PRE-FEASIBILITY REPORT

1. EXECUTIVE SUMMARY

This is a brick clay mining project spreading over an area of 3.1669 hect. by M/s Surya Bricks Field. The project is by Mr. Bilal S/o Shri Mahtab R/o Village- Shekhupur, Mujahidpur, Tehsil-Behat, District-Saharanpur.

Shijra Map of Kiln and the mine site are attached as ***Annexure IV & V***. The essential information about the project is summarized below in Table 1:

Table 1: Basic Information

S. No.	Item	Details
1.	Name Of the Applicant	Sri. Bilal S/o Sri. Mahtab
2.	Mining Lease Area (As per Agreement Deed)	3.1669 ha
3.	Land Use	Agricultural Land
4.	Land Ownership	Private ownership
5.	Lease period	5 years
6.	Name of protected areas, Wildlife Sanctuary, Eco sensitive area	None, as notified under the Wildlife (Protection) Act, 1972.
7.	Site Coordinates	Kiln Latitude- 30° 9’11.10” N to 30°8’41.88” N Longitude- 77º45’21.35” E to 77º45’ 9.85” E
8.	Location	Village-Hamirpur & Janipur Tehsil- Behat, District Saharanpur.
9.	Topography	Flat Agriculture land
10.	Minerals Of Mine	Brick Clay
11.	Production of mine	Only Brick Clay will be extracted. Approximately 8428 TPA.
12.	Method of mining	Manual Opencast
13.	Drilling/Blasting	No drilling and blasting is proposed.

14.	Estimated cost	20 Lakhs
15.	Water demand	For drinking purposes . 1 KL For casting the brick & dust supression- 6 KL
16.	Sources of water and supply	Drinking water supply will be met by private tankers.
17.	Ultimate depth of Mining	2 m
18.	Man power	12 workers
19.	Solid Waste by labours	Local labours from nearby villages will be hired; no generation of solid waste is anticipated due to project activity.
20.	Nearest railway station	Saharanpur Railway station is 28.78 km in SW direction.
21.	Nearest roads/highways	**State highway- SH-57** approx. 15 km away from mining site towards NW direction. Village road: Village road from Barauli Jahanpur Road is approx. 2.50 km away from mining site towards W direction.
22.	Nearest Airport	Nearest Airport: Jolly Grant which is approx 42.67 km away from project site towards NE direction.
23.	Nearest City	Nearest City: Behat Town 13.73 km in W direction
24	Power supply	Maximized use of the solar lightning will be used in the form of street lights etc. as power supply.
25	Distance of any civil structure from the periphery of any excavation area	There is no civil structure from the periphery of any excavation area at a minimum distance of 500 m.
26	A berm shall be left from the boundary of adjoining field	A berm shall be left from the boundary of adjoining field having a width of 1 m proposed excavation.
27	On site emergency Mo. No.	On site emergency mobile numbers will be available at the Project site and mine site
28	Emergency Medical Facility	Nearest hospital- Metro Hospital 36.03 km SE direction

* *Approximate aerial distances*

2. INTRODUCTION

2.1 Identification of Project and Project Proponent

Name of the Project: Brick Clay mining project for M/s Surya Brick Field Location: Khasra No. –35m, 36m, 37m, 38m, 27/3, 28m, 788, 789, 790, 794 Village-Hamirpur & Janipur Tehsil- Behat, District – Saharanpur Mining Lease Area: 3.1669 ha.

Name and Address of Project Proponent: Mr. Bilal, Land agreement(s) documents & ID proof are being attached as ***Annexure IV & V.***

2.2 Brief description of the nature of the project

The project is to mine Brick Clay from plot(s) under agreement sustainably and scientifically. Mining is being opencast and manual along the plot(s) keeping the nearby plot(s) unaffected. Following geo-scientific methods are proposed to carry out the activity:

- Mining is being confined to extraction of Brick Clay in its existing allotted plot(s) only.
- Mining of Brick Clay from the allotted plot(s) is restricted to a maximum depth of 2 m from the surface in proper bench form as per MCR-1960.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- The borrowing/excavation activity shall be restricted to a maximum depth of 2 m below general ground level at the site.
- Appropriate fencing all around the borrowed/excavated pit shall be made to prevent any mishap.
- Measures shall be taken to prevent dust emission by covering of borrowed/excavated earth during transportation
- The borrowing/excavation activity shall not alter the natural drainage pattern of the area.
- The borrowed/excavated pit shall be restored by the project proponent for useful purpose(s).
- No drilling and blasting is proposed.
- Approximately 8428 TPA mineral will be extracted.
- No mining activity will be undertaken during the monsoon season.
- In order to avoid environmental pollution or any accidental hazards, the mining activity is being restricted to daytime only.
- The operation will remain manual, using tools like shovel, spade, sieve etc.
- During the agreement period, the deposit is being worked from the top surface to 0.20m

2.3 Need for the project and its importance to the country and region

The production of Brick Clay is to benefit to the state in the form of royalty. Apart from this project operation is being provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the local area.

2.4 Demands-Supply Gap

Brick Clay has become a very important mineral for the manufacturing of Bricks which contributes to the expansion of infrastructure in the society. With the increase of urbanization the demand for Bricks is growing in infrastructure sector in our country. Individual and private companies are increasingly demanding Brick for construction purposes and this has immense pressure on brick clay resources. This increasing demand and extraction makes this an environmental issue.

2.5 Domestic/ Export Markets

Due to the increased industrial and infrastructural growth of the rural and urban areas demand of Brick is very high. Construction companies and local vendors in the nearby town and cities are the potential market for the brick made up of brick clay.

2.6 Employment Generation

The project will generate direct /indirect employment to the people of all class of society. During the operational phase not more than 10 semi skilled and non skilled workers will be working at the project site.

3.0 PROJECT DESCRIPTION

3.1 Type of project including interlinked and interdependent projects, if any

This is an independent mining project. The proposed project is for the extraction of Brick Clay from the allotted plot(s) manually.

3.2 Location (map showing general location and project boundary and project site).

The project activity is being carried out in the allotted plot(s). Google map showing location of Brick Kiln and plot(s) to be excavated with Khasra No. is attached as ***Annexure III.***

3.3 Details of alternate sites considered

No, alternative sites considered.

3.4 Size or magnitude of operation

The mine has lease agreement over an area of 3.1669 Ha. Approximately 8428 TPA minor mineral will be extracted.

3.5 Reserve Estimation

Brick earth will be extracted. As per the area for clay excavation upto a maximum minable depth the total minor mineral estimate reserve comes out to be 30100 m3 for 5 years of lease period. Roughly 30,10,020 Bricks/ year can be cast at rate of 500-550 bricks/cum considering 225 working days/year.

3.6 Project description with process details

The project is to mine Brick Clay from plot(s) under agreement sustainably and scientifically. Mining will be opencast and manual along the plot(s) keeping the nearby plot(s) unaffected. Following geo-scientific methods are proposed to carry out the activity:

- Mining will be confined to extraction of Brick Clay in its existing allotted plot(s) only.
- Mining of Brick Clay from the allotted plot(s) will be restricted to a maximum depth of 2m from the surface in proper bench form as per MCR-1960.
- No drilling and blasting is proposed.
- No mining activity will be undertaken during the monsoon season.
- In order to avoid environmental pollution or any accidental hazards, the mining activity will be restricted to daytime only.
- The operation will remain manual, using tools like shovel, spade, sieve etc.
- During the agreement period, the deposit is being worked from the top surface to 0.20m.

3.7 Raw Material Required Along With Estimated Quantity, Likely Source, Marketing Area of Final Products, Mode of Transport of Raw Material and Finished Product

The operation involves the extraction of Brick Clay in its existing form. Raw bricks will be casted and transported to the kiln site by carts and tractor trolleys through village roads.

3.8 Availability of water its source, energy/power requirement and source

- There will be very little requirement of water to carry out operations as it will be done manual. The water is required either for drinking purpose, for casting of bricks and for dust suppression.
- It is estimated that approx. 1KLD water will be required for domestic purpose for workers and 1 KLD will be required for dust suppression

- Water requirement is being met through private water tanker.
- All the activities will be carried out manually. The operation will be done in day time; hence there is no power requirement for the project at site.

3.9 Quality of wastes to be generated (liquid and solid) and scheme for their management/ disposal

The entire mineral extracted is saleable. The laborers from nearby villages will be hired to carry out work in day time only, hence there will be no or very less waste is expected to generated. No liquid effluents will be generated at site.

4. SITE ANALYSIS

4.1 Connectivity

The Site is well connected with the National Highway within 7.7 Km and State highway within 15 km in-turn connected with Major district roads and other metallic roads which have already been mentioned above in the basic information.
**Aerial distances in approximation*

4.2 Land form, Land use and Land Ownership

Land Form: The mine agreement area is agricultural private land.

Land Use: Agricultural

Land Ownership: Private Land

The activity is to take place in the Plot(s) as per agreement and hence there will be no change in land use.

4.3 Topography

Saharanpur forms the most northerly position of the land known as the Doab which stretches between the holy rivers of the Ganges and the Yamuna. The Shivalik hills rise above it on the northern frontier.

The north and the north east of the district are surrounded by the Shivalik hills which separate it from the Dehradun district of Uttarakhand. The river Yamuna forms its boundary in the west, separating it from the Karnal and Yamunanagar districts of Haryana. In the east lies the district of Haridwar, and in the south lies the district of Muzafarnagar. Lenses and beds of Kankar are seen exposed and forms mounds or pinnacles. Flood plain of river Yamuna with remnants of old meander scars, oxbow lakes and relict drainages is developed along the river in western part of the district. The main characteristics of the district can be divided into four parts.

1. The Shivalik Hill Tract
2. The Bhabar Land
3. Bangar Land
4. Khadar Land (Yamuna, Hindon)

The project site is almost a flat land having a gentle slope with maximum contour level 235 m and minimum contour level 230m.

The district is in a rectangular shape and it lies between 29 degrees 34 minutes 45 seconds and 30 degrees 21 minutes 30 seconds north latitude and 77 degrees 9 minutes and 78 degrees 14 minutes 45 seconds east longitude. Its total area is 3860 square Kilometers. Saharanpur is primarily an agricultural district Saharanpur has a tropical climate because of the proximity of the Himalayan region across this Northern district. It is sub - humid region especially the upper Ganga plain areas. Saharanpur records an average temperature around 23.3 degree during the course of the year.

Limestone stone boulders are the only main minerals. Limestone is found in the Shivalik hills. Excellent lime is also procured from the boulders covering the beds of the hilly torrents. The saline efflorescence which is known by the name of Rah is found in the low lying tracts and in the canal irrigated areas.

4.4 Existing land use pattern

There is no forest land in the mine lease area. The existing land use pattern of the area is agricultural.

4.5 Soil Classification

In the Uttar Pradesh Western, District Saharanpur has its most soil deep brown and loamy. The soil is shallow, gravely and full of stones – being generally acidic. In the western plains the soil is deeper and fertile. Deep brown and loamy a good agriculture soil. Saharanpur is primarily an agricultural District. Roughly 70% of the land is under agricultural use.

The soil ranges from pure sand to stiff clays and including all combination of the two extreme litho units. The pure sand is called Bhur and clay is called Matiar. The mixture of sand and clay in equal proportion forms Dumat or loam, a good agriculture soil. Several subcategories of Dumat are possible depending upon the contents of clay and sand. The bad land patches (Kallor) which are ingested with Reh at places do not support any vegetation growth. Alluvial soils occurring in flood plain of rivers is called Kemp which yield good crops. Kankars invariably associated with clay and at times retards ground water movement. (Ref. District survey report, Saharanpur)

Top soil management

Top 0.20 m fertile soil will be stored and further used for reclamation of excavated area.

4.6 Climatic Condition

The climate of the district is sub-humid and characterized by hot summer and bracing cold season. The temperature may rise in May to June.

Temperature Range: Summer- 23°C - 41°C

Winter- 16°C - 32°C

Relative Humidity- 32-85 %

Soil- Sandy Loam

The Rainy season, also hot and humid, starts form June and May last up to September. Most of the rainfall occurs in July & August.

Average Rainfall: 562mm

Winter starts for November and is very pleasant. It lasts up to February.

4.7 Social Infrastructure

Infrastructural facilities	**Distance (Km)**	**Direction**
Saharanpur Railway Station	28.78	SW
National Highway- NH-72A	7.7	SE
State Highway – SH-57	15	NW
Barauli Janpur Road	2.50	W
Electric transmission line pole or tower		
Canal (Yamuna Canal) check dam reservoirs lake or ponds	> 5 km > 5 km > 5 km > 5 km	
In-take for drinking water pump house	> 5 km	
In-take for irrigation canal pumps	> 5 km	

5. PLANNING BRIEF

5.1 Planning concept

The project is to mine brick clay from plot(s) sustainably and scientifically. The minor mineral (clay) will be excavated from the plot(s) as per mining rules and casting of raw bricks will be done which will be transported to the kiln through horse cart, trolleys etc. through village roads. Mining will be opencast Manual keeping nearby plot(s) unaffected. Maximum depth of mining will be only up to 2 m as per agreement.

5.2 Population Projection

There is no permanent influx of the population anticipated, as the workers will be hired locally from nearby villages.

5.3 Assessment of Infrastructure Demand

Extracted mineral will be casted into raw bricks and will be transported directly to owned kiln, there will be no stock yard required for storage, also the workers will be hired locally and temporarily, no housing facility will be required.

5.4 Amenities/Facilities

Temporary rest shelters, drinking water and first aid facility are available to the mine workers.

6. PROPOSED INFRASTRUCTURE

6.1 Industrial area (Processing Area)

Project does not fall in industrial area

6.2 Residential area (Non Processing Area)

The mine workers are hired from nearby villages, no housing facility is required but temporary lunch room, rest shelter and separate toilet facility for male and female will be provided at mine site.

6.2 Plantation

To mitigate the impact of pollution and develop the environment, the CPCB recommended plant & plantation will be done the list of plants are given below. Some trees are for Tolerant to SO_2, Dust control, to stop top soil erosion, fast growing, broad leaf, and Dust particles absorbance

6.3 Connectivity

There is direct connectivity from site to kiln through Village roads up to the mine site. The area is well connected to village road at a distance of 2.50 km which is further connected to district roads further connected to the main roads.

6.4 Social Infrastructure

Temporary rest shelters, toilet facility of male and female, drinking water and first aid facility are available to the mine workers with all the required medicines and vaccines.

6.5 Drinking Water Management

In order to meet the drinking water requirement for site workers water from existing bore wells is being used.

6.6 Sewerage System

No sewerage system is proposed at the mine site.

6.7 Industrial Waste Management

Not applicable.

6.8 Solid Waste Management

No solid waste generation is expected from the mining operation.

6.9 Power Requirement & Supply/ Source

All the activities are being carried out manually. The operation is being restricted to day time only; hence there is no power requirement for the project at site.

7. REHABILITATION AND RESTTLEMENT (R&R) PLAN

Not Applicable.

8. COST ESTIMATES

The total cost of project would be approx Rs 20 Lakhs.

9.0 ENVIRONMENT MANAGEMENT PLAN

To mitigate the adverse impacts which are likely to be caused due to the mining operation and overall scientific development of local habitat, environmental management plan (EMP) has been formulated and integrated with the mine planning.

Proper environmental management plan is proposed for “Soil” mining project to mitigate the impact during the mining operations.

a. No labour camps will be established on Mining site.
b. Top 0.20 m soil will be stored and used for land reclamation
c. No cooking, or burning of woods will be allowed at the mine site.
d. Prior to commencement of mining, a short awareness program will be conducted for labours to make them aware of way of working and various precautions to be taken while at work. Such program will be repeated occasionally.
e. No tree cutting, chopping, lumbering, uprooting of shrubs and herbs will be allowed.
f. Collection of air and water samples at strategic locations with frequency suggested and by analyzing thereof. If the parameters exceed the permissible tolerance limits, corrective regulation measure will be taken.

g. Collection of soil samples at strategic locations once in every year and analysis thereof with regard to deleterious constituents, if any.
h. Measurement of water level fluctuations in the nearby ponds, dug wells and bore wells
i. Plantation/afforestation will be done as per program i.e. along mining lease, road sides and near civic amenities, which will be allotted by Government bodies. Post plantation, the area will be regularly monitored in every two years for evaluation of success rate. For selection of plant species local people should also be involved.
j. Mine management will be in regular touch with local surrounding villages to update the various developmental schemes made by them. They will also consider any immediate requirement, which could be taken care of in near future.
k. Regular Water sprinkling on haul road to control the dust emission

10. Corporate Social Responsibility

As per the ***Indian Company Act 2013, Section 135; Clause – VII***, the project proponent does not fall under the provision of CSR Activity.

11. RISK & HAZARDS MANAGEMENT

As it is soil mining project, so there are no major risk and hazard activities associated with the proposed activities. But the project proponent will must take care the site location by:

- Proper fencing all around the mining site so that it can prevent any mishap or accident in future.
- The materials being transported after excavation will be properly covered with tarpaulin sheet.
- Periodic water sprinkling will be done to arrest the dust.

12. ANALYSIS OF PROPOSAL (FINAL RECOMMENDATION)

The socio-economic conditions of the surrounding villages indicate that employment generation is seasonal. The occupational activities are agriculture, cattle rearing and employment in mines but on daily wages. The mining activity will provide employment to local people which will increase socio- economic status of the area. There is a possibility of creation of direct and indirect employment opportunities due to working of this mine.

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