Detailed Proposal Report (DPR) for Preliminary Exploration of Gallium bearing Titaniferous Bauxite in Ran Block (G3) [7.87 sq.km], Dev Bhumi Dwarka District, Gujarat.

COMMODITY: GALLIUM BEARING TITANIFEROUS BAUXITE

BY

Gemcokati Exploration Pvt. Ltd
E-77, MIDC, Ghughus Road,
Chandrapur, Maharashtra- 442406

Place: Chandrapur
Date: 12.08.2025

E-77, MIDC, Ghughus Road, Chandrapur, Maharashtra - 442406
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FOR SUBMITTING PROPOSAL FOR UNDERTAKING PRELIMINARY EXPLORATION

	Chandrapur, Dated the 12th August 2025
From:	To:
Subrata Sarkar,	The Director & HoD,
Vice President (Projects & Planning),	National Mineral Exploration Trust, Secretariat, Ministry of Mines,
Gemco Kati Exploration Private Limited	Room No-325 & 326, Wing-F, Udyog Bhawan,
E-77, MIDC Road,	Rafi Ahmed Kidwai Road,
Near Nyara Petrol Bunk,	Rajpath Area, Central secretariat
Chandrapur-442406.	New Delhi – 110011.

Sir,

I/we am/are 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.F.No.6/3/2015- NMET/176, New Delhi, dt 27th June'2024.

	1) Name and address of the Applicant							
(a)	Name	**GEMCO KATI EXPLORATION PVT.LIMITED**						
(b)	Postal address	Plot No-34, Bapat Nagar, Chandrapur-442401, Maharashtra.						
(c)	Telephone No (Office)	07172 - 287200						
(d)	Fax No (Office)	07172 – 287200 / 230562						
(e)	Mobile No	**+91 7044208900**						
(f)	Telephone No (Residence)							
(g)	E-mail address	**subrata.sarkar@gemcokati.com**						
	2) Detail of Accreditation as Private Exploration Agencies and Notification under the proviso to Section 4 (1) of the MMDR Act.							
(a)	Date of accreditation granted by QCI-NABET	16th March'2022						
(b)	Date of expiry of accreditation	6th March'2025						
(c)	Date of Re-accreditation	23rd April'2025.						
(d)	Date of expiry of Re-accreditation	22nd April'2028						
(e)	Date of Notification under the proviso to Section 4 (1) of the MMDR Act.	7th April'2022						
(f)	Date of expiry of notification	6th March'2025						
(g)	Date of Re-notification	18th July 2025						
(h)	Date of expiry of Re-notification	22nd April 2028						
(i)	Category of the Exploration agency (Category A or B) under Notification	Under category 'A' Exploration Agency.						
	3) Location details of the area proposed							
(a)	State	Gujarat						
(b)	District(s)	Dev Bhumi Dwarka						
(c)	Nearby village(s)	Ran, Limbadi, Nandana						
(d)	Survey of India (SOI) Toposheet No (s)	**41F/8**						
(e)	Area in Sq. Km	7.87 Sq. Km						
(f)	Boundary co-ordinates of the Proposed Block (in Decimal Degree)	**Ran block (G3)**						
			LONGITUDE			LATITUDE		
		(A)	69°	17'	52.57"	22°	09'	51.49"
		(B)	69°	18'	16.38"	22°	10'	9.69"
		(C)	69°	20'	10.11"	22°	09'	55.50"
		(D)	69°	20'	01.42"	22°	09'	53.94"

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		(E)	69°	19'	56.91"	22°	09'	17.48"
		(F)	69°	19'	35.92"	22°	08'	24.65"
	4) Mineral Potential of the area							
(a)	Name of Mineral(s) identified/expected in the area/block	Gallium bearing Titaniferous Bauxite.						
(b)	Basis on which mineral potential of the area has been identified	Please refer enclosed "Summary proposal"						
(c)	List of documents/references relied upon in support of item (b) above	1-Block area on goggle map.						
	5) **Documents to be enclosed with the application**							
(i)	Location of the proposed block demarcated on Survey of India (SOI) Toposheet (s) **41F/8**							
(ii)	Documents mentioned in items 4 (C) above							

Place: - Chandrapur

Date – 12.08.2025

GEMCO KATI

Signature of the applicant

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Detailed Proposal Report (DPR) for Preliminary Exploration of Gallium bearing Titaniferous Bauxite in Ran Block (G3) [7.87 sq.km], Dev Bhumi Dwarka District, Gujarat.

COMMODITY: GALLIUM BEARING TITANIFEROUS BAUXITE

BY

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Place: Chandrapur
Date: 12.08.2025

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Summary of the Block for G3 stage exploration

	Features	Details
	Block ID	**RAN BLOCK (G3) FOR BAUXITE**
	Current Exploration Agency	GEMCO KATI EXPLORATION PVT.LTD.
	Previous Exploration Agency	----------
	G4 stage Geological Report (Previous stage Geological Report)	----------
	Commodity	GALLIUM BEARING TITANIFEROUS BAUXITE
	Mineral Belt	Bauxite of Paleocene-Eocene age
	Completion Period with entire Time schedule to complete the project	12 Months
	Objectives	1. To assess the continuity of bauxite & titanium bearing Bauxitic area in the block. 2. To determine the extent of bauxite & titanium deposits in block area. 3. To evaluate the grade of bauxite, gallium & titanium deposits of the block area. 4. To drill bauxite deposits (17 boreholes) on 400mX400m as per MEMC rules 2015 to decipher its depth persistent and subsurface continuity to establish the different zones having different grades of bauxite deposits. 5. To estimate the resources and reserves of bauxite & titanium deposits in compliance with MEMC Rule-2015. 6. To estimate the in-situ resources of bauxite & titanium and associated mineralizations, if any for G3 Stage of exploration (333), and preparation of Geological Report (GR). 7. This will facilitate state government to auction bauxite & titanium deposits under ML.
	Whether the work will be carried out by the proposed agency or throughout sourcing and details thereof. Components to be out sourced and name of the outsource agency	Work will be carried out by the proposed agency i.e. Gemco Kati Exploration Pvt. Ltd Not applicable
	Name/Number of Geoscientists	Two Geologist (2 G) Surveyor (02)
	Expected Field days (Geology, Geophysics, Surveyor)	Geologist-150 days +45days HQ, Surveyor – 60 days
1.	**Location**	
	Latitude	**22°08'24.65'' - 22°10'09.69"**
	Longitude	**64°17'35.92"– 64°20'01.42"**
	Villages	Ran, Limbadi, Nandana
	Tehsil/Taluk	Kalyanpur
	District	Dev Bhumi Dwarka
	State	Gujarat
2.	**Area (hectares / square kilo meters)**	
	Block Area	7.87 Sq. Km.
	Forest Area	NA

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	Government Land Area	NA
	Private Land Area	Major part in agricultural area under Private Land
3.	**Accessibility**	
	Nearest Rail Head	Bhopalka railway station – 6 km
	Road	About 2 kms from state highway 6
	Airport	Porbandar airport – 54 km
4.	**Hydrography**	
	Local Surface Drainage Pattern (Channels)	Sub-dendritic
	Rivers/Streams	No perennial river/stream present in the proposed block area.
5.	**Climate**	
	Mean Annual Rainfall	1002 mm
	Temperatures (December)(Minimum) Temperatures (May)(Maximum)	7^0C 44^0C
6.	**Topography**	Gently undulating with small hillocks.
	Toposheet Number	**41F/8**
	Morphology of the Area	Gently undulating with small hillocks.
7	**Availability of base line geosciences data**	
	Geological Map (1:50 K/25 K)	1:50,000 Scale Geological Map is available in public domain and was downloaded from GSI Portal (Bhukosh).
	Geochemical Map	N/a
	Geophysical Map (Aero-geophysical, Ground geophysical, Regional as well as local scale GP maps)	N/a
8.	Justification for taking up G3 stage mineral exploration	A. The Block area was **visited & validated on 7th April'2025** in association with the Geologists of **CGM, Khambhalia, Dwarka Region.** B. BRS Samples thus collected were urgently analyzed from **M/S Shiva Lab** yielding – Al2O3 – (**11.28 – 59.58**%); TiO2 – (**0.32 – 4.39**%); Fe2O3 – (**1.45 – 7.33**%); SiO2 – (**2.13 – 48.68**%); Cao – (**0.55 – 11.01**%); MgO – (**0.24 – 0.90**%); Ga – (**13.77 – 48.7 ppm**); Sc – (**9.03 – 21.22** ppm) Li – (9.15 – 71.05 ppm); Nb – (**<5 – 64** ppm) and TREE – (**35.27 – 179.2 ppm**) C. The **Laterite exposed area of roughly 1 sq. km.** seems to be highly potential in view of Titaniferous Bauxite with high Ga & Li values. D. Rest of the area is covered by the **Fossiliferous Limestone** of Gaj formation over Deccan trap, which need to be verified through drilling. E. To supplement earlier works, a G3-stage exploration program is proposed.
	9-Documents to be enclosed with the application	1. Block area on google map. 2. Location of the proposed block demarcated on Survey of India (SOI) & Toposheet(s) 41F/8 3. Block area on Geological Map.

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1. **Ran Block on google map. [Toposheet-41F/8]**

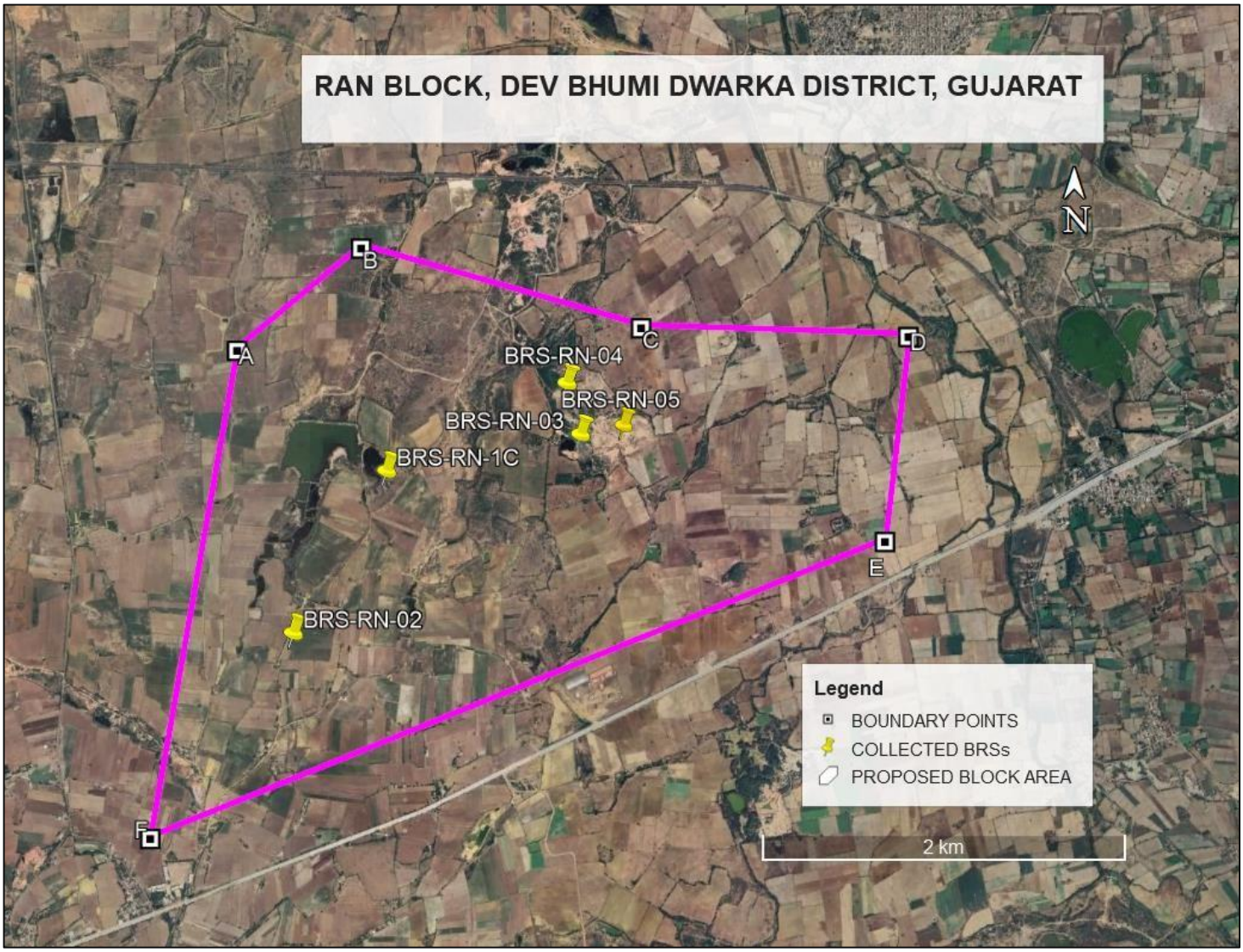

Figure 1: Ran Block on Google Map

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2. Location of the proposed Ran block demarcated on Survey of India (SOI) Toposheet(s) 41F/8

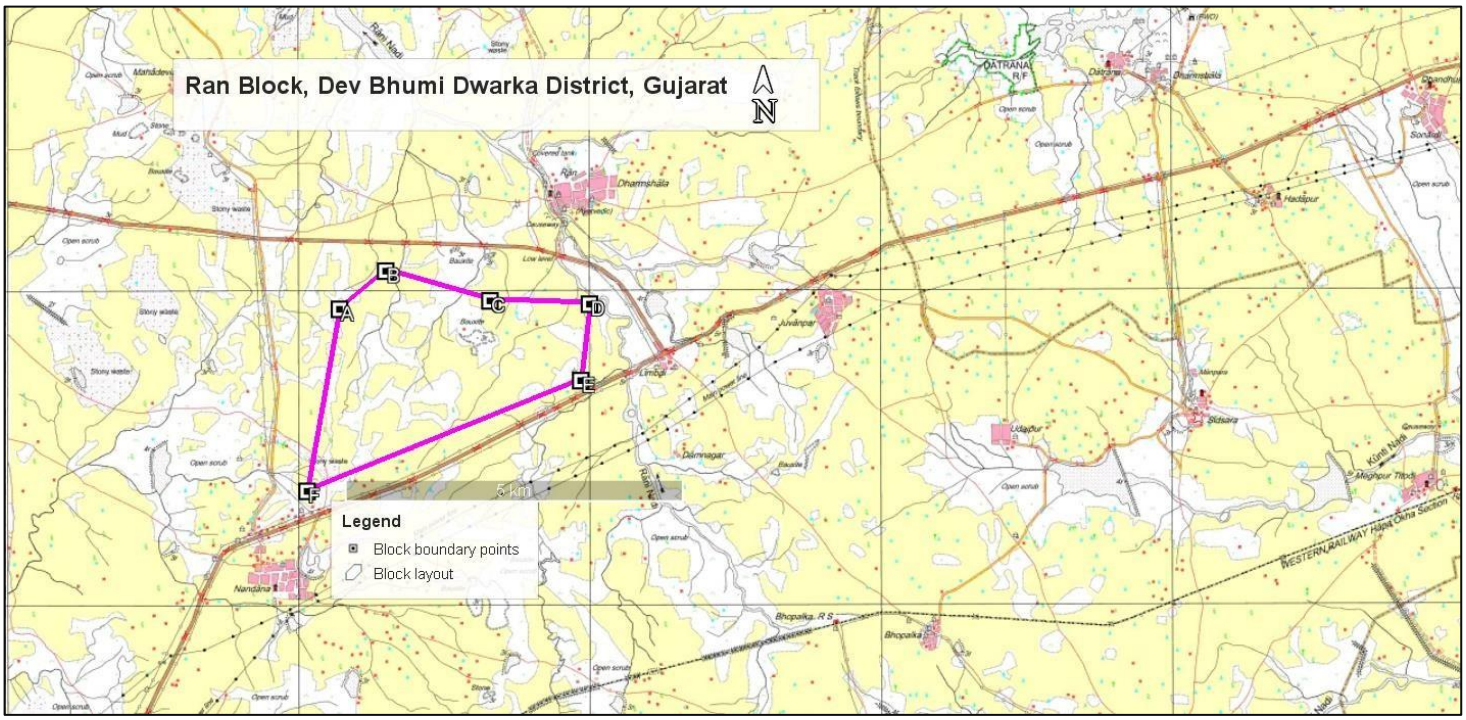

Figure 2: Location of Ran Block on SOI Toposheet No. 41F/8

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3. Ran Block area on Geological Map, Toposheet. 41F/8

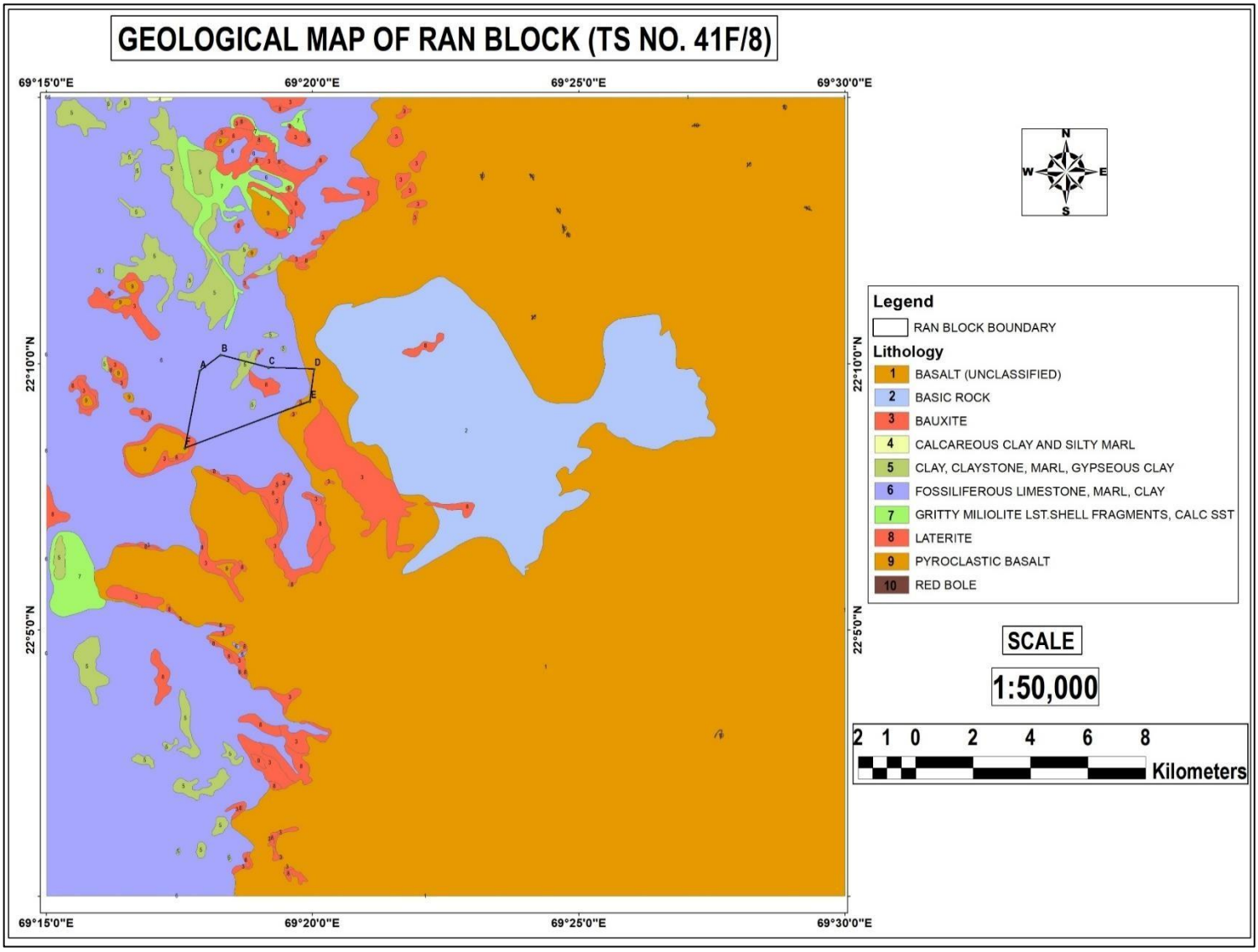

Figure 3: Geological Map of Ran Block

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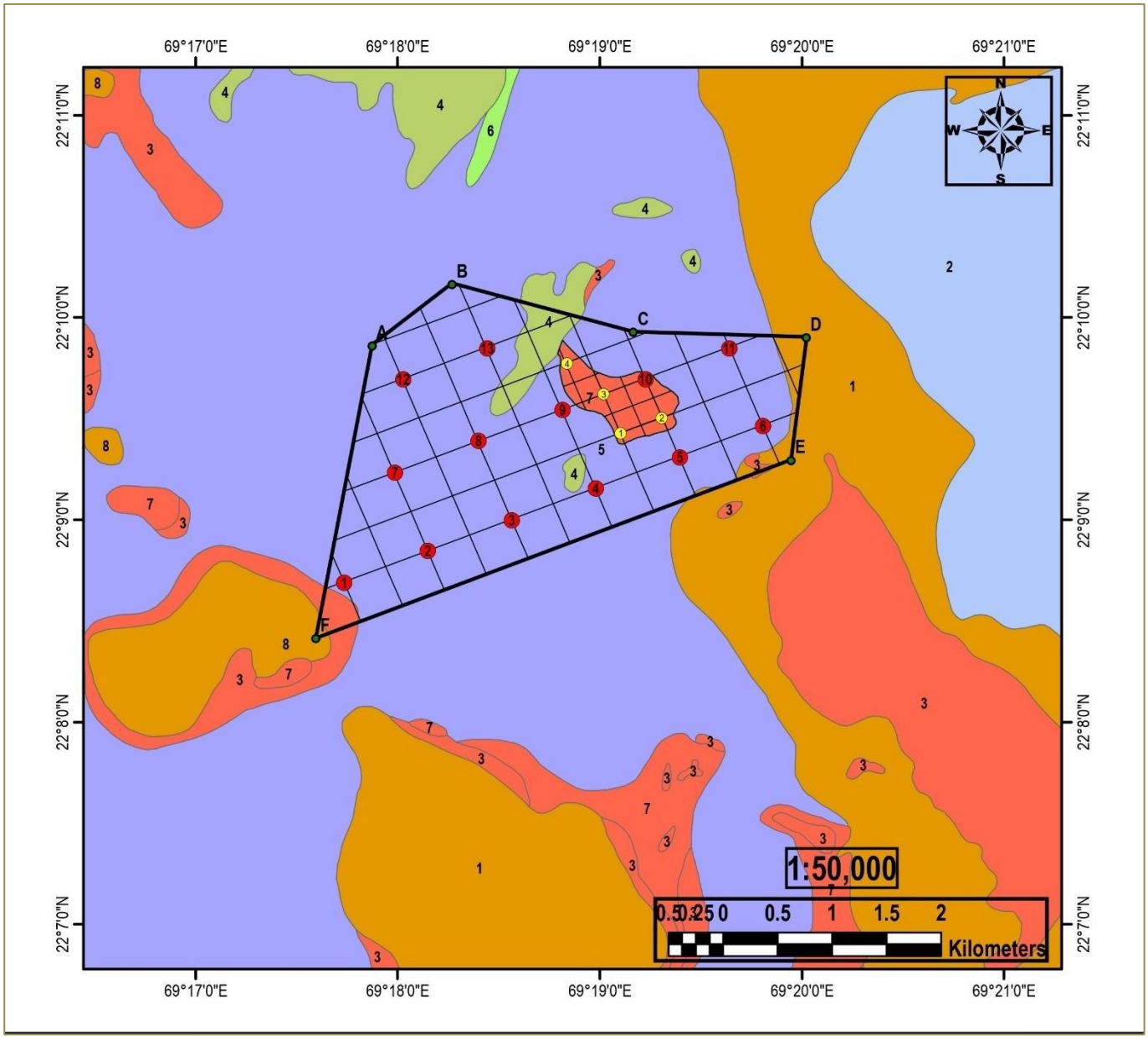
4. Borehole Plan of Ran Block area on Geological Map, Toposheet. 41F/8



Legend

- 5_SAMPLE_LOCATION
- RUN BLOCK BOUNDARY

Lithology

1	BASALT (UNCLASSIFIED)
2	BASIC ROCK
3	BAUXITE
4	CLAY, CLAYSTONE, MARL, GYPSEOUS CLAY
5	FOSSILIFEROUS LIMESTONE, MARL, CLAY
6	GRITTY MILIOLITE LST,SHELL FRAGMENTS, CALC SST
7	LATERITE
8	PYROCLASTIC BASALT

- Drilling – 13 BHs (400 m x 400 m) & 4 BHs in Laterite zone (200 m x 200 m)
- 15 BHs x 30 m = 450 m & 2 BHs x 50 m = 550 m
- Pitting - 24 x 3 Cum each = 72 Cum

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1. Block Summary

(A) Location and details of the study area:

The entire study area comes under Kalyanpur taluka of Dev Bhumi Dwarka District covers parts of Ran & Mahadeviya village. Dev Bhumi Dwarka District covers an area of 1412.22 Km. and population of the district is 160579 as per 2011 census. Dev Bhumi Dwarka district was bifurcated on August 15, 2013 from Jamnagar District. Ran is located around 90 Km towards west from District headquarters Dev Bhumi Dwarka and around 422 Km from state capital Gandhinagar by NH-47. Ran is surrounded by Khambhalia taluka towards east, Porbandar taluka towards south, Bhanvad taluka towards south-west, Okhamandal taluka towards west. The Ran block falls under the Survey of India Toposheet No. 41 F/8 of Kalyanpur taluka of Dev Bhumi Dwarka District, Gujarat. The Ran block covers an area of 7.87 Sq km. A polygon is made around Ran block which has following coordinates:

Table 1: Coordinates of Ran Block, Gujarat

Sl No.	Longitude	Latitude
(A)	69°17'52.57"E	22° 09'51.49"N
(B)	69°18'16.38"E	22°10'09.69"N
(C)	69°19'10.11"E	22° 09'55.50"N
(D)	69°20'01.42"E	22° 09'53.94"N
(E)	69°19'56.91"E	22° 09'17.48"N
(F)	69°17'35.92"E	22° 08'24.65"N

(B) Infrastructure & Accessibility:

The Ran block area is accessible from Jamnagar via NH-151A & SH-6. The nearest airport from the Ran village is Jamnagar airport; around 90 Km. Nearest Railway station is Bhatiya railway station which is approx. 20 Km away from the Ran village. The area is accessible throughout the year. Okha which is an intermediate type port is located around 65 Km away from Ran village and accessible through NH-151A. Dwarka is an important pilgrimage Centre and it is approx. 45 Km away from the Ran village. Somnath is also significant pilgrimage and it is 250 Km away from the Ran village.

(C) Physiography & Drainage:

Dev Bhumi Dwarka District is bounded by Jamnagar District in the East, Porbandar District in South, the Arabian Sea in the West and the Gulf of Kachchh in the North. The district can be divided into three physical regions viz., (i) the coastal plains including the offshore islands, (ii) the plains and (iii) the undulatory and hilly terrains. Topography of the whole area is flat with some undulations. The topography of the terrain around Ran, Nandana, Ranjitpura, Mahadeviya, Virpur, Juvanpur, Asota Mota, Pindara and Limbadi Village etc. are marked by low lying narrow winding laterite ridges with intervening broad flat and undulating valleys which gradually sloping towards the coast in the West to South-Westerly direction. The narrow winding ridges normally show a low dip slope towards East to North-East and relatively steeper escarpment slope towards West to South West. The area is located at the NW tip of an isolated patch of the Saurashtra region and is well connected. Ran village surface is undulatory with small hillocks. Being drought prone area, the rainfall is scanty and hence there are no perennial rivers. The nalla and rivers which remains mostly dry during most part of the year show a dendritic pattern of drainage. There are many small seasonal tributaries, which forms dendritic drainage pattern. Major tributaries are of first and second order. There are no major dams in Dev Bhumi Dwarka District. There are 10 medium and minor dams in the district. The district has no major river. Small seasonal rivers Sani, Sinhan Vartu, Ghee,

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Kabarka and Ghee are flow towards the Gulf of Kutch in the north and in north-west.

(D) Climate & Vegetation:

The Climate of Dev Bhumi Dwarka District can be regarded as one of extreme kind with hot summers & cold winters except in the coastal region, where it is generally pleasant all throughout the year. The air is humid due to coastal location. Extreme temperatures, erratic rainfall and high evaporation are the characteristic features of this type of climate. The temperature in Dev Bhumi Dwarka District ranges from 42° C higher in the summer and 15° C lowest in the winter. The average temperature during summer it is 38° C, while in winter is around 20° C. The minimum temperature in winter is around 18° C while the maximum is 33° C. In summer, the temperature raises to a maximum of 45° C. The average annual normal rainfall is 580 mm. No trees are either within the Ran block.

The common flora of the area are species of italica (Aval), Ischamumindicum (Bordi), Prosopis Juliflora (Ganda Bawal), Balasmodendron wightii (Gugal), Euphorbia nerifobia (Thor), Accaciaindica (Thor), Accaciaindica (Babool) and mangrove. Among the faunas' jackal, cat, rabbit, blackbuck, wild bear, fox and varieties of lizards and snakes are common.

(E) Previous Works:

1. Y. S. Sahasrabudhe (1958-1960). bauxite deposits of the kalyanpur mahal Jamnagar District, Gujarat State (GSI Report).
2. H. R. Vyas (1966-67). report on the bauxite deposits in some of the village of kalyanpur mahal Jamanagar District, CGM, Gujarat State.
3. B.N. Jayaram, A. Majumdar, S.S. Mukul (1971). Second Interim Report on the investigations for concealed Bauxite deposits in the Kalyanpur belt, Jamnagar District, Gujarat. (Field Season 1969 – 70 and 1970 – 71).
4. B.N. Jayaram, A. Majumdar, S.S. Mukul (1969-1973). Report on the investigations for concealed Bauxite deposits in the Kalyanpur belt, Jamnagar District, Gujarat State. (Progress Report for the field seasons 1969-70, 1970-71, 1971-72 & 1972-73).
5. N. V. Shah and J. V. Bhatt (1974-75). report on the concealed bauxite deposition some of the villages of Kalyanpur Taluka, Jamnagar District Gujarat State, CGM, Gujarat State.
6. Report on Gujarat's Mineral Wealth (2024). Commissioner of Geology and Mining, Gujarat.

(F) Planned Methodology:

- **Detailed Geological Mapping:** The detailed geological mapping (DM) on a 1:4,000 scale is to be carried out in and around 7.87 sq km area by DGPS & total station. 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** – The gap area will be covered digging through 24 nos of pits. [2mx1mx1.5mx24= 72 Cum]
- **Drilling-** The entire area will be drilled in a grid pattern of 400mx400m, (15 nos. down to 30m each & 2 drill point down to 50m = 550m), total drilling will be 550m.
- **Geochemical sampling:** BRSs, Pit samples & Core samples etc. will be collected for analysis.
- **Chemical Analysis:** XRF and ICP analysis of major oxides & trace element study of selected samples.
- **Petrographic and minerographic studies:** Petrographic & minerographic 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.

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2. Regional Geology

The area around Ran, Nandana, Ranjitpura, Mahadeviya, Mevasa, Virpur, Juvanpur, Asota Mota, Pindara and Limbadi Village exposes bauxite as segregated pocket within laterite or horizontal bedded bauxite deposit or altered clay. The other rock type exposed in the region are trap rocks, limestone & variegated clay. Th e limestone belonging to Gaj Formation overlies the laterites. The sequence of formation ranges from early Eocene to recent in age. The generalized stratigraphic sequence of the region is given below:

Age	Formation	Lithology
Pleistocene to Holocene	Sub. Recent to Recent	Alluvium / Soil, Calcareous Clay, Ran clays, sand dunes and Mud
Pleistocene	Miliolitic Limestone	Coastal, arenaceous Limestone
Middle Miocene to Lower Miocene	Gaj Formation	concretionary yellowish to cream colored limestone, argillaceous limestone, fine
---------- Unconformity ----------		
Palaeocene to Eocene	Bhatia formation (Laterite with Bauxite)	Hard and compact Laterite and Clay and Bauxite, Ochreous and Bentonite clays
Lower Eocene to late cretaceous	Deccan Trap	Dykes of Basalt Dolerite, Basaltic flows, Felsite porphyries/Granophyre

Table 2: Regional Geology of the study area

Gaj formations are mostly argillaceous and partly calcareous, comprising of yellow and grey-colored clays, variegated clays with gypsum bands and calcareous silt and sandstone along with thin bands of yellow brown-coloured limestones. The bauxite deposit of Kalyanpur Taluka is associated with a narrow belt of laterite extending from Mota Asota village near Gulf of Kutch in North to Gandhvi village near Arabian Sea coast on South. The laterites belt is about 7 Km wide between Kenedy & Habardi village and is less than 1 Km wide near Ran, Hadmatiya & Lamba village. On the west of this belt the laterites overlain by the younger tertiary rock and to the East they are underlain by the Deccan traps. Bauxite (Laterite) of Bhatia Formation (Palaeocene to Eocene age) form almost a continuous zone between Deccan Trap and Gaj Formations, and occur as discontinuous patches forming colorful ridges, right from the Dev Bhumi Dwarka in the north up to Bhavnagar in the south.

3. Local Geology

The study area is mostly covered by Alluvium/ Soil and Clay of Recent period. Major Soil type of the area is shallow to medium brownish in nature. Whereas in Ran block it is found on the surface in terms of overburden. The Bauxite (Aluminous Laterite-major mineral) of Bhatiya formation presents Paleocene to Eocene age.

Table 3: Local Geology of the study area

Period	Formation
Recent	Over burden soil/Alluvium
Sub-recent	Calcareous sand dunes
Tertiary	Gaj Formation
	Bhatia Formation

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4. Sampling Details

Fig: 4 The location points are shown in the map:

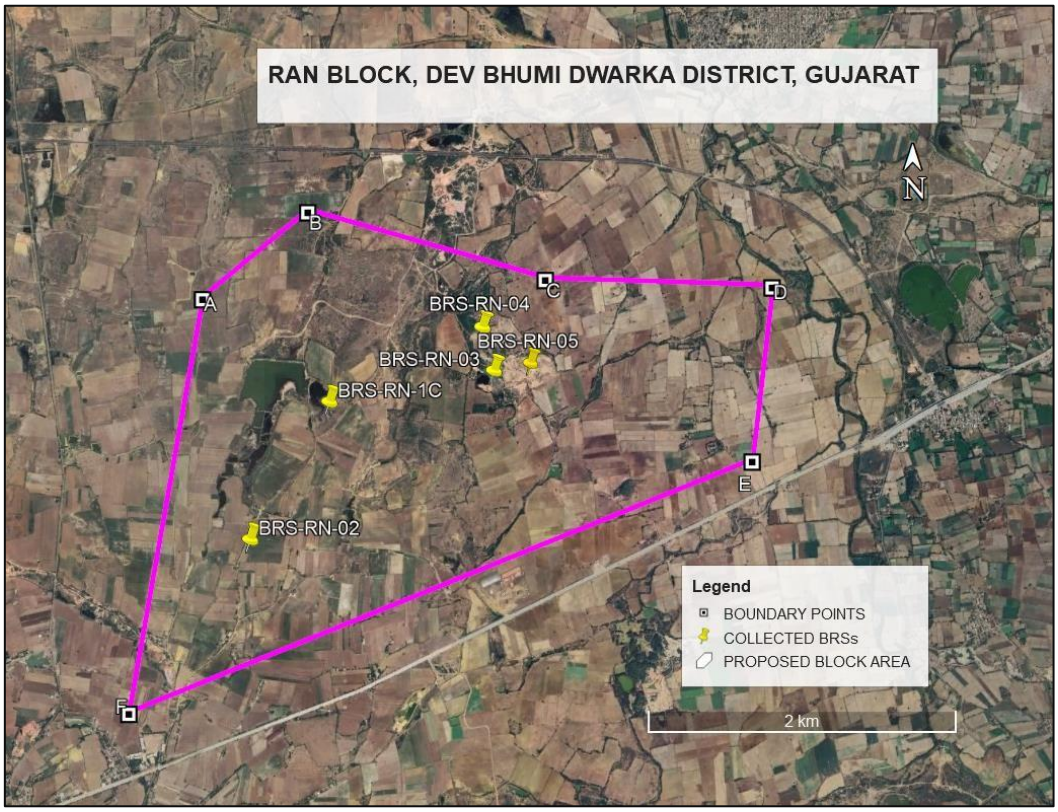

Table 4: Sample Collection Points

Sample Number	Latitude	Longitude
RN-BRS-1C	22° 9'27.12"N	69°18'20.14"E
RN-BRS-02	22° 8'58.29"N	69°18'2.22"E
RN-BRS-03	22° 9'33.65"N	69°18'57.36"E
RN-BRS-04	22° 9'33.70"N	69°18'59.98"E
RN-BRS-05	22°10'56.97"N	69°16'35.52"E

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5. Chemical Analysis Details

A. Chemical analysis of major constituents

Sl. No.	Customer Code	Sample Description	Al2O3 (%)	CaO (%)	Fe (%)	MgO (%)	TiO2 (%)	Li (ppm)	Sc (ppm)	Ga (ppm)	Nb (ppm)	TREE (ppm)
1	BRS-RN-1C	Bed-Rock	11.28	6.17	5.13	0.86	1.00	29.41	13.70	13.77	12	179.25
2	BRS-RN-2	Bed-Rock	22.58	11.01	2.96	0.90	0.32	42.67	9.03	16.46	<5	35.27
3	BRS-RN-3	Bed-Rock	59.58	0.55	1.01	0.26	2.63	9.15	13.08	48.72	23	87.86
4	BRS-RN-4	Bed-Rock	47.14	7.39	1.49	0.44	2.14	71.05	17.85	38.73	27	146.66
5	BRS-RN-05	Bed-Rock	55.28	1.32	2.46	0.24	4.39	39.97	21.22	50.50	64	126.27

B. Major oxides analysed by WD - XRF

Sl. No.	Customer Code	Sample Description	Method	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/105	SOP/OM/103
			LOQ	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1
			Units	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
			Lab ID	Al2O3	BaO	CaO	Fe	Fe2O3	K2O	MgO	MnO	Na2O	P	S	P2O5	SO3	SrO	SiO2	TiO2	V2O5	LOI
1	BRS-RN-1C	Rock	G1001-1	11.28	<0.05	6.17	5.13	7.33	1.48	0.86	<0.05	0.44	<0.05	3.47	0.08	8.66	0.11	48.68	1.00	<0.05	13.80
2	BRS-RN-2	Rock	G1001-2	22.58	<0.05	11.01	2.96	4.23	0.49	0.90	0.11	7.70	<0.05	0.78	0.06	1.95	<0.05	32.75	0.32	<0.05	17.78
3	BRS-RN-3	Rock	G1001-3	59.58	<0.05	0.55	1.01	1.45	<0.05	0.26	<0.05	0.20	<0.05	0.33	0.10	0.82	<0.05	2.13	2.63	<0.05	32.05
4	BRS-RN-4	Rock	G1001-4	47.14	<0.05	7.39	1.49	2.13	0.22	0.44	<0.05	0.32	<0.05	0.44	0.10	1.09	<0.05	8.76	2.14	<0.05	30.02
5	BRS-RN-05	Rock	G1001-5	55.28	<0.05	1.32	2.46	3.51	<0.05	0.24	<0.05	<0.08	<0.05	<0.05	0.10	0.07	<0.05	6.04	4.39	<0.05	28.80

C. Minor, Rare Earth & Trace elements alanysed by ICPMS

Sl. No.	Customer Code	Sample Description	Units	(ppm)									
			Lab ID	Ag	As	Bi	Cr	Cu	Nb	Ni	Pb	Zn	Zr
			LOQ	1	5	5	5	5	100	5	5	5	5
1	BRS-RN-1C	Rock	G1001-1	<1	71	<5	88	20	12	46	14	80	136
2	BRS-RN-2	Rock	G1001-2	<1	36	<5	61	227	<5	34	<5	16	37
3	BRS-RN-3	Rock	G1001-3	<1	50	<5	424	302	23	16	29	255	204
4	BRS-RN-4	Rock	G1001-4	<1	52	<5	105	50	27	40	11	19	230
5	BRS-RN-05	Rock	G1001-5	<1	9	12	330	97	64	21	5	18	402

Sl. No.	Customer Code	Sample Description	Method	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052
			Units	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)
			LOQ	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
			Lab ID	Li	Be	B	Sc	Co	Ga	Ge	Se	Rb	Y	Mo	Cd	In	Sn	Sb	Te	Cs	La	Ce
1	BRS-RN-1C	Rock	G1001-1	29.41	1.22	<0.5	13.70	28.73	13.77	<0.5	<0.5	67.04	20.05	1.55	<0.5	<0.5	3.24	1.29	<0.5	4.74	32.47	78.70
2	BRS-RN-2	Rock	G1001-2	42.67	<0.5	<0.5	9.03	10.43	16.46	<0.5	0.91	2.06	13.83	10.91	<0.5	<0.5	28.80	3.24	<0.5	<0.5	6.06	13.22
3	BRS-RN-3	Rock	G1001-3	9.15	<0.5	<0.5	13.08	2.14	48.72	<0.5	1.91	<0.5	5.05	8.60	<0.5	<0.5	30.94	8.82	<0.5	<0.5	18.39	41.19
4	BRS-RN-4	Rock	G1001-4	71.05	0.52	<0.5	17.85	3.79	38.73	<0.5	3.30	6.73	13.76	14.38	<0.5	<0.5	11.14	1.33	<0.5	0.87	27.98	65.17
5	BRS-RN-05	Rock	G1001-5	39.97	<0.5	<0.5	21.22	3.14	50.50	<0.5	1.09	<0.5	8.41	2.10	<0.5	<0.5	9.97	0.60	<0.5	<0.5	31.11	54.79

Sl. No.	Customer Code	Sample Description	Method	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	SOP/OM/052	TREE
			Units	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	ppm(mg/kg)	
			DL	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
			Lab ID	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Th	U	
1	BRS-RN-1C	Rock	G1001-1	8.29	31.97	6.58	1.44	7.56	0.93	4.93	0.82	2.59	<0.5	2.43	0.54	3.19	<0.5	0.91	<0.5	17.11	2.59	179.27
2	BRS-RN-2	Rock	G1001-2	1.39	5.50	1.29	0.53	1.72	<0.5	2.15	<0.5	1.65	<0.5	1.76	<0.5	1.20	0.50	<0.5	<0.5	5.05	0.83	35.27
3	BRS-RN-3	Rock	G1001-3	4.09	15.11	2.82	0.61	2.52	<0.5	1.48	<0.5	0.92	<0.5	0.73	<0.5	5.57	<0.5	1.04	<0.5	12.91	4.97	87.86
4	BRS-RN-4	Rock	G1001-4	6.47	24.55	5.23	1.20	5.23	0.74	4.38	0.76	2.52	<0.5	2.43	<0.5	5.60	<0.5	1.38	<0.5	19.61	4.46	146.66
5	BRS-RN-05	Rock	G1001-5	5.75	20.89	4.21	0.95	3.94	<0.5	2.24	<0.5	1.21	<0.5	1.18	<0.5	8.85	<0.5	1.65	<0.5	19.59	4.98	126.27

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6. Field Photographs:

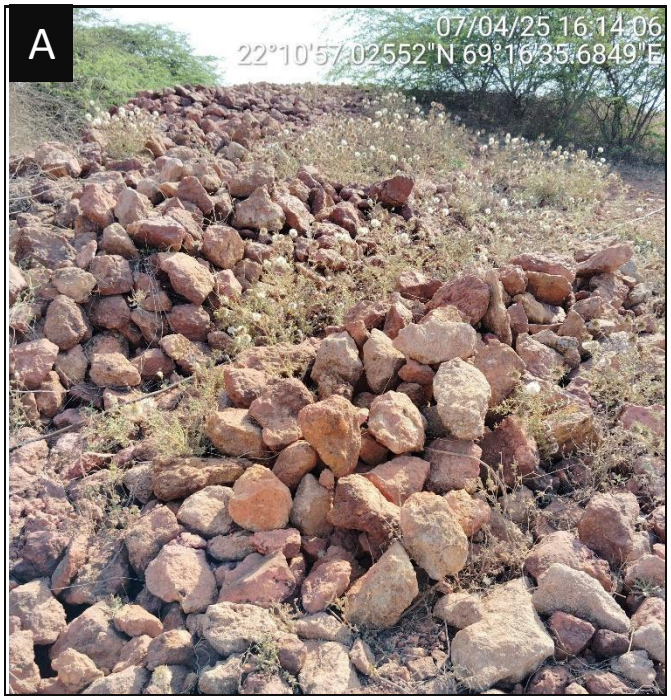

Fig 5: List of field photographs

A. BRS-RN-05 - Bauxite
B. BRS-RN-4 - Bauxite
C. BRS-RN-1C – Ferruginous Limestone
D. BRS-RN-2 – Lateritic Bauxite
E. BRS-RN-3 - Bauxite

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7. Nature, Quantum and Target

Estimate Cost for Preliminary Exploration (G-3) for Bauxite in Ran Bloc, Dev Bhumi Dwarka District, Gujarat. Area 7.87 sq. km, No. of BH:17, (15 x 30 m = 450 m + 2 x 50 m = 100 m = 550m); Schedule timeline- 12 months [Review: After 4 Months]							
S. No.	**Item of Work ***	**Unit ***	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC-Item No. *	**Rates as per SoC * (a)**	**Qty. (b)**	**Total Amount (Rs) (a*b)**	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4,000 scale) & Trenching, drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.3	11000	150	1650000	
ii	b. Labours Charges; Base rate	day	5.7	522	300	156600	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	c. Charges for Geologist per day (HQ)	day	1.3	9000	45	405000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5100	80	408000	
	Sub Total- A					**26,19,600**	

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B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km					
3	Geophysicist party days (Field)	per day					
4	c. Labours Charges	day					
5	Geophysicist party days (HQ)	per day					
	Sub Total- B					-	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19,200	23	441600	6 Block Boundaries & 17 Borreholes
b	Charges of Surveyor (1 party) for Geophysical survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	45	373500	
c	Labours Charges for survey work	day	5.7	522	180	93960	
	Sub-Total C					**9,09,060**	
D	**Trenching/Pitting**						
	a) Excavation of Pit	per cu.m	2.1.1	3,800	72	273600	24 Pits x 3 Cum each
E	**DRILLING (after review)**						
1	Drilling up to 300m (Soft Rock)	m	2.2.1.1 b	6,775	550	3726250	(15 x 30 m + 450 m & 2 x 50 m = 100 m)
2	Borehole deviation Survey by Multishot Camera	m					
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	17	340000	Borehole Points
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	23	46000	

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5	Borehole plugging by cement	per borehole	2.2.7b	150	17	2550	Boreholes
6	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km	2.2.8	36	3,000	108000	To and Fro
7	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	4	2,00,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
10	Road Making (Flat Terrain)	Km	2.2.10 a	22,020	2	44,040	
11	Drill Core Preservation	per m	5.3	1,590	100	1,59,000	
	Sub Total E					**51,25,840**	
F	**Borehole Geophysical Logging**						
G	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Geochemical Sampling-Surface samples (Bedrock/Channel /Soil/Stream sediment)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE by Fire Assay	Nos					
ii)	**Surface Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					

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iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos					
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
vii)	**Major Oxide Analysis**						
	a) Estimation of major oxides by XRF/whole rock analysis for primary samples (CaO, MgO, SiO2, Al2O3, LOI, Na2O, Fe2O3, MnO, K2O, TiO2, SO3, P2O5, Cr203, ZnO, V2O5)	per sample	4.1.15a	4200	584	24,52,800	10 BRS+ 550 CS+ 24 PTS
	Estimation of major oxides by XRF/whole rock analysis for check samples	per sample	4.1.15a	4200	58	2,43,600	1 BRS + 55 CS + 2 PTS
	Determination of insitu Bulk Density		4.10	3,540	5	17,700	

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	ICPMS Study	per sample	4.1.14	7,731	35	2,70,585	6 BRS+ 17 CS+ 12 PTS
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.2	1,549	10	15,490	
ii	Study of thin section	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polish section	Nos	4.3.2	1549	10	15,490	
iv	study of polished section	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Whole Rock Analysis	Nos				-	
vii	Sp. Gravity	Nos				-	
viii	XRD Studies	per hour	4.5.1	4,000	10	40,000	
ix	SEM studies	per hour		2,940	10	29,400	
						31,72,505	
H	**Total A to G**					**1,21,00,605**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	**5.2 (i/ii/iii/iv)**		**6,05,030**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
J	**Peer review Charges**		**As per EC decision**			**30,000**	
K	**Preparation of Exploration Proposal (5 Hard copies with a soft copy)**	**5 Hard copies with a soft copy**	**5.1**	2% of the Cost or Rs. 5.0 Lakhs whiche		**2,42,012**	EA will be reimbursed after submission of the Hard Copies and

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				ver is less			the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
L	**Total Estimated Cost without GST**					**1,29,77,647**	
M	**Provision for GST (18% of J)**					**23,35,977**	GST will be reimbursed as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**1,53,13,624**	
				or Say Rs. In Lakhs		**153.14**	
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 agency 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.**						
*****	**SoC Item No, Unit and Rate for each item of work must be as mentioned in the SoC.**						

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8. TIME SCHEDULE

Item of Work	1	2	3	4	5	6	7	8	9	10	11	12
1. Large scale mapping (1:12,500) Surface Sampling and Chemical analysis												
2. Pitting & Chem analysis												
3. Review												
4. Drilling												
5. Interpretation of analytical data, finalization of lithology, plates												
6. Review & report preparation / Peer review												
7. Final submission												

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1. Locality Index:

Name of village	Latitude	Longitude
Ran	22°00'38.72"N	70°03'22.28"E
Nandana	22°10'50.65"N	69°20'02.63"E
Virput	22°15'32.55"N	69°18'53.07"E
Juvanpur	22°09'50.38"N	69°22'05.48"E
Asota Mota	22°16'10.28"N	69°22'16.28"E
Limbadi	22°09'33.12"N	69°20'34.51"E

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2. References

1. Y. S. Sahasrabudhe (1958-1960). bauxite deposits of the kalyanpur mahal Jamnagar District, Gujarat State (GSI Report).
2. H. R. Vyas (1966-67). report on the bauxite deposits in some of the village of kalyanpur mahal Jamanagar District, CGM, Gujarat State.
3. B.N. Jayaram, A. Majumdar, S.S. Mukul (1971). Second Interim Report on the investigations for concealed Bauxite deposits in the Kalyanpur belt, Jamnagar District, Gujarat. (Field Season 1969 – 70 and 1970 – 71).
4. B.N. Jayaram, A. Majumdar, S.S. Mukul (1969-1973). Report on the investigations for concealed Bauxite deposits in the Kalyanpur belt, Jamnagar District, Gujarat State. (Progress Report for the field seasons 1969-70, 1970-71, 1971-72 & 1972-73).
5. N. V. Shah and J. V. Bhatt (1974-75). report on the concealed bauxite deposition some of the villages of Kalyanpur Taluka, Jamnagar District Gujarat State, CGM, Gujarat State.
6. Report on Gujarat's Mineral Wealth (2024). Commissioner of Geology and Mining, Gujarat.

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