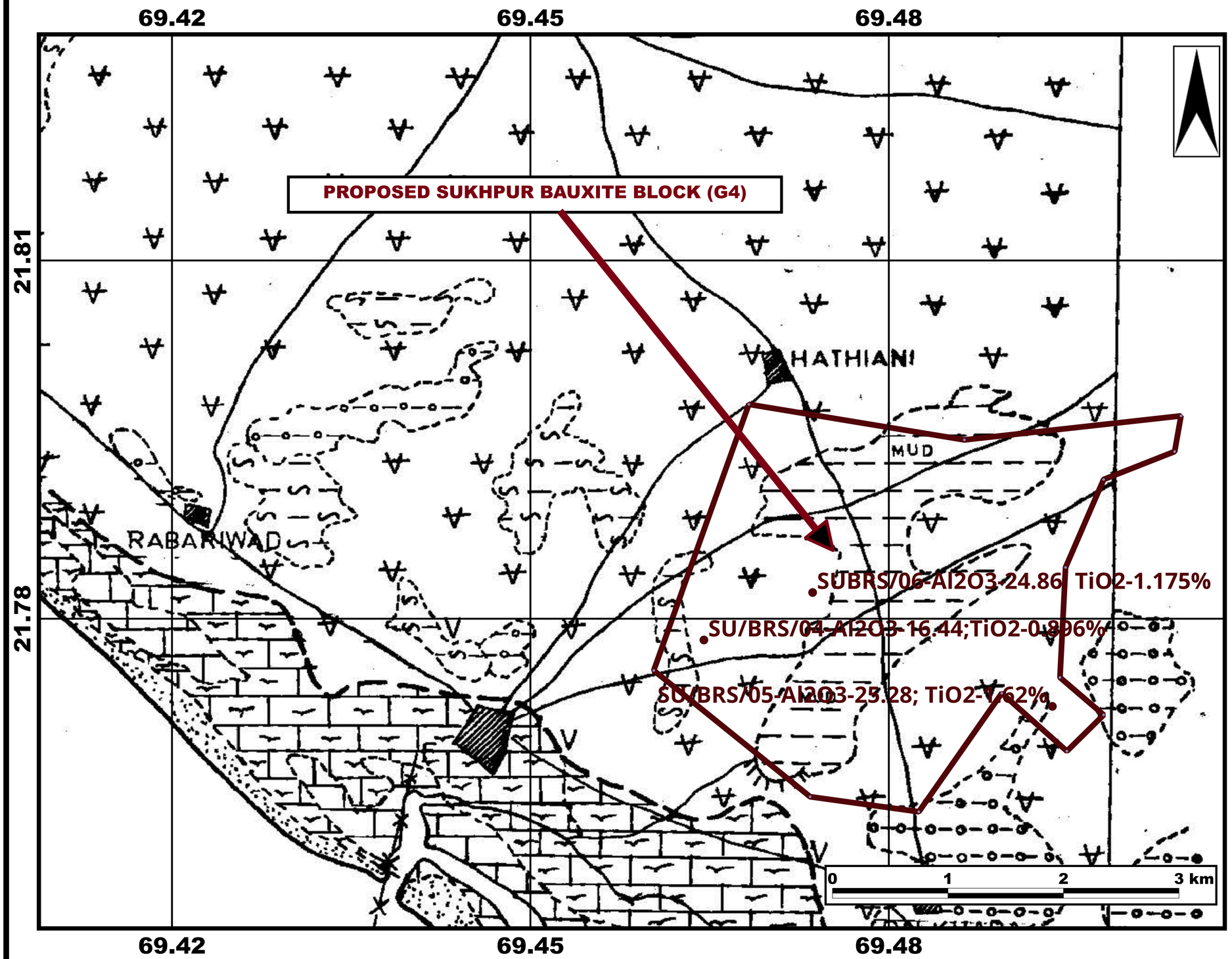
PROPOSED SUKHPUR BAUXITE BLOCK (G4) ON GEOLOGICAL MAP

DEV BHUMI DWARKA DISTRICT, GUJARAT

MAP REF-GEO/26/ GUJ-031

ANNEXURE-3

LOCATION OF SUKHPUR BAUXITE BLOCK ON CGM, GUJARAT GEOLOGICAL MAP (1:10000)



LEGEND

- SAND/MUD ..... RECENT
- MILIOLITIC LIMESTONE / AGRICULTURE ON MILIOLITIC LIMESTONE } PLEISTOCENE
- DWARKA LIMESTONE ..... PLIOCENE TO U.MIOCENE
- GAJ SHALE LIMESTONE / AGRICULTURE ON SHALE & LIMESTONE } L MIOCENE
- LATERITE ..... PALEOCENE
- TRAP ..... L.EOCENE TO U.CRETACEOUS

APC Drilling and Construction Private Limited

Scale:1:10,000

PROPOSED SUKHPUR BAUXITE BLOCK (G4) ON GEOLOGICAL MAP

DEV BHUMI DWARKA DISTRICT, GUJARAT

MAP REF-GEO/26/ GUJ-031