

PRE-FEASIBILITY REPORT

1.0 EXECUTIVE SUMMARY

The proposed mining project is for mining of Ordinary Earth near **Mauza- Aduari, Block- Purnahiya, District- Sheohar, Bihar (Lease Area: 0.80 Ha.)**. The proposed project is < 5 hect. Minor mineral and non-coal mining project thus it is classified as “CATEGORY – B2” project under activity 1(a) of the schedule of EIA notification dated 14th September 2006 as amended till date by Ministry of Environment, Forests and Climate Change, New Delhi.

Details of the proposed project are as: -

S. No.	Information	Details
1.	Project name	Proposed Brick clay mining project at Thana No.- 89 Khata No- 271 & 1024 Khesra No.- 4279 & 4494 at M/s Ahluwalia contracts India Limited Prop- Sri Ashutosh Jha Flat No.- 301, Ram Niketan Apartment, Sahdeo Path, West Patel Nagar, LBS Nagar, Patna, Bihar- 800023
	Mining Lease Area	0.80 Ha.
3.	Location of mine	
	Khesra & Thana number	Mauza- Aduari, Block- Purnahiya, District - Sheohar, Bihar. Thana No.- 89 Khata No- 271 & 1024 Khesra No- 4279 & 4494
	Village/Mauza	Mauza- Aduari
	Tehsil	Block- Purnahiya
	District:	Sheohar
	State:	Bihar
4.	Minerals of mine	Ordinary Earth
5.	Mining Period	1 Years
6.	Proposed Production	13320 cum/year for (mining Lease:- 0.80 Ha.)
7.	Method of mining	Open Cast semi-mechanized method (as per Bihar Minerals Concession Prevention of Illegal Mining, Transportation & Storage Rules-2019).
9.	Drilling or Blasting	No
10.	No of working days	150 days
11.	Water demand	Domestic Water: 0.5 KLD Dust Suppression: 3.0 KLD Green Belt Development: 0.5 KLD Total Water Requirement: 4.0 KLD
12.	Man Power	10
13.	Nearest railway station	Near Barhaura Railway Halt, approx. 15.5 km towards NW.
14.	Nearest state highway/ national highway	SH/NH-54, Motihari Approx. 12.5 km towards NE.
15.	Nearest air port	Patahi Airport, Muzaffarpur , approx. 57 km towards North

2. INTRODUCTION

2.1 Identification of Project and Project Proponent

Proposed Brick Clay Mining Project of **M/s. Ahluwalia Contracts India Limited at Mauza-**

Adauri, Block- Purnahiya, District- Sheohar, Bihar for extraction of Soil for bricks making purpose. Mining Plan of the same project has been approved under rule (17) of Bihar Minerals (Concession, Prevention of Illegal Transportation & Storage) Rules, 2019 amended till date. The details of the project proponent are given below:

Name of the Lessees	M/s Ahluwalia Contracts India Limited Prop- Sri Ashutosh Jha
Name & Address of POA Holder	Flat No.- 301, Ram Niketan Apartment, Sahdeo Path, West Patel Nagar, LBS Nagar, Patna, Bihar- 800023
Name of Mine	Proposed Ordinary Earth Minig Project is situated at Mauza- Adauri, Block- Purnahiya, District- Sheohar, Bihar
Mineral	Ordinary Earth Mining
Area (ha.)	0.80 Ha.
Status of Mine	Fresh application for Environmental Clearance.

2.2 Brief description of the nature of the project

The project has been proposed for mining of Soil for Brick making by adopting opencast semi- mechanized mining method.

As per MoEFCC Office Memorandum No. L-11011/47/2011-IA. II (M) dated 24th June 2013 following conditions shall be followed during the mining activity:

- i. The activity associated with burrowing/excavation of brick earth and ordinary earth for purpose of brick manufacturing, construction of road, embankments etc. shall not involve blasting.
- ii. The burrowing/excavation activity shall be restricted to a maximum depth of 2.0 m below general ground level at the site.
- iii. The burrowing/excavation activity shall be restricted to 2 m above the ground water table at the site.
- iv. The borrowing/excavation activity shall not alter the natural drainage pattern of the area.
- v. The borrowed/excavated pit shall be restored by the project proponent for useful purpose(s).
- vi. Appropriate fencing all around the borrowed/excavated pit shall be made to prevent any mishap.
- vii. Measures shall be taken to prevent dust emission by covering of borrowed/excavated earth during transportation.
- viii. Safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to borrowing/excavation of earth.
- ix. Workers / laborers shall be provided with facilities for drinking water and sanitation.
- x. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- xi. A minimum distance of 15 m from any civil structure shall be kept from the periphery of any excavation area.

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

India is the second largest producer of clay fired bricks, accounting for more than 10 percent of global production. India is estimated to have more than 100,000 brick kilns,

producing about 150-200 billion bricks annually, employing about 10 million workers and consuming about 25 million tons of coal annually. India's brick sector is characterized by traditional firing technologies; environmental pollution; reliance on manual labour and low mechanization rate; dominance of small-scale brick kilns with limited financial, technical and managerial capacity; dominance of single raw material (clay) and product (solid clay brick);

The growth in India's economy and population, coupled with urbanization, has resulted in an increasing demand for residential, commercial, industrial, and public buildings as well as other physical infrastructure. Building construction in India is estimated to grow at a rate of 6.6% per year between 2005 and 2030.

Brick making in India is characterized by the following features:

- Brick making is a small-scale, traditional industry. Almost all brick kilns are located in the rural and peri-urban areas.
- The brick production process is based on manual labor, and brick kilns are estimated to employ around 10 million workers. Brick production is a seasonal vocation, as the brick kilns do not operate during the rainy season. Most of the workers migrate with their families from backward and poor regions of the country. Families, including young children, work in harsh, low paying conditions. There is typically a lack of basic facilities, such as access to clean drinking water and sanitation.

2.4 Demands-Supply Gap

The demand for soil is ever growing with the growth of the infrastructure sector in our country. The mineral is used in making of bricks. The requirement for the mineral is always high in the cities and towns. Therefore, there is always a good demand of the mineral in the domestic market.

2.5 Domestic/ Export Markets

The demand in the domestic market is high especially in the nearby towns and cities and hence the need for brick making.

2.6 Export Possibility

There is no proposal to export the mineral as the minerals excavated, cater to the indigenous demand and the development is a never ending process.

2.7 Domestic/ Export Markets

a) DOMESTIC MARKET

There is always an ever-increasing demand of these minerals in the domestic market.

b) EXPORT MARKET

The proposed mining activity is for indigenous consumption only for real state, road making etc. So no export will be envisaged.

2.8 Employment Generation

The total direct manpower requirement for the proposed mining operation will be around **10 persons** & significant indirect employments is also expected due to the associated activities. This project operation will provide livelihood to the poorest section of the society.

3.0 PROJECT DESCRIPTION

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

The project falls under Category “B2” Project or activity 1(a) As per EIA Notification 14th September, 2006 amended till date. It is for Mining of brick industry. It is an opencast semi mechanized mining.

3.2 Location

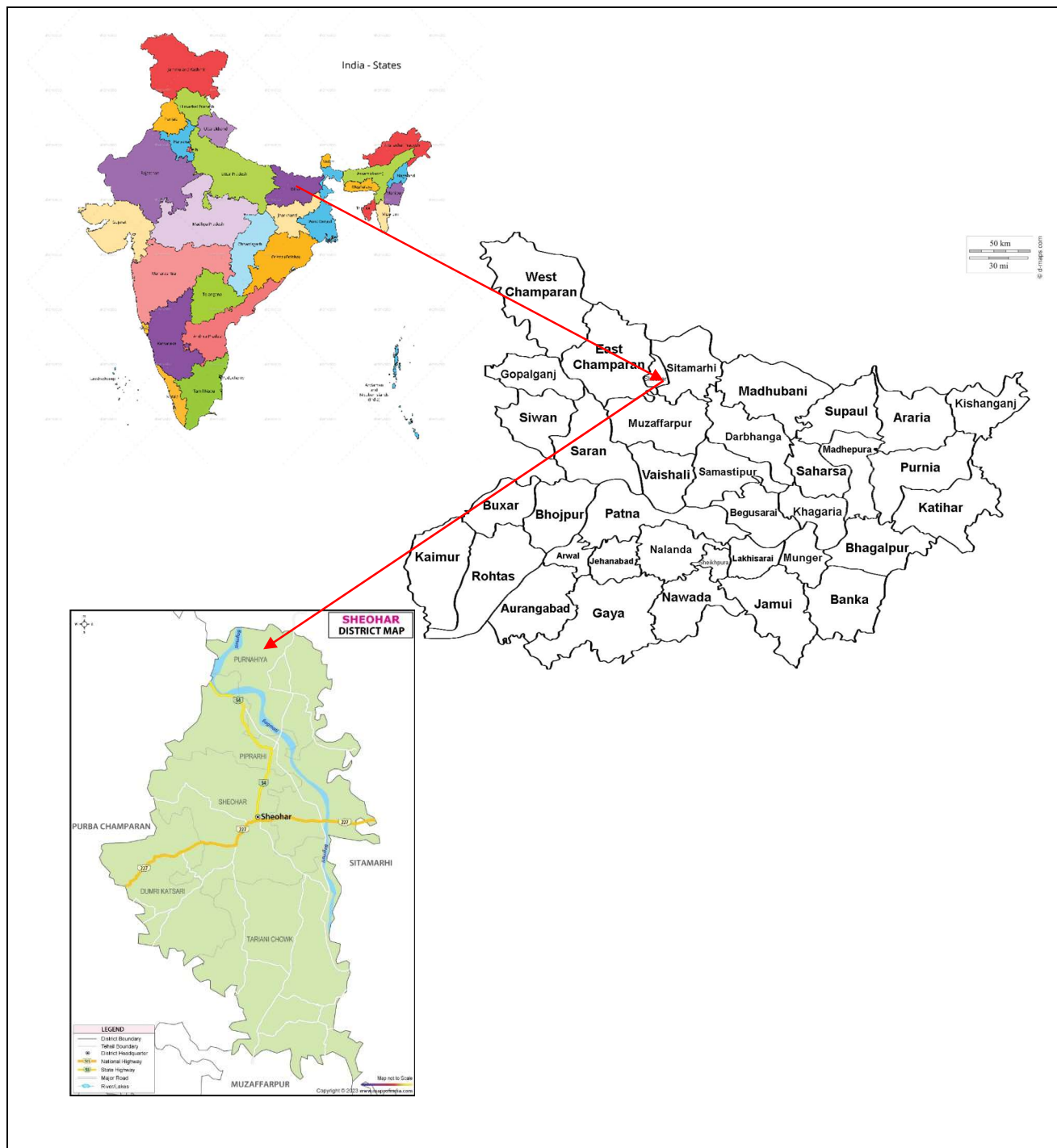
The mining lease area is located at **Mauza- Adauri, Block - Purnahiya, District:- Sheohar, Bihar.**

The mine site is located at:

Table-1: - Pillar co-ordinates of the proposed mining site.

Location of proposed Ordinary Erath Mining site	Khata No.	Plot No. / Khasra No.	Area in Ha.	Point	Latitude	Longitude
Mauza - Adauri	271 & 1024	4279 & 4494	0.80	A	26°37'44.55"N	85°17'3.18"E
				B	26°37'47.93"N	85°17'3.78"E
				C	26°37'47.42"N	85°17'5.04"E
				D	26°37'47.87"N	85°17'5.31"E
				E	26°37'47.09"N	85°17'7.16"E
				F	26°37'46.32"N	85°17'6.83"E
				G	26°37'46.33"N	85°17'6.27"E
				H	26°37'44.07"N	85°17'5.31"E
Total			0.80			

LOCATION MAP



3.3 Details of alternate sites considered

No alternative site has been considered, as the mining is site specific.

3.4 Size or magnitude of the operation

The proposed mine has lease over an area of **0.80 Ha**. The total extractable material would be approx. **13320 cum/year**.

3.5 Project description with process details

3.5.1 Method for developing and working the deposits

The soil material will be collected in its existing form.

3.5.2 Method of mining

Brick clay in the area is overlain by thin cover of top soil which is helpful for agriculture. Therefore, the top soil is proposed to be scrapped to expose the mineral. It shall be stacked separately & used for restoration after extraction. Proposed method of mining will be open cast with bench formation, is proposed to be extracted by semi mechanized with use of JCBs. Maximum mining depth will be 2.0 m. The width and height of final benches shall be 3 m x 1m. The mining process will include mining of the brick soil/earth and transportation of the material to the end user. Berm around the lease area will be left as a barrier zone which will be half of the working depth. Drilling and Blasting is not required.

The agriculture fields are slightly undulated having mounds of soil at places. The maximum depth of excavation is proposed to be 1.85 m due to these small mounds/dunes present over the field having high deposition of soil, making the fields unsuitable for cultivation. The mining will result in leveling of the fields making them arable.

3.5.3 Working Depth (below ground level)

The deposits occur in the middle/bottom of the land area. During the lease period, the mining will be restricted down to 2.0 m below surface level.

3.6 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 material will be required in the proposed project. The operation involves the extraction of soil in its existing form and loaded into trucks/trolleys which will transport the material to the end use place. The existing roads will be utilized for the transport of soil from mine site to end use place.

3.6.1 Use of Mineral

The proposed excavated soil will be used for brick making purpose.

3.6.2 Mineral Beneficiation

No mineral beneficiation is involved.

3.6.3 Surface Transport

Mineral production requires transport of Brick earth/soil to the respective user. Depending on the rate of production, 10 tons of tractors will be used for the transportation of the mineral.

3.7 Resource optimization/ recycling and reuse

Not envisaged.

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

3.8.1 Water Requirement

Total water requirement will be 4.0 KLD. This water will be supplied through private water tankers.

Table 2: -Water requirement of the project

Activity	Water requirement (KLD)
Dust suppression	3.0
Domestic	0.5
Green Belt Development	0.5
Total	4.0

3.8.2 Power Requirement

All the activities will be carried out semi mechanically. The operation will be done only from sunrise to sunset hence there is no power requirement for the project at site.

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

3.9.1 Solid Waste Generation & its Disposal

There are no mineral rejects of any kind produced during mining. Only small amount of municipal solid waste will be generated which will be managed by laborer's by itself. Separate dustbin will be made available at the site for collection of waste.

3.9.2 Liquid Effluent

No liquid effluents will be generated at the mine site.

4. SITE ANALYSIS

4.1 Connectivity

Mine site is well connected to SH-54 at **Approx. 12.5 km towards NE**. Other forms of connectivity are as: -

Table 3: Connectivity

Nearest railway station	Near Barhaura Railway Halt, approx. 15.5 km towards NW
Nearest state highway/ national highway	SH/NH-54, Motihari Approx. 12.5 km towards NE.
Nearest air port	Patahi Airport, Muzaffarpur , approx. 57 km towards North

4.2 Land form, land use and land ownership

The topography of the lease area and the surrounding area is plain. The highest and lowest elevation of the lease area is 60 m & 63 m respectively. The area proposed is on agricultural land. Surrounding area comprises of agricultural fields. There are no eco-sensitive areas or forests present in and around the lease area.

4.3 Topography

Sheohar district, located in the northern part Trihut division of Bihar State was carved out the old Sitamarhi in the year 1994 It is surrounded in the north and east by the district of Sitamarhi, in south by the district of Muzaffarpur and in west by the district of East Champaran. It is the smallest district in the states of Bihar both in terms of size of population and total area of the district. The district has only one subdivision viz. Sheohar and five C.D. Blocks viz., Sheohar, Piprarhi, Purnahiya, Dumri Katsari and Tariyani. Sheohar is the only town in the district. There are altogether 53 panchayats 203 villages in the district. ARE &MA 864850 23 20 The district of Sheohar lies between N 26° 20' 50" and 26° 39' 45" and E covering an area of 443 Sq. Kms It has an average elevation of 53 metres. The area falls in Survey of India degree sheets 72F and toposheet nos. 72F/2, 3, 6 and 7.

4.4 Geomorphology

GEOMORPHOLOGY The area has flat monotonous topography having regional slope (varying from 0.2 m/km to 0.08 m/km) towards South-East. The landform relief varies from 43.2 m amsl, near Bausi in north, to 35.1 m, near Hardi in south. Regionally, the area is flat with series of undulations present in the area. These minor undulations present in the area are outcomes of shifting of river Bagmati towards west along with the natural processes of degradation and aggradation. Some relief features such as paleo-channels, natural levees, backswamps /flood plains of varying shape and sizes can be found in the area. The area of Sheohar falls under the catchment area of Bagmati river which is known for its flood every year in her catchments. Other streams passing through the district are Kola Nadi, Balsundar Nala and Purani Dhar which are mainly avulsed channels of the river Bagmati. The drainage pattern is sub-parallel in the district. The area of Sheohar is underlain by thick sequence of unconsolidated sediments deposited during Quaternary period. These unconsolidated sediments mostly comprised of sands of various grades with occasional pebble beds. In the exploratory drilling done by CGWB, in the Sitamarhi district where the same morpho stratigraphic unit is extending (as described above), many clay and sand sequences have been observed which may be due to multi-cyclic nature of deposition.

4.5 Soil classification

Main soil type in the area is Udifluent. Soil in the district has been grouped as soil of: a.) Active alluvial plain- soils in this group are very deep, coarse to fine loamy, calcareous at places and with slight to moderate erosion. Taxonomically, this type of soil comes under Udifluent soil and they occupy the central part of the district. b.) Recent flood plain- soils in this group are very deep, fine loamy, calcareous, with slight erosion.

4.6 Climate and Rainfall.

The climate of the district is characterized by hot summer and a pleasant winter. April to June comprises summer month while November to March makes cold season. The southwest monsoon breaks in the month of June and continues upto the end of September. The average annual rainfall in the district is 1168 mm. The district receives major amount (86%) of precipitation during the monsoon period

PLANNING BRIEF

5.0 Planning concept

The proposed project is for the mining of brick clay. Mining is proposed to be done through opencast semi- mechanized method. Bihar Minor Mineral Rules amended till date & MCDR will be followed in the mining. Mining will be done in benches and will not intersect the ground water table.

4.5 Population projection

The project will employ most of the workers from nearby villages. There will not be any increase in population due to the project.

4.6 Land use planning

A barrier zone of half of depth of mining at the periphery of the lease area will be left on which the top

soil scrapped will be stacked temporarily. Temporary office will be made near the mine site.

4.7 Amenities/facilities

Temporary rest shelters, portable toilets and First aid provision will be made available to the mine workers at the site.

5.0 PROPOSED INFRASTRUCTURE

5.1 Industrial area (Processing Area)

No industrial area is proposed.

6.2 Residential area (Non-Processing Area)

The mine workers will be hired from nearby villages, so residential areas will not be made.

6.3 Green belt

Plantation will be raised along both sides of roads and civic amenities in consultation with the local authorities. Total **50** trees of will be planted with various types of species.

6.4 Social infrastructure

- Road facility (existing roads will be maintained regularly)
- Employment opportunity
- Medical camps
- Social awareness camps,
- Donations to schools
- Secondary employment opportunities
- Formation of self-help groups for the women in nearby villages.

6.5 Connectivity

Mine site is well connected to **SH-54, Approx. 12.5 km towards East.**

6.6 Drinking Water Management

Water for drinking purpose will be sourced from private tankers.

6.7 Sewerage System

No Sewerage System is provided at the mine site.

6.8 Industrial Waste Management

Not applicable

6.9 Solid Waste management

No any solid waste other than municipal solid waste is expected to be generated at the mining site.

6.10 Power Requirement & Supply/ Source

All the activities will be carried out semi mechanically. The operation will be done only from sunrise to sun set hence there is no power requirement for the project at site.

6.11 Environmental Management Plan

PFR for Proposed Ordinary Earth project of M/s. Ahluwalia Contracts India Limited at Mauza-Adauri, Block- Purnahiya, District - Sheohar, Bihar (Lease Area: 0.80 Ha.)

The environmental management plan consists of the set of mitigation, management, monitoring and institutional measures to be taken during the implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels. The present environmental management plan addresses the components of environment, which are likely to be affected by the different operations in the mine area.

Table-4: Budget Allotted for the Environmental Management Plan: -

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)
1	Pollution Control & Dust Suppression	Nil	1.5*
2	Pollution Monitoring i) Air pollution ii) Water pollution iv) Noise Pollution	--	1.0
3	Plantation and salary for one gardener (part-time basis).	1.0	1.0
4	Haul road Maintenance Cost	1.0*	1.5
TOTAL		2.0	4.0
		6.0 Lakhs*	

6. REHABILITATION AND RESETTLEMENT (R&R) PLAN

Not Applicable

7. PROJECT SCHEDULE & COST ESTIMATES.

Estimated project cost is Rs. 8.0 Lakh including machinery and other miscellaneous expenses. The lessee will arrange all the equipment used for the scientific mining.

Corporate Environment Responsibility Cost: -

CER cost will be 2.0% of the total project cost. This amount will be used for social welfare.

8. RISK & HAZARDS MANAGEMENT

As it is Brick clay 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.

9. ANALYSIS OF PROPOSAL

The proposed mine will bring economic benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. Soil will be used in making of bricks. The material is in high demand at the local market. The project will bring about socio-economic improvement of the area and will prove beneficial to the area.
