2. PRE-FEASIBILITY REPORT

2.1 Executive Summary

Sri Siddangouda S Patil, has applied for a quarry lease for extraction of Building stone in Sy No. 45/7, Belur(J) Village, Kalaburagi taluk, Kalaburagi district, Karnataka over an extent of 3-13 Acres for production capacity of 52242 TPA (aggregate).

Department of Mines and Geology, Kalaburagi has notified the area in the name of Sri Siddangouda S Patil, to an extent of 3-13 acres in Sy No. 45/7 Belur(J) Village, Kalaburagi taluk, Kalaburagi district, Karnataka. The sketch showing the demarcated area to be granted under Quarrying Lease, is enclosed as Plate No.2.
Copy of Notification is herewith attached in the Quarrying Plan.

As per the statuary obligation this project needs Environmental Clearance from DEIAA Kalaburagi for Quarrying. Accordingly submitting 1) Form- IM, 2) Pre-Feasibility Report, 3) Quarry Plan approved by District Mines and Geology, 4) Land documents, 5) Notification, 6) Statutory Clearances, 7) Survey of India Toposheet duly marking the project site. To the District Level Environment Assessment Authority of Kalaburagi a constituted by Mo EFCC, GoI for issuing Environment Clearance as per EIA September 14, 2006 Notification.

2.2 Introduction of the project/ Background information

i) Identification of project and project proponent. In case of mining project, a copy of mining lease/ letter of intent should be given:

Identification of project:

Extent: 3-13 Acres
"Building Stone Quarry" Of
Sri Siddangouda S Patil , at Sy No: 15, Belur(J) Village, Chincholi taluk, Kalaburagi district, Karnataka

Project proponent

Sri Siddangouda S
Patil R/o Bank Colony Gunj,
Kalburgi

It is a Building Stone Quarry, and copy of Notification from Department of Mines & Geology is enclosed.

ii) Brief description of nature of the project:

It is a Building Stone Quarry. It is a project of 3-13 Acres with average production of capacity of – 52242 TPA.

iii) Need for the project and its importance to the country and or region:

Although, the project is small it plays important role in the development of the region and country as Building Stone.

iv) Demand- Supply Gap:

There is a good demand for Building Stone.

v) Imports vs. Indigenous production:

Not applicable.

vi) Export Possibility:

Not applicable.

vii) Domestic/ export Markets:

Domestic market –Kalaburagi, Bengaluru, etc.

viii) Employment Generation (Direct and Indirect) due to the project.

About 12 people will get direct employment and equal number will get indirect Employment.

2.3 Project Description

i) Type of project including interlinked and interdependent projects, if any:

It is only Quarry and there will not be any interlinked and interdependent projects.

ii) Location (map showing general location, specific location, and project boundary & project site layout) with coordinates:

Location of the project issued by the Department of Mines & Geology and Toposheet on 1:50,000 scale is enclosed. In the quarry plan.

iii) Details of alternate sites, considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should, be highlighted:

Building Stone quarry is site specific.

iv) Size or magnitude of operation:

It is only a small scale Building Stone quarrying with capacity of – 52242 TPA.

Year wise development for next five years:

The Building Stone deposit is a undulated terrain which is sloping gently north and is well exposed in the entire area. The deposit is wide enough for opening along the strike. An open cast Other than fully Mechanised method will be adopted to operate the area. Since, the annual production is 52242 TPA; the Open cast method will be followed during the plan period. The Tonnages of saleable stone and intercalated waste during the plan period is as given below:

Table 2-1 Details of production and waste

Production and Development Calculation of						
Belur Building Stone Quarry (3-13 Acres) of						
Sri. SiddangoudaS Patil						
Section	**Sectional area (Sq.m.)**	**Sectional Influence (m)**	**Volume (Cu.m.)**	**ROM @2.66t/cmt**	**Saleable Building stone (98%)**	**Inter calculated Waste(2%)**
I year						
L L'	**235**	**82**	**19270**	**51258**	**50233**	**1025**
Sub-Total	**235**	**82**	**19270**	**51258**	**50233**	**1025**
II year						
L L'	**240**	**82**	**19680**	**52349**	**51302**	**1047**
Sub-Total	**240**	**82**	**19680**	**52349**	**51302**	**1047**
III year						
L L'	**244**	**82**	**20008**	**53221**	**52157**	**1064**
Sub-Total	**244**	**82**	**20008**	**53221**	**52157**	**1064**
IV year						
L L'	**249**	**82**	**20418**	**54312**	**53226**	**1086**
Sub-Total	**249**	**82**	**20418**	**54312**	**53226**	**1086**
V year						
L L'	**254**	**82**	**20828**	**55402**	**54294**	**1108**
Sub-Total	**254**	**82**	**20828**	**55402**	**54294**	**1108**
TOTAL	**1222**	**82**	**100204**	**266543**	**261212**	**5331**

Proposed method of quarrying: Quarrying will be carried out by open cast semi mechanization method by using compressor operated jack-hammer drills, truck dumpers etc. As the rock is exposed the open cast quarrying will be sufficient.

v) Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given):

It is only a Building Stone quarrying no processing is involved, the details of quarrying is detailed in quarrying plan.

vi) Raw material required along with estimated quantity, likely source, marketing area of final product/s, Mode of transport of raw material and finished product:

No raw materials required. Broken Building Stone rock will be transported by tippers/trucks.

vii) Resource optimization /recycling and reuse envisaged in the project, if any, should be briefly outlined:

No recycling and reuse of material is envisaged.

viii) Availability of water its source, Energy /power requirement and source should be given:

Water will be availed from nearby bore wells. No energy /power requirement.

ix) Quantity of wastes to be generated (liquid and solid) and scheme for their Management /disposal :

No wastes to be generated (liquid and solid). The waste material is dumped in the waste dump yard as shown in Quarrying plan.

x) Schematic representations of the feasibility drawing which give information of EIA purpose: NA

2.4 Site Analysis

i) Connectivity:

The granted area is easily workable in all seasonal conditions. The area is 1.4 km SW Belur(J) Village. The land is Patta land consisting mainly of Building Stone. All facilities such as, post and telegraph office, Hospital, Police Station, Schools and Colleges are available at Kalaburagi .

ii) Land Form, Land use and Land ownership:

Land is a Patta Land. The entire area is nonagricultural barren land.

iii) Topography(along with map):

A view at a Topo sheet No. 56 C/16 following topo graphic features can be observed (Topo map enclosed).

- The applied area is waste land.
- The terrain is undulated and has a gentle slope towards Northern direction.
- No major roads pass through the applied area.
- No human settlements within or in the vicinity of the applied area. The nearest village is at a distance 1.4 Km.
- The general elevation of the area is between 525 and 527 m above MSL. The nallahs flow in the SW direction and act as channels during rainy season.

iv) Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ)), shortest distances from the periphery of the project to periphery of the forests, national park, wild life sanctuary, eco sensitive areas, water bodies(distance from, the HFL of the river), CRZ, In case of notified industrial area, a copy of the Gazette notification should be given:

Land use and break up is given as follows:

About 2-28 acres land will be used for quarrying in the plan period. The present land use pattern and proposed after 5 years are given bellow. Statutory buildings will be away from the lease area

Table 2-2 Land use details

Particulars	Existing	Total
Area for Mining	**0-24**	**2-28**
Roads	**0-02**	**0-02**
Mineral Stack yard	**--**	**0-00**
Infrastructure	**--**	**0-00**
Safety zone	**0-23**	**0-23**
Un-utilized area	**2-04**	**--**
	3-13	**3-13**

v) Existing Infrastructure:

Within the site - Nil.

vi) Climatic data from secondary sources:

The climate is tropical. The peak summer will be in the month of May. The highest temperature of 42°C was recorded in this area during summer and the lowest of 18°C was recorded in the Winter.

vii) Social Infrastructure available

Nil.

2.5 Planning Brief

i) Planning Concept (type of industries, facilities, transportation etc) Town and country Planning/ Development authority classification.

It's a quarrying project and its material will be used in Aggregate Manufacturing Industry's crushers for primary, secondary and tertiary crushing. The area characterized with prominent sheet rock exposures and it is planned to work this deposit by adopting semi-mechanized opencast quarrying method. Ultimate pit slope of 45^0 shall be maintained. During the plan period production and development details as furnished in quarry plan. At the end of the conceptual period afforestation will be done all along the approach road. Barbed wire fence will be established all around the lease area, safety bunds, fencing shall be constructed as per the directions and guide lines of DMG and DGMS.

ii) Population Projection

The man power required for quarry operations include quarry manager, engineer, skilled, semi-skilled, un – skilled laborers etc., As for the socio-economic is concerned from the quarry activity nearby villagers shall get direct and indirect employment. The proposed quarry activities shall bring positive change in the villages as the quarry proponent shall provide socio-economic activities in the region. Total of 12 persons will be employed.

iii) Land use planning (breakup along with green belt etc.)

Enclosed in the quarry plan

iv) Assessment of Infrastructure Demand (Physical & Social)

The existing road network will be sufficient to meet the proposed production capacity. Only approach road formulated to reach the quarry. However, required infrastructure

for transport within the quarry area will be further strengthened and improved. No new routes or alternations are required in this regard.

v) Amenities/ Facilities

Security guard house and a weigh bridge is proposed within 3-13acre. Lessee proposes to employ about 12 or more persons directly and around 24 or more number of persons indirectly. This employment has a positive impact on socio economic conditions of the nearby villages as most of the work force will be from the nearby areas. Local persons will be hired for meeting the requirement of quarrying operations like water sprinkling, trucks loading, plantation, establishment of garland drains, gully checks etc. drinking water, rest shelter and first aid will provided to workers at quarry site.

2.6 Proposed Infrastructure

i) Industrial Area(Processing Area)

Nil

ii) Residential Area (Non Processing Area)

Nil

iii) Green Belt

About 150 saplings will be planted every year, along approach road.

iv) Social Infrastructure Connectivity (Traffic and Transportation Road/Rail/Metro /Water ways etc):

The granted area is easily workable in all seasonal conditions. The area is at 1.4 km from Belur(J) Village

v) Drinking Water Management (Source & Supply of water):

Bore well water using a tanker.

vi) Sewerage System:

Sewage generation is minimal-Septic tank.

vii) Industrial Waste Management:

Not applicable.

viii) Solid Waste Management:

There is small quantity of soil cover in the quarry lease area the same will be used for afforestation purpose (Ref. Plate No. 6 of Quarry Plan). Intercalated waste is produced may be of defective material along the emplacements of pegmatite/epidote veins and deformed material along the fractures. It is estimated that 2% of entire will account for intercalated waste, which shall be used for maintenance of haulage/approach roads and used as foundation filling material for minor building constructions. No toxic of hazardous elements are reported in the waste & hence, no effect on the surface/ground water.

ix) Power Requirement & Supply /source:

There will not be any requirement of power supply to the project site. The quarry activities are envisaged to be carried out only during day time. All the equipment shall be operated with diesel as motive power.

2.7 Rehabilitation and Resettlement (R & R) Plan

Opencast quarrying operations will alter the topography of the area by way of excavation and formulating pit. As there is no dump proposal within the Quarry Lease area issues of water pollution, silting of agricultural lands, air pollution etc., will be very minimal even though proper preventive measures will be implemented to maintain the natural condition of surrounding environment. The primary objectives of reclamation are to restore the affected area to the original state as near as possible.

Various reclamation proposals planned during the plan period as well, rest of the quarry period such as broad working pit with safe angle of slope, establishment of effective drainage system, prevention of erosion and excessive run off and afforestation.

As the quarry area is concerned, so far none of the quarry area is matured or completely exhausted. Hence, the measures like drainage system and afforestation works etc., shall be taken up.

2.8 Project Schedule & Cost Estimates

i) Likely date of start of construction and likely date of completion (Time schedule for the project to be given):

Quarrying will start within a month after getting EC clearance.

ii) Estimated project cost along with analysis in terms of economic viability of the project:

Estimated project cost is 146 lakhs (including the cost of machinery and additional preliminary works and working capital etc). It is economically viable as it is quarrying of the Building Stone.

The return on the investment is by way of sale of mineral (Building Stone). All the Building Stone will be supplied to crushers. Required machineries will be procured or shall be hired on contract basis. The proposed annual production of building stone is 52242 TPA. The major components required to the project are:

- Cost of the project

1. Cost of the project

Water Requirement calculation		
Total No of Employees	12	Nos.
Domestic water requirement	0.3	KLD
Waste water generation	0.24	KLD
Length of approach road	0.78	km
Water requirement for dust suppression @3KLD	2.34	KLD
Total Saplings proposed	150	Nos.
Water requirement for plantation @ 6lpd/sapling (During non-rainy season)	0.9	KLD
Total water requirement	3.78	KLD

Cost of project for 5 years	Rs.
Production cost per year(160 per ton without DG set)	83,58,720
Water Requirement (@Rs.200/KLD)	9,45,000
Environmental Monitoring (@Rs.12,500/Half yearly)	1,25,000
Occupational Health and safety (@Rs. 1000/Head/Half yearly)	1,20,000
Afforestation (@Rs. 500/Sapling for 2 Years)	1,50,000
Maintenance of Saplings(@350/Sapling for next 3 years)	1,57,500
Royalty (@Rs. 78 per Ton/Year)	4074876
Fencing	389,300
Fire protection	50,000
CSR Activities for five years	250,000
Miscellaneous per year	50,000
Total	14,670,396

2.9 Analysis of proposal (Final Recommendation)

i) Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.

Quarrying activity improves the economic status of the village people working in the area. Overall improvement will be expected in local area.

The building stone quarry with proposed annual production of 52242 TPA. The financial estimates reveal good rate of returns. The project is economically viable. The estimates have also taken into consideration the occupational health expenses, environmental protective measures, social welfare activities, etc.