DETAILED PROPOSAL FOR PRELIMINARY EXPLORATION (G-3 STAGE) FOR LIMESTONE IN PRASHNAWADA (BLOCK-A) & KADWASAN (BLOCK-B), GIR SOMNATH DISTRICT, GUJARAT

(16.70 Sq.Km Area)

COMMODITY: LIMESTONE

SUBMITTED TO
NATIONAL MINERAL EXPLORATION DEVELOPMENT TRUST (NMEDT)

BY

M/s APC DRILLING & CONSTRUCTION PRIVATE LIMITED
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MAY 2026

Summary of the Proposed Preliminary Exploration (G-3) for Limestone in Prashnawada- Block-A & Kadwasan Block-B, Gir Somnath District, Gujarat

GENERAL INFORMATION ABOUT THE BLOCK

	Features	**Details**
	Block ID	Prashnawada Block-A & Kadwasan Block-B
	Exploration Agency	APC Drilling & Construction Private Limited
	Previous Exploration Agency	Commissioner of Geology and Mining (CGM), Gujarat/DGM, Gujarat.
	Geological Report (Previous stage Geological Report)	DGM, Gujarat (Report No.304) CGM, Gujarat (Field Season Report 1995-96)
	Commodity	**Limestone**
	Mineral Belt	Saurashtra Miliolitic Limestone Belt, Gujarat
	Completion Period with entire Time schedule to complete the project	8 months.
	Objectives	The objectives of proposed G4 level exploration are as follows: ❖ Geological Mapping on 1:4000 scale to delineate the surface outcrops of Limestone ❖ Systematic Surface Samples collection and Chemical Analysis ❖ Pitting ❖ To drill 23 Nos. of boreholes to decipher the existence, depth persistence and potential of subsurface Limestone deposits. ❖ To estimate the in-situ resource of Limestone for G4 stage of exploration (333), as per UNFC norms and preparation of Geological Report (GR). ❖ To carry out exploration work as per MEMC Rules-2015 and Minerals (Evidence of Mineral Contents) Amendment Rules, 2021.

<table>
<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 Geological Mapping, Geochemical studies, Pitting, Drilling, Core Logging, Sampling and Geological Report writing will be carried out by APC Drilling & Construction Private Limited.

Chemical Analyses, Mineralogical and Petrographic Studies will be carried out through NABL accredited Labs.</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 & HQ (Geology, Surveyor)</td><td>Geologist: 30days-HQ
Geologist: 100 days -Field
Surveyor: 20days</td></tr>
<tr><td>1.</td><td>Location</td><td>Prashnawada Block-A is located to the East of Sutrapada Taluk HQ located in Gir Somath District, while Kadwasan Block-B is located at around 2 km East of Block-A and NW of Kodinar Town. The Co-Ordinates of proposed block areas are given below.</td></tr>
<tr><td></td><td>Latitude & Longitude</td><td>1. Prashnawada Block-A
<table><tr><th rowspan="2">Cardinal Points</th><th colspan="2">DEGREE DECIMAL</th><th rowspan="2">Area in sq.km</th></tr><tr><th>Latitude</th><th>Longitude</th></tr><tr><td>A1</td><td>N20.84072</td><td>E70.48941</td><td rowspan="6">5.10</td></tr><tr><td>A2</td><td>N20.85787</td><td>E70.49942</td></tr><tr><td>A3</td><td>N20.85247</td><td>E70.52084</td></tr><tr><td>A4</td><td>N20.83710</td><td>E70.51412</td></tr><tr><td>A5</td><td>N20.83701</td><td>E70.50539</td></tr><tr><td>A6</td><td>N20.83901</td><td>E70.49311</td></tr></table>
2. Kadwasan Block-B
<table><tr><th rowspan="2">Cardinal Points</th><th colspan="2">DEGREE DECIMAL</th><th rowspan="2">Area in sq.km</th></tr><tr><th>Latitude</th><th>Longitude</th></tr><tr><td>B1</td><td>N20.83084</td><td>E70.63301</td><td rowspan="2">11.60</td></tr><tr><td>B2</td><td>N20.83960</td><td>E70.63331</td></tr></table></td></tr>
</table>

		<table><tr><td>B3</td><td>N20.83954</td><td>E70.63990</td></tr><tr><td>B4</td><td>N20.86596</td><td>E70.64065</td></tr><tr><td>B5</td><td>N20.86690</td><td>E70.64994</td></tr><tr><td>B6</td><td>N20.80657</td><td>E70.67775</td></tr><tr><td>B7</td><td>N20.80305</td><td>E70.64924</td></tr><tr><td>B8</td><td>N20.81836</td><td>E70.64019</td></tr><tr><td>B9</td><td>N20.82414</td><td>E70.65094</td></tr><tr><td>B10</td><td>N20.80886</td><td>E70.65552</td></tr><tr><td>B11</td><td>N20.81105</td><td>E70.66882</td></tr><tr><td>B12</td><td>N20.84317</td><td>E70.65378</td></tr><tr><td>B13</td><td>N20.83922</td><td>E70.64642</td></tr><tr><td>B14</td><td>N20.83593</td><td>E70.64739</td></tr><tr><td>B15</td><td>N20.83082</td><td>E70.63300</td></tr></table>
	Villages	Sutrapada, Vavdi, Prashnawada, Lodhwa, Padruka,Solaj, Moradiya, Matana, Rakhej and Kadwasan
	Tehsil/ Taluk	Sutrapada Taluka
	District	Gir Somnath District
	State	Gujarat
2	**Area (hectares/ square kilometers)**	
	Block Area	16.70 Sq.km
	Forest Area	5% Forest Area(approximately)
	Government Land Area	Data not available
	Private Land Area	95%
3.	**Accessibility**	The area under investigation is approachable from Kodinar, Lodhwa and Sutrapada towns by metal road. The Veraval-Prashnawada-Kodinar State Highway-101 passes through the central part of the Prashnawada-Block-A area.

		The Port Road from Kadwasan to Mul - Dwarka passes in SE part of Kadwasan Block-B.
	Nearest Rail Head	Prachi-Road Junction and Veraval junction
	Road	The proposed block is well connected by road. The Veraval-Prashnawada-Kodinar State Highway-101 passes through the central part of the Prashnawada-Block-A. The Thaveli -Lodhwa road passes through Eastern part of Block–A. In Block B, the Port Road from Kadwasan to Mul - Dwarka passes in the SE part of Kadwasan Block-B.
	Airport	Diu Airport is about 45 km to the SE of the block area.
4.	**Hydrography**	
	Rivers/ Streams	The area is drained by a few small seasonal streams
5.	**Climate**	The maximum temperature during April and May is about 40^0 C to 45^0C. The minimum temperature during the month December-January is 10^0C to 15^0C. The area, being nearer to the sea-coast, the climate is temperate.
	Mean Annual Rainfall	The average annual rainfall is 300- 600mm. Generally, the rain starts by the middle of June.
	Temperature	Winter: Minimum 10^0C (December-January) Summer: Maximum 45^0 C (April - May)
6	**Topography**	
	Toposheet Number	41L/09 & 41L/05
	Morphology of the area	The area under investigation is gently undulating with cultivated plains. The elevation is around 18m AMSL in the SE part and 49 m AMSL in the northern part of the area.
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 Reconnaissance Survey / Regional Exploration**	The block is proposed on the basis of Geology of the area which vastly includes Miliolitic Formation reported to having good quality Limestone. Some Limestone leases are located around the proposed blocks which gives significant support to the potentiality of the block. APC Geology team has visited and taken traverses in and around the proposed area in the last week of September 2025 and collected 10 number of bed rock samples. The chemical analysis of the said samples has shown high values of CaO from 44.16-54.36% with low Silica (SiO2) between 1.47-8.95%. CGM, Gujarat has identified the Prashnawada and Padruka blocks for G4 and G3 level, and Matana (Kadwasan) block for G4 level exploration for Limestone as non-overlapping areas (Ref: Gujarat's Mineral Wealth, An official document of CGM, Gujarat). The proposed area of 16.70 Sq.Km. carved out by APC encompasses all the above three blocks and surrounding area. NMEDT has allotted the Project (Report RN-29) Titled "Report on the Bauxite Deposits in some of the villages of Bhavnagar, Amreli and Junagarh districts to M/s APC from 51 reports shortlisted from the legacy reports of various state DGM/DMGs for upgradation through NMEDT funds (3rd Joint TCC meeting dated 4.9.2025). Subsequently, APC was asked submit the DPR for the allotted proposals vide mail dated 23.9.2025. In this connection, APC has conducted the field visit in all the 3 districts namely Bhavnagar, Amreli and Junagarh (Presently Gir Somnath district). Based on field observations and analysis of samples collected, two DPR proposals have been submitted for Bauxite in Bhavnagar and Amreli districts. In Junagarh (Gir Somnath) district, Limestone being the predominantly occurring commodity, supported by encouraging analysis results of field samples, present DPR for G3 level exploration of Limestone is prepared**.**

DETAILED DESCRIPTION OF THE PROJECT

1.0.0 Background information

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. The Commissioner of Geology and Mining (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. The proposed Prashnawada - Padruka Block-A and Kadwasan Block-B for Limestone and associated minerals are included in the list of 42 blocks identified by CGM, Gujarat.

In the last week of September 2025, the Geology team from APC conducted site visits and collected 10 numbers of samples in and around the proposed area in Gir Somnath Districts. The analyses results of samples showed high values of CaO between 44.16% to 54.36% with low silica (SiO2) from 1.47 to 8.95 %

On the basis of Analysis results of samples and number of Mining leases around the area, an area of 16.70 Sq.km has been proposed. Out of 10 samples, the analysis results of Three (3Nos.) samples fall the proposed Prashnawada Block-A and Kadwasan Block-B reveals CaO is in the range of 49.49 to 54.36 %, MgO between 0.56 to 0.69 % and SiO2 ranging from 1.47 to 7.35%. Accordingly, an area of 46.60 Sq.km has was proposed for G4 level of Exploration

The G4 proposal was discussed in the 91st TCC-I meeting held on 27th & 28th February. CGM Gujarat mentioned that the proposed G4 area overlaps with their Padruka(G3 Level) and Matana (G4 Level) Blocks(NOC blocks). The committee reviewed the proposal and advised the agency to undertake G-3 stage exploration for limestone and associated minerals in the proposed block, to be carried out in two phases. The committee suggested that Phase-I shall comprise detailed mapping and sampling, followed by Phase-II involving drilling on an 800 m × 800 m grid pattern, to be initiated after review of surface sample analysis.

Accordingly APC modified the proposal. The proposed Preliminary Exploration(G3) level exploration for limestone has been formulated covering a total area of 16.70 sq.km.

2.BLOCK SUMMARY

Physiography

Coastal Saurashtra has a characteristic physiography. Physiography the area is almost gently sloped towards the sea southwards. The area under investigation consists of more or less a flat undulating plain, consisting of low-lying hillocks of trap-Rhyolite-Trachyte. The area is drained by a few small seasonal streams flowing towards the sea. There are several flat-topped mounds separated by agricultural land.

3.0.0 Previous Work

Fedden (1884) carried out geological work in Saurashtra Peninsula, which formed the basis for almost all the latter geological work in Saurashtra region. He gave a generalized account of the regional geology of the Kathiawar Peninsula with some details of unusual rock type like Felsite, diorite, rhyolite, Trachyte and pitchstone etc. Sinor (1927) had given a good account on the petrology of the igneous and sedimentary rocks of Bhavnagar-ghogha area. The investigation for bentonite by the Directorate of Geology & Mining was carried out in the Bhavnagar-ghogha Mahuva area. The geo-physical and geological investigation were carried

out in the nearby area of Bhavnagar District by Geological Survey of India and also oil and Natural Gas Commission and they have established stratigraphic sequence in the area.

Further, around the proposed blocks, preliminarily investigated by the Commissioner of Geology and Mining (CGM), Gujarat. The geology of the area comprises Minolitic associated with limestone. There are a number of Mining Leases around Junagadh district. On the basis of mining leases around the area, CGM Gujarat proposed Prashnawada (G4 level), Padruka (G3 Level) and Matana(G4 Level) blocks for G4/G3 level of exploration.

4.0.0 Background Geology

Regional Geology

Saurashtra is a rocky table land fringed by coastal plains. Deccan lava flows mainly occupy the central part of Saurashtra while Tertiary and Quaternary sediments form narrow borders swerving round it. The morphology of the upland, to some extent, is controlled by the sub horizontal basaltic flows. Tertiary sediments in this area are classified as Gaj formation of Eocene to Miocene age. Lithological assemblage comprises calcareous sandstone, pebbly sandstone, pebble bed, clay and marl. Sedimentary structure and fossil assemblage favors fluvio-deltaic origin (Merh, 1995) of Gaj sediments.

Geological sequence: The Generalized Stratigraphic succession of the region established by the earlier workers is as under: -

Strategraphic Unit	**Lithology**	**Age**
Recent Deposit	Coastal Sea Sand dunes, soil and alluvium	Holocene
Chhaya Formation	Shelly limestone, Coraline Limestone	Holocene to late Pliestocene
Milliolite Formation	Limestone with shell of Milolina	Pliestocene
Dwarka Formation	Fossiliferous Limestone	Pliocene
Gaj Formation	Alternate sequence of Clay and Limestone	Miocene
Deccan Traps	Basalt, dolerite dykes	Cretaceous to Eocene

Traps and limestone are the dominant country rocks covering the major portion of the area.

Geology of the Block (Description of Lithounits)

Milliolite limestone: The milliolite limestone is marked on the boundary with Gaj sediments. It is whitish in color with buff shades. It is composed of fragments of numerous shells of foraminifera – milliolite. It has Oolitic and pisolitic granular structure.

Gaj beds: The occurrences of Gaj beds in the area confined the marine transgression during the late Miocene period.. These beds are overlained by milliolite limestone. The color of these beds are typically yellow and consists of fossiliferous, calcareous and arenaceous sediments.

Deccan Trap: It is the oldest rock unit exposed in the area. It is greenish grey coloured, fine grained amygdalar basalt. The amygdules are filled with zeolites, calcite and chlorophaeite. The Gaj beds and limestone of miliolitic series overlies the Deccan trap.

Mineral Potentiality

The block is proposed on the basis of the geology of the area which prominently includes Miliolitic Formation which is reported to have good quality limestone. Many Limestone leases are located in the vicinity/surrounding of proposed block area giving significant support to the potentiality of the block. Moreover, the surface samples collected during field visit have shown high content of CaO (44.16-54.36%) and low SiO2(1.47-8.95%). All the facts together suggest good Limestone potentiality in the block area.

The field visit samples analysis results are given in table below:

SUMMARY SHEET OF LIMESTONE ANALYSIS RESULTS											
No. of Samples		10									
DATE OF SAMPLE RECEIVED		06.10.2025									
REPORTING DATE		17.10.2025									
Commodity		Limestone									
Test Method		CaO, MgO, Al2O3, SiO2, Fe2O3, K2O, Na2O, P2O5 as per ASTM C1271 & LOI as per IS 1760									
Customer Name		**APC DRILLING & CONSTRUCTION PRIVATE LIMITED**									
LABORATORY NAME		**INSPECTORATE GRIFFITH INDIA PVT. LTD., GANDHIDHAM, GUJARAT**									
S.No.	**Customer ID**	**Lab Code**	**Al2O3**	**CaO**	**Fe2O3**	**K2O**	**MgO**	**Na2O**	**P2O5**	**SiO2**	**LOI**
			%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
1	HM-07	E017680	2.80	48.55	2.68	0.12	0.70	0.12	0.050	4.42	40.31
2	GP-19	E017681	0.74	54.27	0.23	0.06	0.53	0.07	0.029	1.54	42.50
3	GP-20	E017682	3.22	50.93	1.15	0.08	0.40	0.08	0.027	2.21	41.68
4	PW-21	E017683	3.06	49.49	0.91	0.14	0.66	0.18	0.062	4.64	40.53
5	PD-22	E017684	1.51	49.90	0.87	0.20	0.56	0.12	0.054	7.35	39.41
6	MT-23	E017685	0.55	54.36	0.23	0.06	0.69	0.06	0.029	1.47	42.55
7	DOL-24	E017686	2.09	51.48	0.49	0.07	0.75	0.08	0.030	2.85	41.67
8	HM-25	E017687	3.70	44.16	1.88	0.06	2.48	0.45	0.012	8.95	37.61
9	HM-26	E017688	17.04	19.10	15.30	0.02	0.73	0.05	0.048	21.83	23.17
10	HM-27	E017689	3.43	47.12	1.54	0.17	1.20	0.20	0.046	6.60	38.89

5.0.0 Scope for proposed exploration.

The geology of the area, the geochemical analytical results of the field samples collected and the many existing limestone leases in the surrounding area, amply suggest the scope for Preliminary Exploration(G3) in the area for Limestone.

The proposed Preliminary Exploration (G3 Stage) for Limestone in Prashnawada- Block-A and Kadwasan Block-B comprises of Geological mapping of 16.70 Sq.km area on 1:4000 scale, Surface/ Geochemical sampling (Bedrock), Pitting, Drilling of 23 Nos. of boreholes involving about 1010m drilling considering 40 m. depth per borehole, DGPS survey of boundary points and BHs, Chemical, Mineralogical and Petrological analysis and estimation of Resources under G4 category and Geological Report preparation.

Observation and Recommendation of previous work

Directorate of Geology & Mining, Government of Gujarat, Rajkot, during field programme for 1983-1984, carried the detailed Exploration by drilling for limestone in the villages Padruka, Kadasala, Solay and Matana of Veraval/Sutrapara Taluka of Junagadh (Present Gir Somnath) District. Based on findings through drilling, it was recommended to continue the investigation to explore and study the entire miliolitic limestone in coastal area of Saurashtra for chemical grade limestone (*Ref: Report on the investigations of Limestone deposits in parts of Veraval Taluka of Junagadh district Field Season 1983-84, Directorate of Geology & Mining Government of Gujarat, Item No. Report No.304*)

CGM, Gujarat during the field season 1995-96 carried out Geological Mapping on 1:50,000 scale covering an area of about 2580 sq. km. by using Remote Sensing Techniques in part of the Junagadh (Gir Somanath) and Jamnagar (Por Bandar) districts of Saurashtra. This surveyed area falls under the Survey of India Topographical Map Nos. 41 G/5, 41 G/10 + 6, 41 G/15+11, 41 K/4 and small part of 41 K/3, 41 L/5+1 and L/9+10. The study revealed that the major part of the surveyed area is covered with trap rocks and miliolitic limestone and occurrence of miliolitic limestone throughout, all along the coastal tract from Kodinar in Gir Somnath district to Miyani in Porbandar district, exposed intermittently.

Based on recommendation of previous works, CGM Gujarat has identified Prashnawada (G4 Level), Padruka (G3 Level) and Matana (G4 Level) Blocks for exploration of Limestone. The proposed area for G4 level exploration by APC encompasses all the said three blocks plus the surrounding area covering a total area of 16.70 Sq.Km.(Prashnawada-Block A-5.10 Sq.Km.+ Kadwasan Block B-11.60 Sq.Km.=Total 16.70 Sq.Km.)

6.0.0. BLOCK DESCRIPTION

Location

The Prashnawada Block-A and Kadwasan Block-B located in Gir Somnath district of Gujarat, falls in Survey of India Toposheet No.41L/09 & 41/L05 and is bounded by the following co-ordinates:

Prashnawada Block-A

Cardinal Points	DEGREE DECIMAL		Area in sq.km
	Latitude	**Longitude**	
A1	N20.84072	E70.48941	**5.10**
A2	N20.85787	E70.49942	
A3	N20.85247	E70.52084	

A4	N20.83710	E70.51412	
A5	N20.83701	E70.50539	
A6	N20.83901	E70.49311	

Kadwasan Block-B

Cardinal Points	DEGREE DECIMAL		Area in sq.km
	Latitude	Longitude	
B1	N20.83084	E70.63301	**11.60**
B2	N20.83960	E70.63331	
B3	N20.83954	E70.63990	
B4	N20.86596	E70.64065	
B5	N20.86690	E70.64994	
B6	N20.80657	E70.67775	
B7	N20.80305	E70.64924	
B8	N20.81836	E70.64019	
B9	N20.82414	E70.65094	
B10	N20.80886	E70.65552	
B11	N20.81105	E70.66882	
B12	N20.84317	E70.65378	
B13	N20.83922	E70.64642	
B14	N20.83593	E70.64739	
B15	N20.83082	E70.63300	

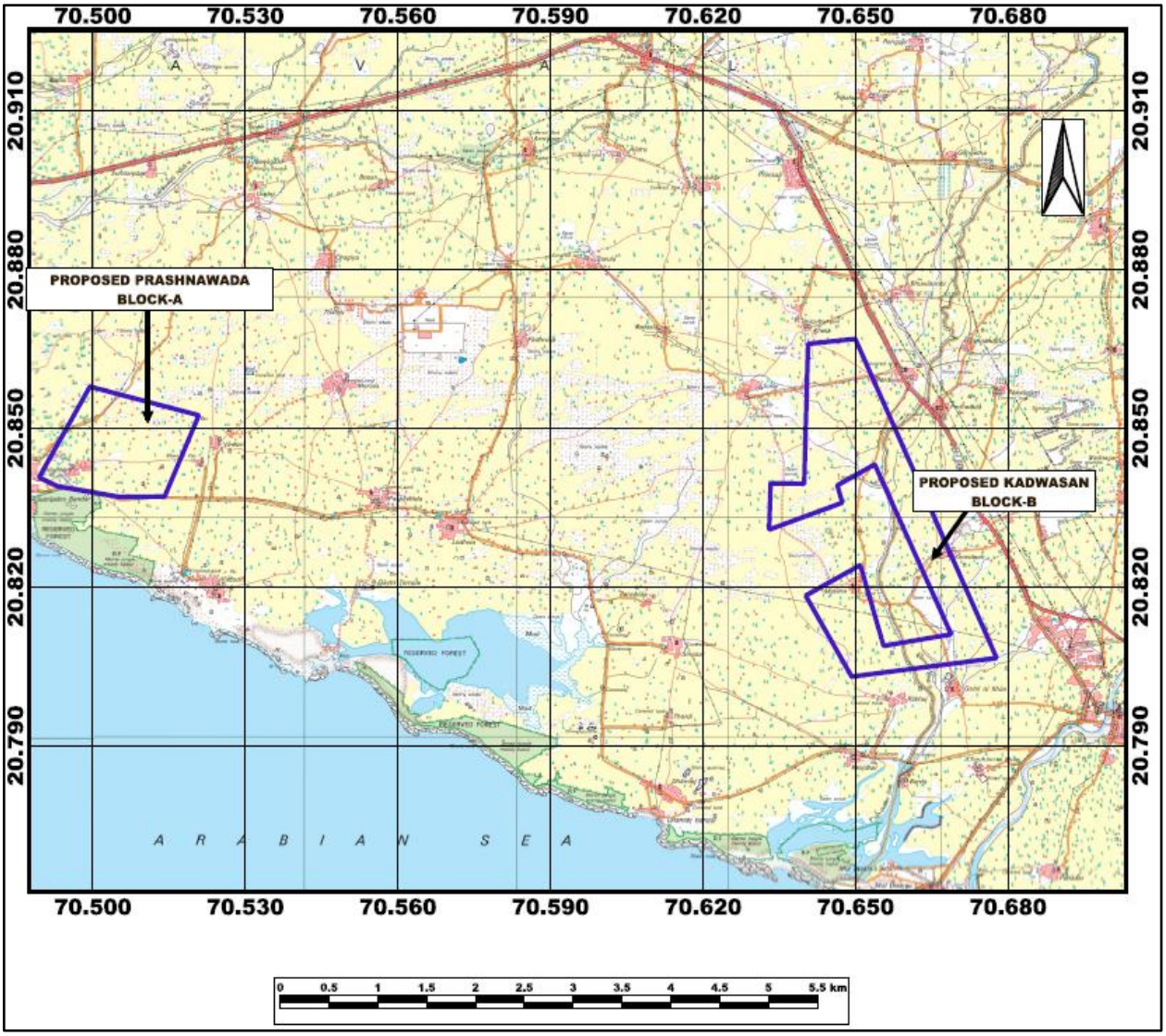


Figure-2: Location of proposed Prashnawada Block-A & Kadwasan Block-B on Toposheet No. 41L/09 & 41L/05

7.0.0 PLANNED METHODOLOGY

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

DGPS of Boundary Corner Pillars Survey, Topographical Surveying & Geological Mapping

The Blocks boundary shall be surveyed by DGPS in WGS-84 datum for demarcation of block boundary/corner points. RL's and Co-ordinates of survey and Borehole points will be determined with reference to the nearest Survey of India Bench Mark, as available. All the important surface features, geological outcrops and Pits will be surveyed. Borehole points will be fixed on the ground whose RL's and co-ordinates will be determined.

Geological Mapping

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.

Bed Rock Sampling

During the course of Geological mapping, the Bed Rock samples shall be collected. A total of 50nos. Bed Rock samples will be collected from the proposed block. Total 5 nos. check samples (10% External) will be analysed for 6 radicals (CaO, MgO, Al2O3, SiO2, Fe2O3 and LOI)

Core Drilling

A total of 23 vertical boreholes (coring) is proposed for the G-3stage of Exploration, on the basis of the results of surface exploration such as Geological Mapping and Geochemical Survey The average depth of the boreholes is considered as 40 m and a total of 1010 m of drilling is proposed in selected locations to find out the vertical continuity of mineralized zones in strike and dip direction and to assess subsurface disposition of the targeted mineralized bodies.

Drill Core Logging and Sampling

The drill cores recovered from the drilling shall be kept in the core boxes as per the standard procedure. In the log book, various lithounits encountered during drilling, run wise, depth wise, its colour, grain size, texture, appearance, mineralogical composition, structural details etc. shall be carefully recorded along with core recovery percentage. Samples from each borehole shall be collected and prepared for chemical analysis.

The drilled borehole cores will be sampled for every 1-meter run from the mineralized zone, subject to change in lithology and core recovery. Around 815 core samples will be generated from 23 boreholes. Each core sample thus obtained, will be longitudinally split into two equal halves by using core splitter. One half will be powdered to -100 mesh size and the other half will be kept for future studies. The powdered material will be mixed thoroughly and about 100 gm of samples will be taken for chemical analysis by successive coning and quartering as primary samples and rest of the material (-100 mesh size) will be kept as duplicate half for future reference

Chemical Analysis

Primary Samples: A total of 865 samples are proposed for primary analysis (50 Bed Rock Samples+815 Drill Core samples) for 6 Radicals viz. CaO, MgO, Al2O3, SiO2, Fe2O3 and LOI by XRF Technique.

Check Samples: External Check samples will be **10**% of the total primary samples (87 No. of samples). It will be sent to NABL accredited Labs for analysis of 6 radicals (CaO, MgO, Al2O3, SiO2, Fe2O3 and LOI)

Spectroscopic Studies: 10 samples are proposed for .ICP-AES/ICPMS (sequential technique) for 34 elements i.e. 16 other elements viz. Li, Ga, In, Be, Ge, Mo, Ni, Cr, Ta, W, Ba, Co, Rb, Sr, Zr, Nb ;16 REE viz. La, Ce, Pr, Nd, Ms, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y; 02 Actinides viz. U, Th.

Mineral Physics Studies: 5 number of samples are proposed for XRD Analysis for identification of minerals (Random).

Petrographic Studies:

Petrological studies will be done on 10 nos. of drill core and surface specimen to know about the mineralogical composition and interrelation among the constituent minerals. 10 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 Minera graphic characteristics.

Specific Gravity Determination

Specific Gravity will be determined on 5 nos. Drill core specimens

8.0.0 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) (Prashnawada 5.10 + Kadwasan 11.60)	Sq. km	16.7
2	Topographic Survey (Contour interval 5m) at 1:4000 scale		16.7
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.	23
4	Boundary survey by DGPS	Nos.	22
5	Bedrock samples		50
B	**EXPLORATORY DRILLING**		
7	Drilling (Soft Rock)	m	1010
8	Drill Core Preservation **Block A: 1 complete BH + Mineralised core (150m) and Block B: 1 complete BH + Mineralised core (550m)**	m	700
C	**Sampling & Chemical Analysis**		
9	Primary & Check samples for Limestone BRS/BH samples)		865
i)	Bedrock samples (Prashnawada- BRS 20 & Kadwasan - BRS 30 Nos.)	Nos.	50
ii)	Borehole Core samples (Prashnawada-175+ Kadwasan640)	Nos.	815
iii)	Check samples (10% external)	Nos.	87

10	**Spectroscopic Studies**		
a	ICP-AES/ICPMS (sequential technique) for 34 elements i.e. 16 other elements viz. Li, Ga, In, Be, Ge, Mo, Ni, Cr, Ta, W, Ba, Co, Rb, Sr, Zr, Nb ;16 REE viz. La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y; 02 Actinides viz. U, Th.(2 samples Per BHS)	Nos.	10
11	**Petrological Studies**		
	1) Preparation of thin section	Nos.	10
	ii)Study of Thin Section including photomicrographs	Nos.	10
12	**Mineral Physics Studies**		
	XRD Analyses for identification of minerals(Random)		5
13	Specific Gravity Determination		5
D	**Geological Report Preparation -As per MEMC Rule-2015**	Nos.	1

9.0.0. 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 Limestone in Prashnawada Block-A and Kadwasan Block-B , Gir Somnath District, Gujarat

Sl. No.	Activities	Months									
		1	2	3		4	5	6		7	8
1	Camp Setting				REVIEW				REVIEW		
2	Geological Mapping & Sampling (Bed Rock /Grab)										
3	Survey Work(1 Party) (Topography + BH Survey)										
4	Drilling (2 rig)										
5	Geological Work(1 Geologist)										
6	Sampling Work -BRS/Core Samples										
7	Camp Winding										
8	Laboratory Studies										
9	Geological Work/ Report Writing										
10	Peer Review and Report Submission										

10.0.0 Cost Estimates:

Tentative cost has been estimated based on the Schedule of Charges (SoC) of projects funded by National Exploration Trust (NMET). The total cost estimate of Rs. 212.41 Lakhs (Including GST) is being proposed for completion of exploratory work up to G-4 level. Activity wise break-ups of the same are furnished below

Activity wise break up of cost of the project

Sl.No.	Item	Total Cost
1	Geological Work	**4137770**
3	Laboratory Studies	3852300
4	Drilling	9109000
	Sub total	**17099070**
5	Report	500000
6	Peer Review	60000
7	Proposal Preparation	341981
	Total	**18001051**
8	GST (18%)	3240189
	Total cost including 18% GST	**21241241**

11.0.0 Justifications

- The proposed area is the part of Report No RN-29 **"Report On The Bauxite Deposits In Some Of The Village Of Bhavnagar, Amreli And Junagadh Districts, Gujarat State"**allocated by NMEDT M/s. APC Drilling & Construction Pvt Ltd for upgradation through exploration.

- Directorate of Geology & Mining, Government of Gujarat, Rajkot, during field programme for 1983-1984, carried, the detailed Exploration by drilling for limestone in the villages Padhruka, Kadasala, solay & Matana Veraval taluka of Junagadh District. Recommenders to continue the investigation to explore and study the entire miliolitic limestone coastal area of Saurashtra for chemical grade limestone

- CGM, Gujarat during the field seasons 1995-96 carried out Geological Mapping on 1:50,000 scales covering an area about 2580 sq. kms. by using Remote Sensing Techniques in part of the Junagadh and Jamnagar districts of Saurashtra. This surveyed area falls under the Survey of India topographical map Nos. 41 G/5, 41 G/10 + 6, 41 G/15+11, 41 K/4, small part of 41 K/3, 41 L/5+1 and L/9+10. revealed that the major part of the surveyed area is covered with trap rocks and miliolitic limestone and occurrence of miliolitic limestone throughout all along the coastal tract from kodinar to Miyani exposed intermittently.

- In the last week of September 2025, the Geology team from APC conducted site visits and collected 10 numbers of samples in and around the proposed area around Gir Somnath, Junagad and Amreli Districts. The analyses results of samples showed high values of CaO between 19.10% to 54.36%.Out of 10 samples, the analysis results of Three (3Nos.) samples in the proposed Prashnawada-Padruka Block-A and Matana Block-B reveals CaO is in the range of 49.49 to 54.36 %, MgO between 0.56 to 0.69 % and SiO2 ranging from 1.47 to 7.35%. Accordingly, an area of 46.60 Sq.km was proposed for G4 level of Exploration, the proposed area includes CGM Gujarat identified Prashnawada (G4 Level), Padruka(G3 Level) and Matana (G4 Level) Block.

- The G4 proposal was discussed in the 91st TCC-I meeting held on 27th & 28th February. CGM Gujarat mentioned that the proposed G4 area overlaps with their Padruka(G3 Level) and Matana (G4 Level) Blocks(NOC blocks). The committee reviewed the proposal and advised the agency to undertake G-3 stage exploration for limestone and associated minerals in the proposed block, to be carried out in two phases. The committee suggested that Phase-I shall comprise detailed mapping and sampling, followed by Phase-II involving drilling on an 800 m × 800 m grid pattern, to be initiated after review of surface sample analysis.

- Accordingly APC modified the proposal. The proposed Preliminary Exploration(G3) level exploration for limestone has been formulated covering a total area of 16.70 sq.km.

8. REFERENCES

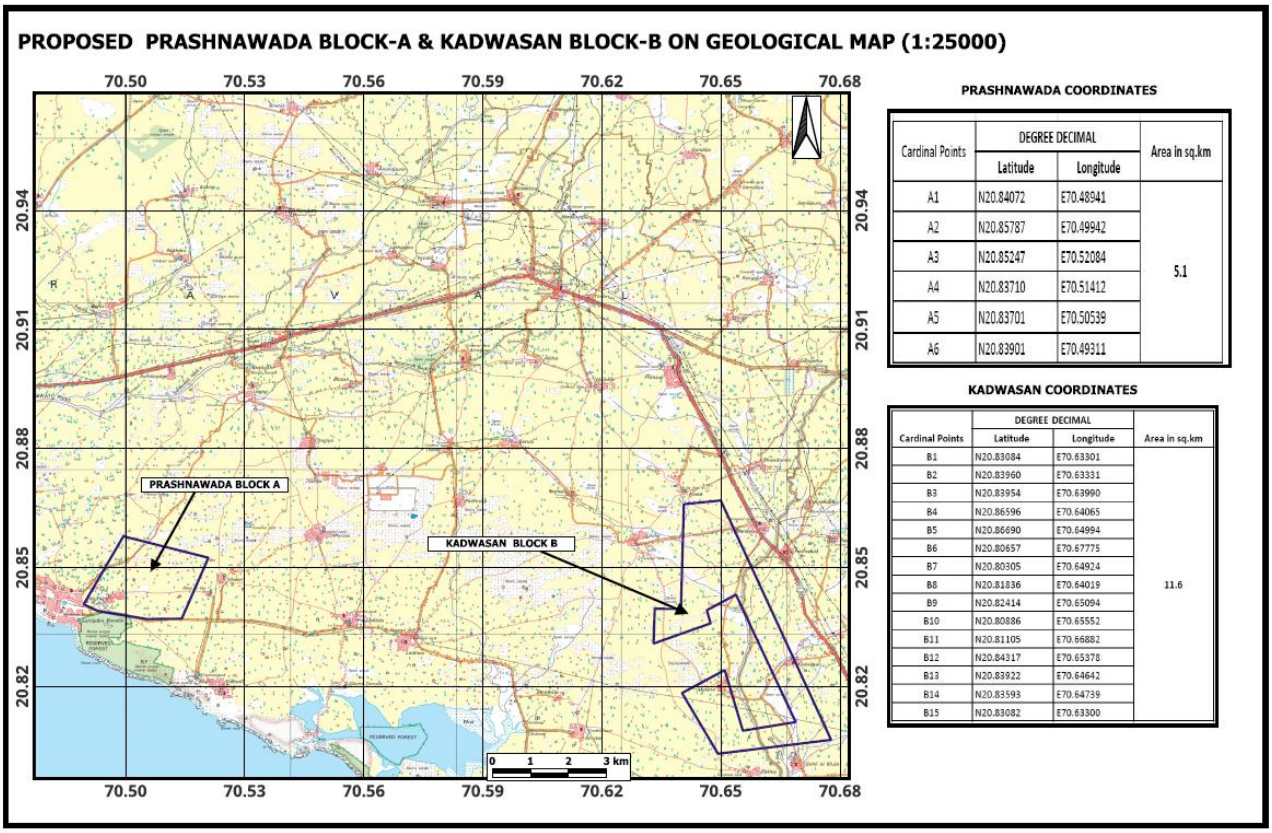
1. Report on the investigations of Limestone deposits in parts of Veraval taluka of Junagadh district Field Season 1983-84, Directorate of Geology & Mining Government of Gujarat, Item No Report No.304
2. Geological Report of the Southern Part of Saurashtra covered under Toposheet Nos. 41 G/5, G/10+6, 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

3. Gujarat's Mineral Wealth

LIST OF PLATES

1. Location Plan of Proposed Prashnawada Block-A & Kadwasan Block-B TS No. 41L/05 &41L09 (1:25000) (ANNEXURE-1)

2. Location of Proposed Prashnawada Block-A & Kadwasan Block-B on Regional Geological Map (1:25000) (ANNEXURE-2)



PRASHNAWADA COORDINATES

Cardinal Points	DEGREE DECIMAL		Area in sq.km
	Latitude	Longitude	
A1	N20.84072	E70.48941	5.1
A2	N20.85787	E70.49942	
A3	N20.85247	E70.52084	
A4	N20.83710	E70.51412	
A5	N20.83701	E70.50539	
A6	N20.83901	E70.49311	

KADWASAN COORDINATES

Cardinal Points	DEGREE DECIMAL		Area in sq.km
	Latitude	Longitude	
B1	N20.83084	E70.63301	11.6
B2	N20.83960	E70.63331	
B3	N20.83954	E70.63990	
B4	N20.86596	E70.64065	
B5	N20.86690	E70.64994	
B6	N20.80657	E70.67775	
B7	N20.80305	E70.64924	
B8	N20.81836	E70.64019	
B9	N20.82414	E70.65094	
B10	N20.80886	E70.65552	
B11	N20.81105	E70.66882	
B12	N20.84317	E70.65378	
B13	N20.83922	E70.64642	
B14	N20.83593	E70.64739	
B15	N20.83082	E70.63300	

Figure-3:Location Plan of Proposed Prashnawada Block-A & Kadwasan Block-B on Toposheet No. 41L/09 & 41L/05

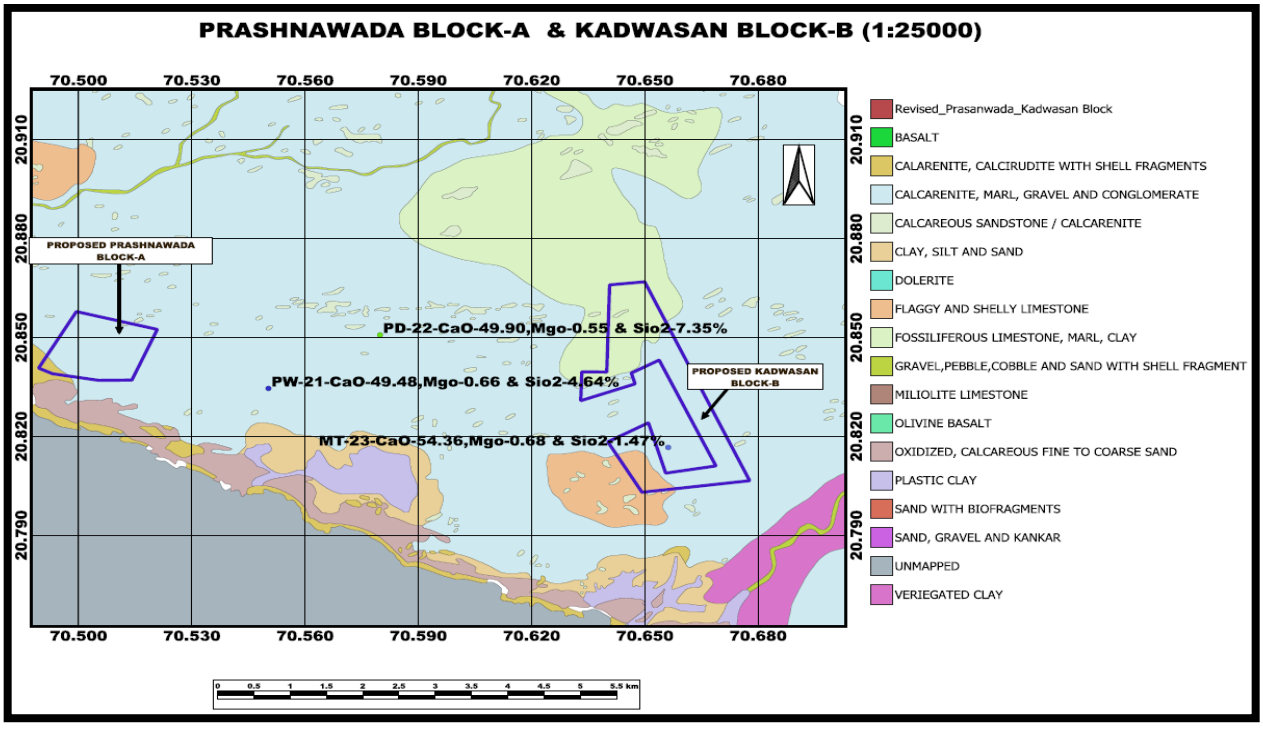


Figure-4:Location of Proposed Prashnawada Block-A & Kadwasan Block-B on Geological Map

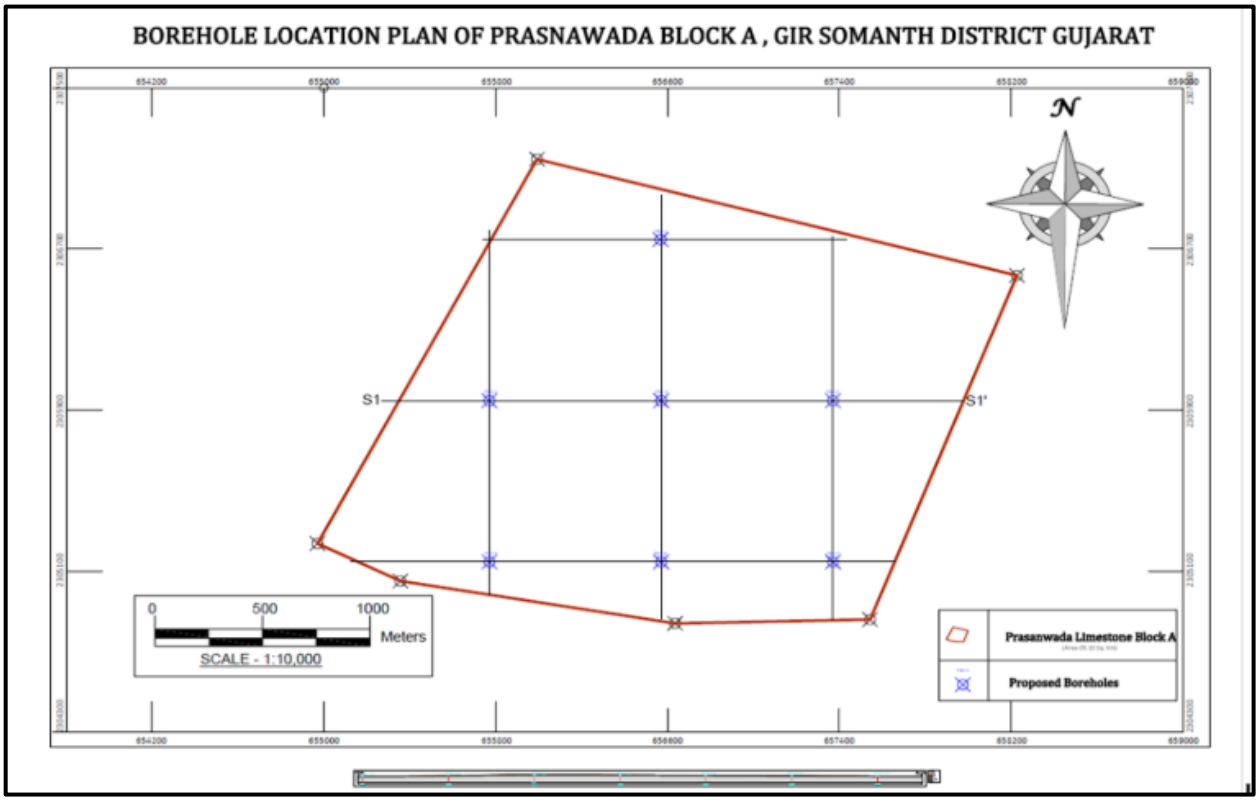


Fig: 5 : Proposed BH location Plan Prashnawada-Block-A (800m grid)

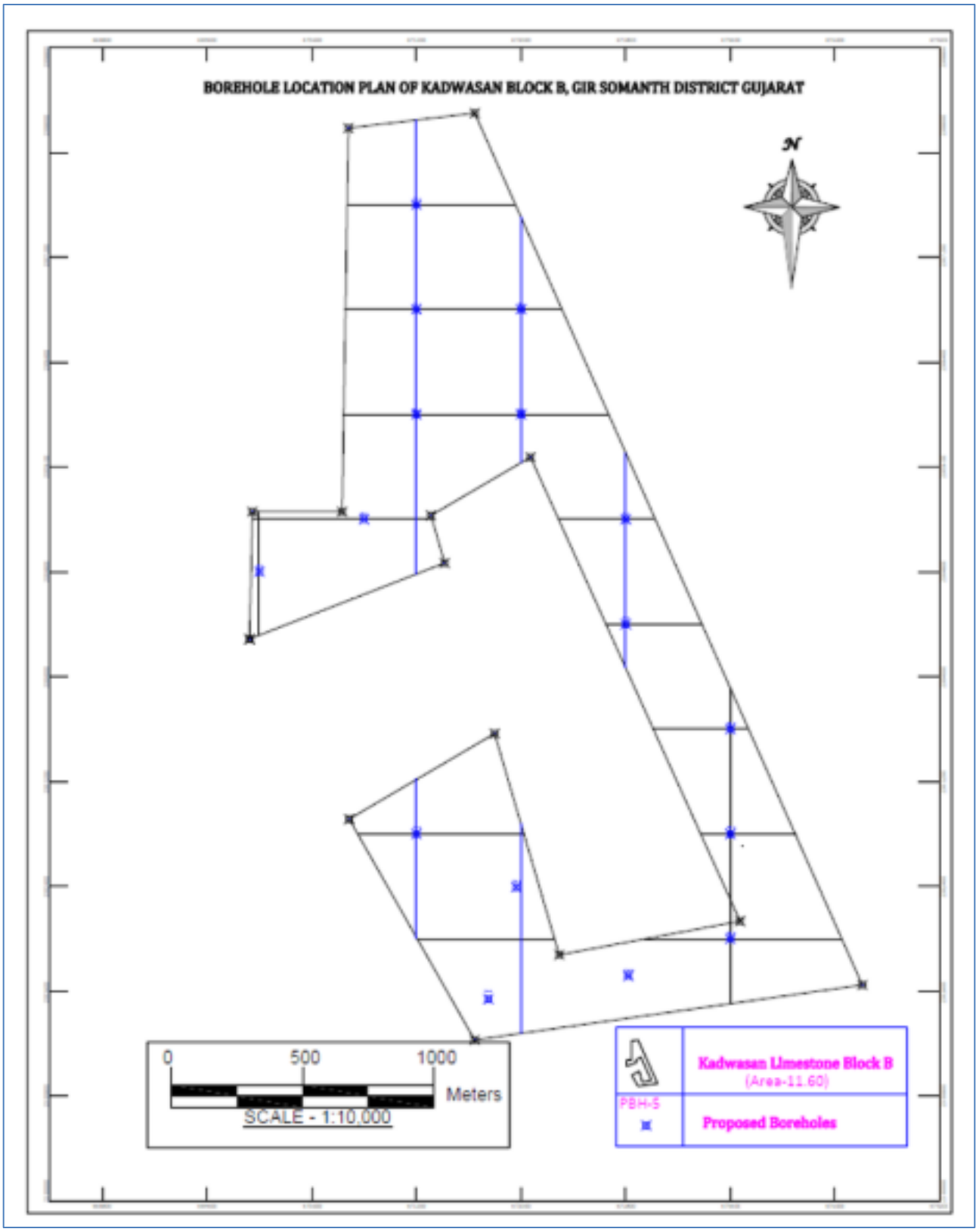


Fig: 6 : Proposed BH location Plan Kadwasan-Block-B (800m grid)

The detailed estimated cost of the project

Preliminary Exploration (G-3) for Limestone in Prashnawada, Block-A & Kadwasan, Block-B, District: Gir Somnath, State: Gujarat [Block area-16.70 sq. km; BH-23 Nos; Total Drilling-1010 m [Prashnawada:210 m (7 BH of 30 m depth each); Block B; 800m (16 BH , each of 50 m depth)], ; Schedule timeline- 8 months; Review- After 3 and 6 months]							
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)**						
i	Geological Mapping (Prashnawada 5.10 + Kadwasan 11.60)	Sq.km	1.1	18300	16.7	305610	
ii	Charges for one Geologist- Field	day	1.2.1a	14500	100	1450000	
iii	Charges for one Geologist - HQ	day	1.2.1a	10500	30	315000	
iv	2 labours / Party(As per rates of Central Labour Commissioner)	day	5.8	541	200	108200	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	day	1.2.1b	7850	120	942000	
vi	4 labours/ party (As per rates of Central Labour Commissioner)	day	5.8	541	480	259680	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 DGPS topographical contour survey, BH fixation and RL determination	day	1.3. 1	10500	20	210000	
viii	Boundary survey by DGPS	Nos	1.3.2	24000	21	504000	
ix	4 labours for surveyor	day	5.8	541	80	43280	
				Sub Total- A		**4137770**	
B	**DRILLING**						
i	Drilling upto 300m (Soft Rock) (2 rigs)(Prashnawada - 210+ Kadwasan -800)	m	2.2.1.1c	5500	1010	5555000	Block-A-7 BH(depth 30m) & Block-B 16 BH (50 m)
ii	Land / Crop Compensation	per BH	5.6	30000	23	690000	As per actuals with 30000 being ceiling
iii	Construction of concrete Pillar (12"x12"x30") (23 BH Pillar +22 Boundary Pillar)	per borehole	2.2.7	2000	44	88000	

iv	Miscellaneous charges - Transportation of Drill Rig, Accomodation of Drill Camp, Camo setting & winding,Construction of Approach Road	Lumpsum	2.2.9			1111000	20 % 0r 15 Lakh if drilling cost more than 50 lakhs & <1Cr
v	Bore Hole Fixation and determination of co- ordinates & Reduced Level of the boreholes by DGPS	Nos	1.3.2	24000	23	552000	61Boreholes
	Drill Core Preservation		5.3	1590	700	1113000	Block A: 1 complete BH + Mineralised core (150m) and Block B: 1 complete BH + Mineralised core (550m)
					Sub Total- B	**9109000**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
	Primary & Check samples for Limestone BRS/Pit/Chip/Channel/BH samples)						
	a. Primary samples for 6 radicals i.e. CaO, MgO,Al2O3, SiO2,Fe2O3 and LOI by XRF	Nos	4.1.11	3900	865	3373500	BH-815 BRS-50(Prashnawada-20 & Kadwasan -30)
	b.Check samples(10%) 6 radicals i.e. CaO, MgO,Al2O3, SiO2,Fe2O3 and LOI by XRF	Nos	4.1.11	3900	87	339300	
	d.ICP-AES/ICPMS (sequential technique) for 34 elements i.e. 16 other elements viz. Li, Ga, In, Be, Ge, Mo, Ni, Cr, Ta, W, Ba, Co, Rb, Sr, Zr, Nb ;16 REE viz. La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y; 02 Actinides viz. U, Th.	Nos	4.1.15	7400	10	74000	Per BH 2 samples
2	**Petrological samples (BH Core Samples)**						
i	Preparation of thin section	Nos	4.3.1	500	10	5000	
ii	Study of Thin Section including photomicrographs	Nos	4.3.4	2800	10	28000	
3	**Mineral Physics Studies**						
iv	XRD Analyses for identification of minerals(Random)		4.5.2	4000	5	20000	
v	Specific Gravity Determination	Nos	4.8.1	2500	5	12500	From BH
					Sub Total- C	**3852300**	
					Total A to C	**17099070**	

D	Geological Report Preparation - including charges of typing text,, table etc., degitization of maps/ sectinons etc.,		5.2	Cost per 5 copies of report along with soft copy	2	500000	Total cost of the project exceeding 150 lakhs Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. (2.5 lakhs *2). The cost for separate block should be about 8500000/-
E	Peer review Charges		As per EC		2	60000	2 GR to be prepared
F	Preparation of Exploration Proposal	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 5 Lakhs whichever is lower		341981.4	
G	Total Estimated Cost without GST					**18001051**	
H	Provision for GST (18% of G)					**3240189**	GST will be reimburse as per actual and as per notified prescribed rate
I	Total Estimated Cost with GST					**21241241**	
				or Say Rs. In Lakhs		**212.41**	
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 Soc Sl No. 6 of NMEDT. In case of execution of the project by NEA/NPEA 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						