

# **PRE-FEASIBILITY REPORT**

*(Prepared As per MOEF & Climate Change OM No. J-11013/41/2006-IA. II (I)*

*dated: 30/12/2010.)*

**“MINOR MINERAL”**

**AT**

**KAILASH RIVER BED**

**(SAND BAJRI & BOULDER DEPOSIT)**

**VILLAGE- SADHUNAGAR, TEHSIL- SITARGANJ,**

**DISTRICT- UDHAMSINGH NAGAR,**

**STATE- UTTARAKHAD**

**(AREA- 3.024 Ha)**

***Submitted by***

**MR. PUNEET KUMAR GOYAL**

**S/O-MR. GOVIND KUMAR**

**R/O- WARD-3, SITARGANJ**

**DISTT- UDHAMSINGH NAGAR**

**(UTTARAKHAND)**

***Prepared by***

***COGNIZANCE RESEARCH INDIA PRIVATE LIMITED***

*GT-20, Sector-117, Noida-201301. (U.P)*

*Contact: +91-9910047760, +91-9415102339*

*Certificate No. NABET/EIA/1619/IA006, Valid Till: Aug18,2019*

## 1. Executive Summary

The proposed production of “Minor Mineral (Sand, Bajri & Boulder)” Mining located at Village: Sadhunagar, Tehsil- Sitarganj, District- Udham Singh Nagar, State- Uttarakhand. The Sand, Bajri & Boulder mine lease area is 3.024 Ha. Proposed production is 99,792 TPA. Brief Description of the project is described below.

**Table 1.1 Salient Feature of the project**

S. No.	Parameters	Description		
1.	Name of the Project	“Minor Mineral (Sand, Bajri & Boulder)”		
2.	Location of the Project	Village: Sadhunagar, Tehsil- Sitarganj, District- Udham Singh Nagar, State- Uttarakhand		
3.	Project Proponent	Mr. Puneet Kumar Goyal S/O-Mr. Govind Kumar		
4.	Lease Status	The applicant being the highest bidder was issued with Letter of Intent (LOI) by DGM office vide letter No. 1617/VII-1/2018/48[kha /18 Dated: 29.08.2018 under amended Rule 2017 of Uttarakhand Minor Mineral concession mine.		
5.	Topography of Mine lease area	Non-arable, non-forested land of river bed. (Flood Plain formed by Kailash River , State Land) .		
6.	<b>Location of the Project</b>			
	Village	Sadhunagar		
	Tehsil	Sitarganj		
	District	Udham Singh Nagar		
	State	Uttarakhand		
7.	Total Lease Area	3.024 Ha		
8.	Category of the Project	“B2”		
9.	Altitude of the Area	The Highest Point at 229 mRL in SW direction The Lowest Point at 226 mRL in NE direction		
10.	Toposheet No			
11.	Lease Area Coordinate	<b>PILLER NO.</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>
		<b>A</b>	29°0'56.610"N	79°42'30.221"E
		<b>B</b>	29°0'56.610"N	79°42'26.897"E
		<b>C</b>	29°1'4.666"N	79°42'28.202"E
		<b>D</b>	29°1'10.611"N	79°42'25.487"E
		<b>E</b>	29°1'11.018"N	79°42'26.135"E
<b>F</b>	29°1'5.060"N	79°42'30.936"E		
12.	Name of the Mineral Mining	River Bed Mineral		
13.	Method of Mining	Opencast, Manually		
14.	Total Geological Reserve	3,98,534 Tonnes		
15.	Mineable Reserve	99,792 Tonnes		
16.	Capacity of Production	99,792 TPA		

17.	Operational days/ Year	240 Days
18.	Total Water Requirement	4.56 KLD of water will be used for the project site (Drinking use, Sprinkling & Plantation)
19.	Source of Water	Potable tankers
20.	Man power requirement	74 persons
21.	Drilling / Blasting	No
22.	Land utilization Pattern	100% wasteland earmarked for the River Bed Material mining by the Govt. of Uttarakhand.
23.	Proposed Project Cost	Rs. 101.24 Lakhs
24.	Proposed CER Cost	Rs. 2.02 Lakhs
25.	EMP Expenditure	Rs. 10.30 Lakhs

## 2.0 INTRODUCTION OF THE PROJECT/ PROJECT BACKGROUND

### 2.1 INTRODUCTION OF THE PROJECT

**Name of project** : “Minor Mineral (River Bed Material)”

**Location of Project** : Area- 3.024 Ha  
Village-Sadhunagar,  
Tehsil- Sitarganj , District- Udham Singh Nagar ,  
State-Uttarakhand

**Production** : 99,792 TPA

124830 MT **Total ML area** : Area: 3.024 Ha

#### **Name and address of the project proponent:**

Mr. Puneet Kumar Goyal  
S/O-Mr. Govind Kumar  
R/O- Ward-3, Sitarganj  
Distt- Udham Singh Nagar  
(Uttarakhand)

### 2.2 Brief description of the nature of project:

The proposed production for mining of Minor Mineral (River Bed Material) area falls in at Village: Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand. The Minor Mineral (River Bed Material) mine lease area is 3.024 Ha . Proposed production is 99,792 TPA. from the Non-forest, Non-arable, rugged wasteland within the mining lease area.

### 2.3 Need of the project and its importance to the country and or region:

The basic objective of the project is to effective utilization of Mineral in the country and /or region. With the development and industrialization has enhanced the demand of building material. Mainly in infrastructure projects-like highways buildings, township etc which has raised the demand of river bed material beside of the mineral. River bed material mining not only provides the building material but also employment economic growth of the state that will ultimately enhance the socio- economic status of the people of the region / area.

## **2.4 Demand supply Gap:**

There is large demand of River Bed Material for construction activities in the region. Demand of the river bed material if fulfilled by this project of the follow grade to various end users in the open market.

The demand for river bed material is ever growing with the growth of the infrastructure sector in our country. The mineral is used mainly in the construction activities like buildings, bridges, etc. The requirement for the mineral is always high in the state itself and also in the nearby cities and towns. Therefore there is always a good demand of the mineral in the domestic market. With start of the project, it will bridge the gap between demand & supply of the mineral.

## **2.5 Imports vs. Indigenous production.**

This is indigenous production. This will not be neither exported nor imported. There is always an ever increasing demand of these minerals in the domestic market. Hence the production will contribute for indigenous consumption so that there will be no need of importing of minerals.

## **2.6 Export Possibility:**

Not exported.

## **2.7 Domestic/ Export Markets**

### **Domestic Market**

In the domestic market river bed material will be sold to builders, contractors etc to nearby vendor.

## **2.8 Employment Generation (Direct and indirect) Due to project:**

The total Manpower is 74 required for the mining site. There will be 70 persons employed form nearby villages. Unskilled operators and labors required for the mines will be recruited from neighboring village while some technically Qualified personnel will be hired from outside.

<b>S. No.</b>	<b>Particulars</b>	<b>Nos. Required</b>
1.	Mining Competent person	1
2.	Administrative	1
3.	Supervisor	2
4.	Unskilled workers	70
<b>Total</b>		<b>74</b>

About 240 working days will be available in a year. Proposed production is being 99,792 TPA (2019-20 to 2023-2024) tonnes per year.

## **3. Project description:**

The proposed project is mining unit of Minor mineral (river bed material) mining in the area of 3.024 Ha situated at Village: Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand. The mine lease area is 3.024 Ha . Proposed production is 99,792 TPA.

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

The project involves mining of Minor Mineral (River Bed Material) Mine; it is not interlinked with any existing project.

River bed mining is open cast, manually method; send to the consumers for constructions of building, schools, road, footpath, runways. River bed material is directly sold as such .No requirement for further processing of the river bed material. It is neither interlinked nor interdependent project.

**3.2 Location of Project:**

The Proposed Project Site located at the bank of river Kailash, Village: Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand. The mine lease area is 3.024 Ha . & it lies 1.44 Km SE of village Sadhunagar. The site is nearly 9.45 km away from Sitarganj. The mining site is 9.55 Km away from the NH-125. The location plan is shown below:



**Figure 1: Location Plan**



**Figure 2: Google Earth showing Zoom View of the Project Site**



**Figure: 3 Google Map Showing 1 km Radius of the Project**

**3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environment considerations gone into should be highlighted.**

This is site specific project. Mining activities are carried out based on local geology and availability of the mineral.

**Life of mine:**

It is a river bed deposit and mined out area shall be replenished each year during monsoon period and depth of quarry shall be filled back by river bed material each year. Therefore it is not practically forecast the anticipated life of mine.

**3.4 Method of mining:**

**OPEN CAST MINING:**

**Proposed method of Mining:**

1. The RBM shall be exploited manually with conventional hand tools.
2. The height & width of benches shall be kept 1.5m & over all pit slopes shall be maintained less than  $45^{\circ}$ .
3. Mining shall be carried out manually without adoption of drilling & blasting.
4. The RBM shall exploited manually with spade, chisel etc.
5. The RBM shall be loaded manually into tippers/tractor trolleys & dispatched to various parties.
6. Ultimate depth of pit shall be kept 1.5m from the river surface.

Mining activities shall be suspended during monsoon period. Mining operation shall be recommenced after post monsoon period Considering 240 working days in a year;

**Indicate quantum of development of production expected as in table below:**

**Proposed five year production target:**

<b>Year</b>	<b>Production Rate(Tonnes)</b>	<b>Required Production%</b>
1st	99792	100
2nd	99792	100
3rd	99792	100
4th	99792	100
5th	99792	100
<b>Total</b>	<b>498960</b>	

**Ultimate shape & size of pit:**

The ultimate slope of pit by the end of conceptual period shall be same as the shape of area. Size of the lease hold by the end of conceptual period shall be 3.024 Ha Having area  $30240 M^2$  & depth 1.5m.

**End of Plan Period:** For first, second, third, fourth & fifth year, the development & production programme; the mining is proposed in  $30240 sqm$  area/annum. The production of each mineral constituent would be on an average as under.

**Conceptual plan:** The ultimate size will be area  $30240 M^2$  & depth level of pit shall be 1.5m. Total mined out area shall be replenished during the monsoon period.

**Anticipated life of mine**

It is a river bed deposit and mined out area shall be replenished each year during monsoon period and depth of quarry shall be filled back by RBM each year. Therefore it is not practically forecast the anticipated life of mine.

**Drilling & Blasting:**

No drilling and blasting is required to undertake mining of riverbed minerals.

**Waste Management:**

Small quantities of waste shall be generated & intermixed with sand, bajri, bouders & transported to various buyers. Therefore no proposal of disposal of waste management has been envisaged.

**3.5 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 for production of River Bed Material.

In the operation phase river bed material will be excavated by Open cast, manually method and loaded directly into trucks/trolleys to directly supply to the end users.

**3.6 Resource Optimization/ Recycling and Reuse envisaged in the project, if any, should be given.**

Not envisaged.

**3.7 Availability of Water Its Source, Energy/ Power Requirement and Source:**

**3.7.1 Availability of water, its source**

The people of the area are dependent on “Wells” for water. They use the well water both for agriculture and household purpose. The average water table level in the region about 5-10 m below the ground level. The mining staff/workers use water from bore well to be dug near the leasehold.

**Water requirement**

The total water required, diesel and explosive is approximately 4.56 KLD the break up with its uses is given below:

Source	Purpose	Detail	Avg. Demand/Day
Portable Tanker	Drinking@15lpcd/worker	74 workers x 15 lpcd = 1110 lpcd	1.11 KLD
	Mine operation/others	-	1.0 KLD
	Land reclamation / plantation @1 Lit/Tree	10Trees x 5 lpcd = 50 lpcd	0.05KLD
	Dust suppression @2 Lit/Sq.m (Twice in a day)	Haul Road Area = (200 m Length x 6m Width = 1200 m <sup>2</sup> ) x 2lpcd/Sq.m = 2400 lpcd	2.4 KLD
<b>Total</b>			<b>4.56 KLD</b>

### **3.7.2 POWER**

The operation will be done during day light; hence there is no power requirement for the project at site.

### **3.8 Quantity of waste to be generated (liquid or solid) and scheme for their management / disposal.**

No solid waste generation is expected from the mining procedure. 49 persons including the workman and the administrative staff are supposed to produce negligible waste like gutka pouches, smoking litter, and newspapers etc. belonging to biodegradable category waste.

#### **3.8.1 Solid Waste Generation & its Disposal**

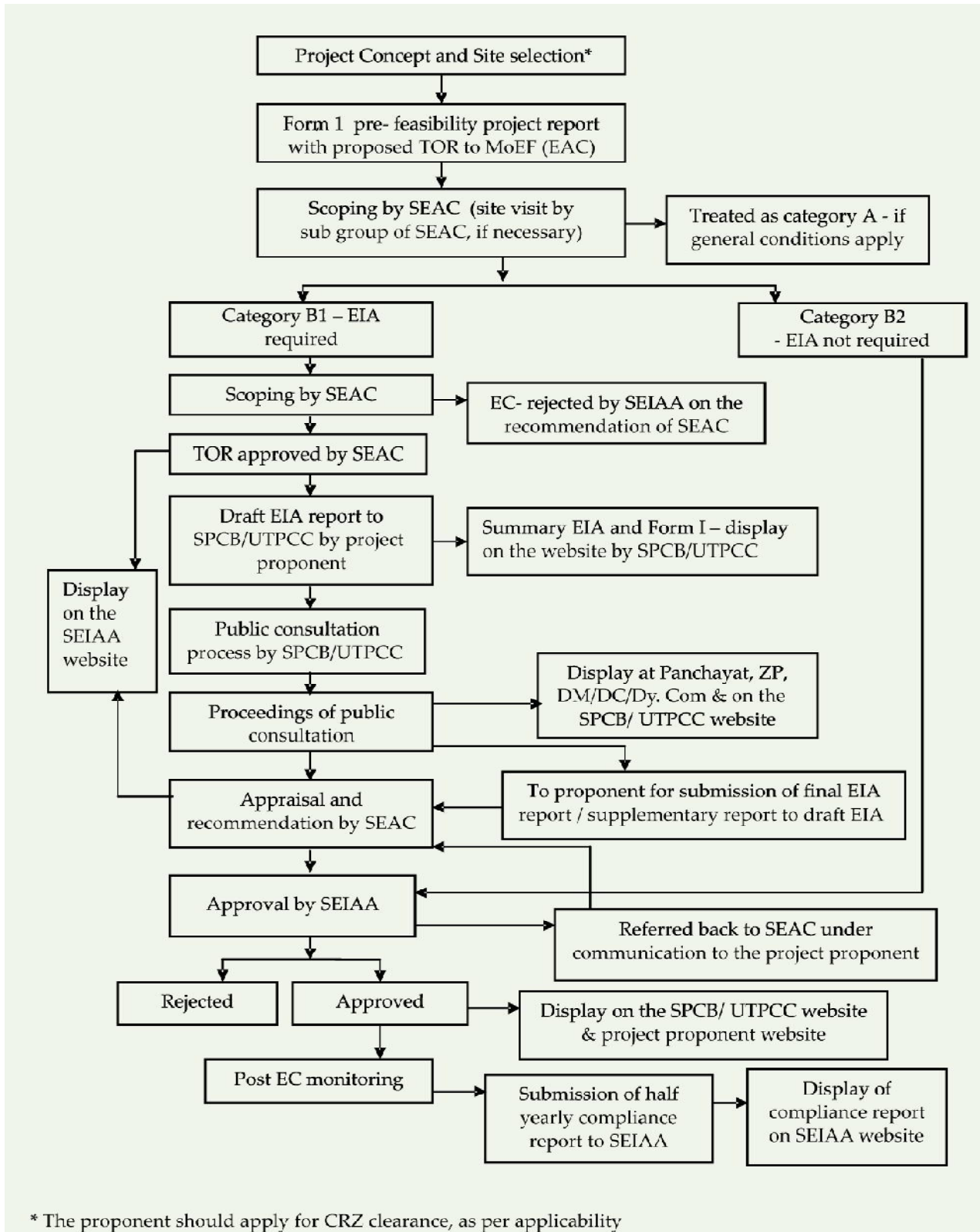
Waste generated will be collected on regular basis and will be disposed as per the Municipal Solid Waste Management (Management & Handling) Rule 2000 and its subsequent amendments.

#### **3.8.2 Generation of Liquid Effluent**

There is no waste water generation during the process.

### **3.9 Schematic representations of the feasibility drawing which give information of EIA purpose:**

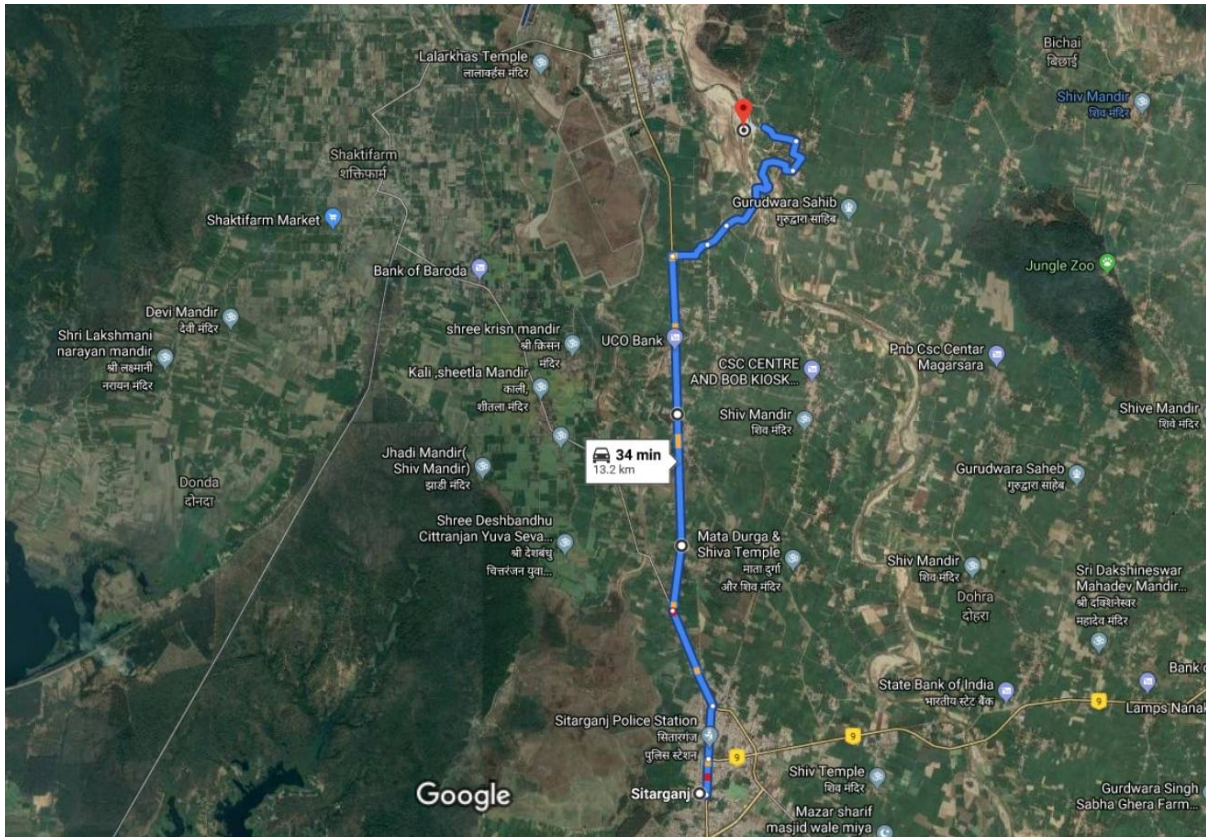
As per the Environment Impact Assessment (EIA) notification dated 14<sup>th</sup> Sept. 2006 and subsequent amendments, the proposal falls under Category "B". Form-1, PFR & EMP report shall be required to get the environmental Clearance for this project from the SEIAA. The EC process is shown in- Fig



**4.0 Site Analysis:**

**4.1 Connectivity:**

The lease area lies in village-Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand and it lies 1.44 km SE of village-Sadhunagar. The site is nearly 9.45 km away from Sitarganj. The mining site is 1.50 km, west away from the Sitarganj Road. The Nearest State Highway SH-37 is 18.43 km ,West away from the site. & The Nearest National Highway NH-125 is 9.55 km , South away from the site.



**Figure 4: Connectivity Details from Project Site**

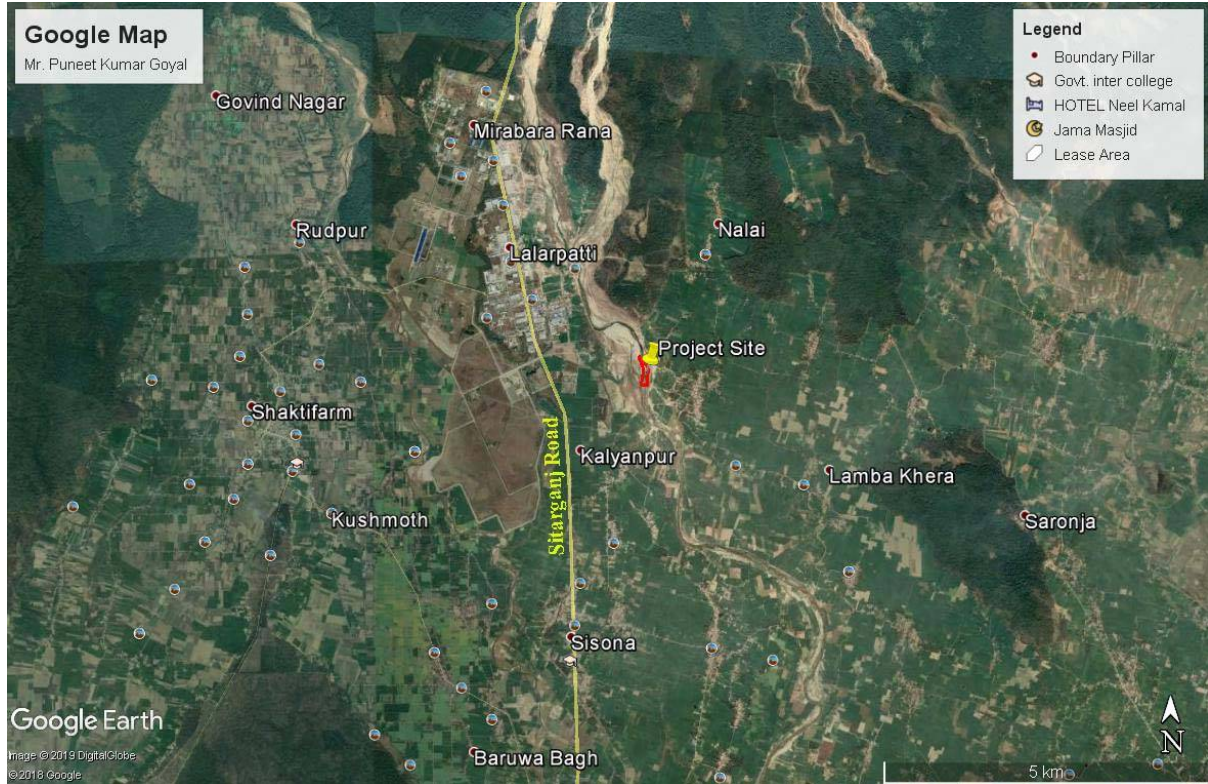
**4.2 Land form, land use and land ownership**

The mine lease area spreads in 3.024 ha, which is government trasverse land. The land form is mostly river bed and non-forest land. Moreover there will be no change in land use as the mining will be confined to river bed, which will get replenished naturally in the subsequent monsoon season.

**4.3 Topography Along With Maps:**

The mining area of 3.024 Ha falls on within Latitude: 29<sup>0</sup>’56.61” N to 29<sup>1</sup>’11.018” N & Longitudes: 79<sup>0</sup>’42’25.487” to 79<sup>0</sup>’42’30.936” E. Topographical map showing project site prepared on a scale of 1:1000. The Highest Point at 226mRL in NE direction, while Lowest Point at 229 mRL in SW direction. The topography of lease area is shown in Sheet No. 3 of the mining plan

*Source: Approved Mining Plan*



**Figure 5: Google Map showing 5.0 km radius of Buffer Zone**



**Figure 6: Geo-reference cadastral map of proposed mining lease**

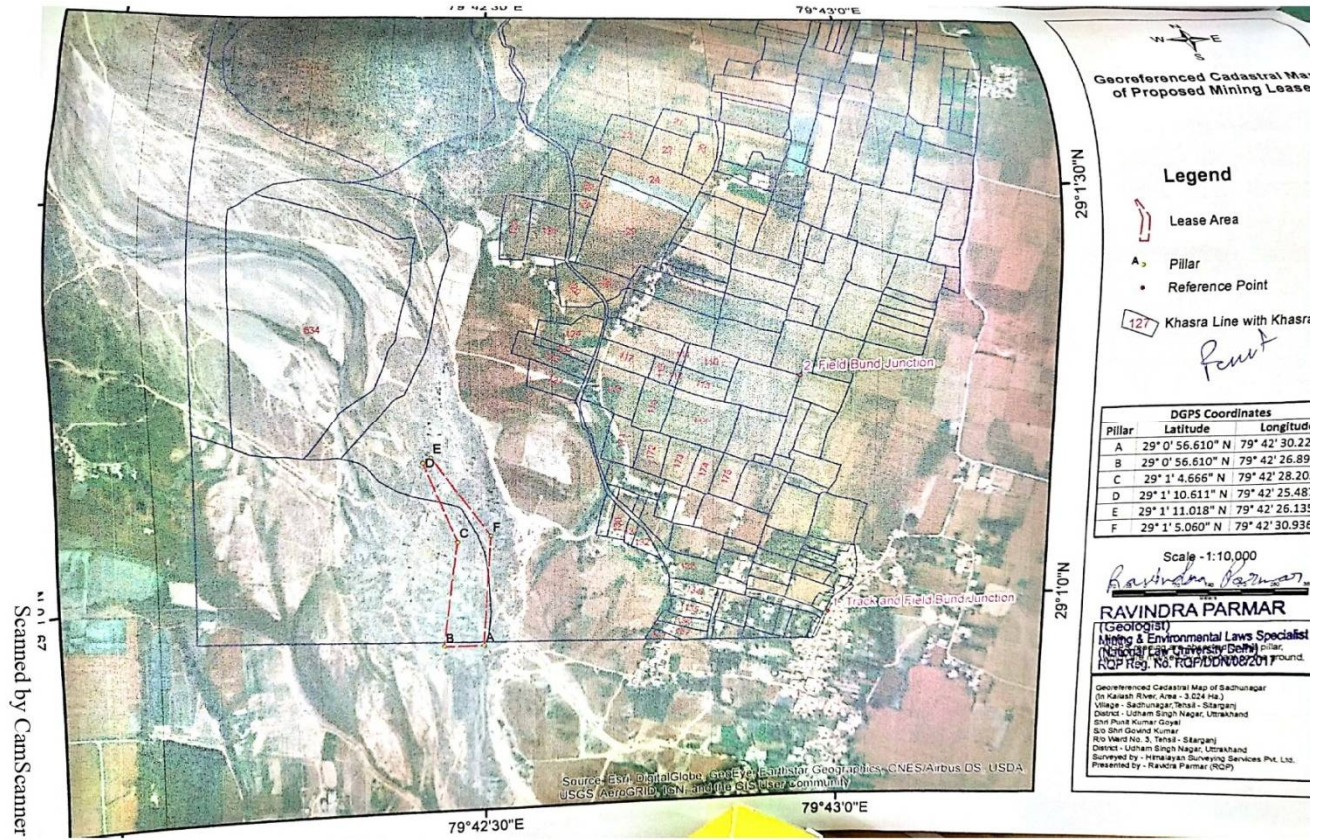
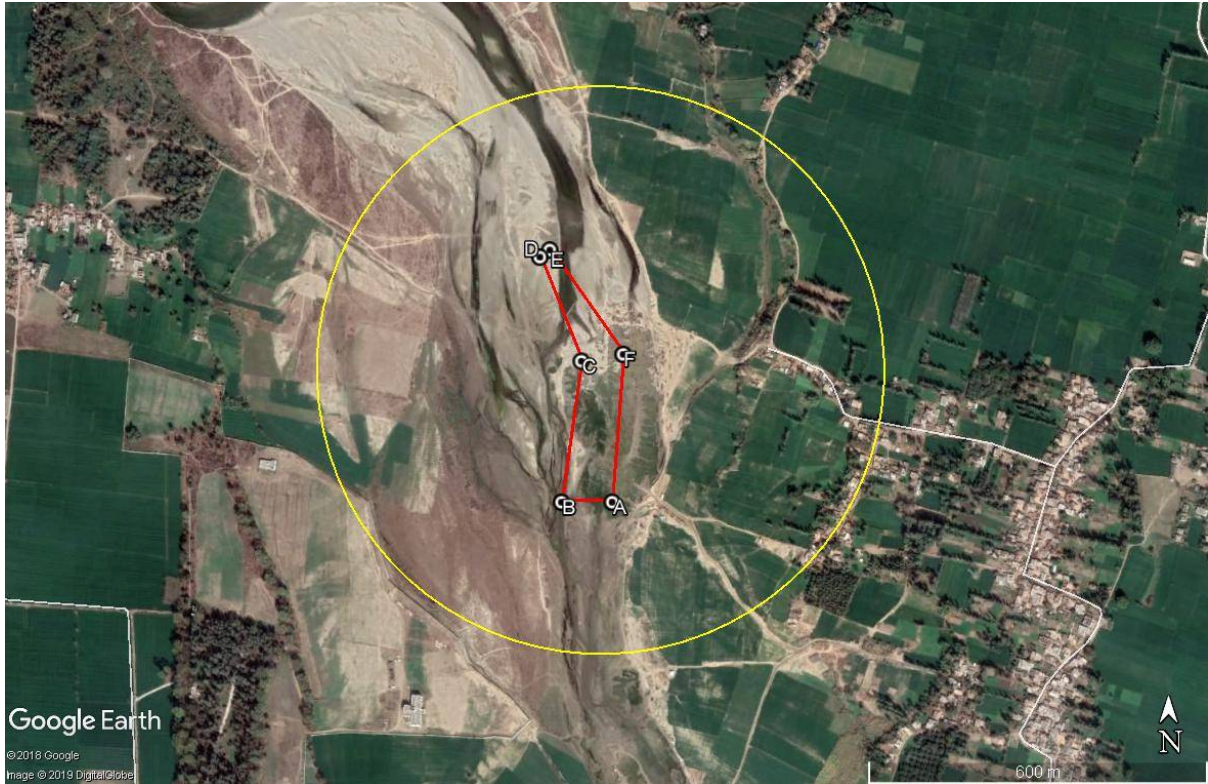


Figure 7: Satellite image in the scale of 1:10,00



**Figure 8: Google Map Showing 500 m Radius of the Project**

**4.4 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.**

**Table: Environmental Settings:**

S.N.	Particulars	Details	
		Village	Distance & Direction
1.	Nearest Villages	Sadhunagar	1.44 km, SE
		Kalyanpur	1.34 km, SW
		Ranshali	2.18 km, NE
		Nalai	2.39 km, NE
2.	Nearest city/ town	Nearest Town/District: Sitarganj , 9.45 km, South	
3.	Nearest Railway Station	Kichha Railway Station , 21.54 Km, SW	
4.	Nearest Metalled Road	Sitarganj Road, 1.50 km, West	
5.	Nearest State Highway/National Highway	State Highway (SH-37), 18.43km, West	
		National Highway (NH-125), 9.55 km, South	
6.	Nearest Airport	Pantnagar Airport, 22.91 km, West	
7.	Archaeological Important Place	None, within 10 km radius area of mine site.	
8.	Ecological Sensitive Areas (National Park, Wildlife Sanctuary, Biosphere Reserve etc.)	No Eco sensitive areas within 10 km buffer zone.	
9.	Reserved/Protected Forest/Notified Areas	None, within 10 km radius area of mine site.	

	within 10 km radius	
<b>10.</b>	Nearest River / water body	None
<b>11.</b>	Seismic Zone	IV <sup>th</sup> (Very Severe Intensity Zone) Source: <a href="http://asc-india.org/seismi/seis-uttarakhand.htm">http://asc-india.org/seismi/seis-uttarakhand.htm</a>

#### **4.5 Existing infrastructure:**

##### **4.5.1 Roads:**

The lease area lies in village-Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand and it lies 1.44 km SE of village-Sadhunagar. The site is nearly 9.45 km away from Sitarganj. The mining site is 1.50 km, west away from the Sitarganj Road. The Nearest State Highway SH-37 is 18.43 km ,West away from the site. & The Nearest National Highway NH-125 is 9.55 km , South away from the site.

##### **4.5.2 Water Supply:**

The people of the area are dependent on “Wells” for water. They use the well water both for agriculture and household purpose. The average water table level in the region about 5-10 m below the ground level. The mining staff/workers use water from bore well to be dug near the leasehold.

##### **4.5.3 Electrification:**

The Village Sadhunagar has electricity connection while lease area is not connected with electricity. Surrounding 5 km village are electrified from the lease area.

##### **4.5.4 Educational – Facilities:**

The Village Sadhunagar has a primary school. However, secondary, Higher Secondary College educations are in Sitarganj .

##### **4.5.5 Health Service:**

The Primary Health Centre is at Sitarganj , Govt. Hospital.

##### **4.5.6 Postal – Facilities:**

The post office is on shaktifarm & it is about 5.69 km in SW direction away from lease area.

##### **4.5.7 Transport:**

The applied area is approachable to Sitarganj Road, State Highway (SH-37) & National Highway (NH-125).

#### **4.6 Soil Classification:**

Udham Singh Nagar district may be broadly divided into two physiographic units from north to south viz., Bhabar and Tarai respectively. Since the area is located in the Himalayan foothills, a very thick column of alluvium is deposited, which further is classified into two distinct divisions:

(A) The piedmont fan deposits known as Bhabar

(B) The Tarai Alluvium

These zones spread in northeast – southwest direction all along the foothills of the Siwalik formation having a maximum width of less than 30 km.

The soil types are controlled by the topography and rock types. The Bhabar soils lay at the northern extremity of Khatima and Bazpur blocks, part of the alluvial fan deposits. Soils are shallow with sandy to loamy texture, poorly sorted, comprising mainly of gravel, sand, silt, clay with pebbles etc. The Tarai soils run all along the northern extremity of the district, form continuous fringe with the

Bhabar Zone. Bhabar formation is found in extreme northern parts of the Khatima and Bazpur blocks, boundary demarcated by the contact of Tarai and Bhabar.

#### **4.7 Climatic data from secondary sources:**

The climate varies from Sub-tropical and sub-humid with three distinct seasons i.e. summer, monsoon (rainy season) and winter. The rainy season starts from the month of middle June to September end, and followed by the winter season, which starts from the end of October and goes up to February. The winter rains are generally experienced in late December or early January, which brings down the temperature and that's how December and January are the coldest months in the district. The summer season starts from March and it goes up to June. The hottest months of the year are May and June. The maximum temperature in the district goes up to 42°C during the summers and the minimum temperature is between 1 and 4°C, further north of the district, the temperature comes down to 0.4°C in winter season.

#### **Humidity:**

The relative Humidity increase rapidly with the onset of monsoon and reaches at about 80% during July to September. The driest part of the year is the pre-monsoon period, when the humidity is as low as 30% in the afternoons. Skies are heavily clouded during the monsoon months and for short spells when the district is affected by Western Disturbances. Two broad wind pattern are observed in the district viz north easterly to easterly (May to September) and south easterly to westerly (October and March).

*Source:* <http://cgwb.gov.in/Regions/GW-year-Books/GWYB-2014-15/GWYB%202014-15-0UR,%20Dehradun.pdf>

#### **Rainfall:**

Month the rainfall, about 75% of the annual value, occurs during monsoon months of June to September. July is the rainiest followed by August. In September, depressions from Bay of Bengal occasionally reach Uttarakhand and affect the weather of Udham Singh Nagar District also. The phenomenon may cause heavy rains. With the withdrawal of monsoon in September, the intensity of rainfall rapidly decreases. The decrease continues till November, which is a practically rainless month. Winter precipitation is associated with the passage of the western Disturbances and is in the form of snowfall over higher elevations. The monthly and annual average rainfall data of District Udham Singh Nagar in year 2012, 2014, 2015, 2016 is 1697mm, 1157.38mm, 1241.52mm and 1346.34mm respectively. Maximum rainfall occurred in July 2016 is 1684.05mm..

*Source:* Approved Mine Plan

#### **5.0: Social Infrastructure**

- Health & educational facilities (in the form of primary and secondary schools) are available in the nearest villages.
- Medical facilities, Primary Health Centre are there in the area.
- Village people are availing drinking water facilities generally from the hand pump, open well and tube well. The water supply is also supplied through tanker in few villages.
- Communication services like post office and telephones are available in the nearby village. Some of the villagers are having mobile phones.

## **5.0 Planning Brief:**

### **5.1 Planning Concept:**

Applied area forms flood plain of Kailash River & remains submerged under river water nearly for 120 days in a year. As a result the working period in a year is reduced to about 240 days. It is envisaged that excavated pit in a year will be restored to its original topography in the preceding year due to deposition of suspension by water action of consecutive flood during monsoon periods. The harvesting of the river borne material deposited in the block proposed to be made on rotation basis from the surface RL up to the depth of 1.5 m (Refer Plate 4). During monsoon the river bed accordingly shall be recouped with respect to river borne material thereby rejuvenating to its original profile and topography. The river bed material is exposed and does not have any over burden so no development work will be required for the mining of river bed. Extraction of river bed material will be done by manual means and transportation will be by hired tippers. It is proposed to produce about 99792 TPA.

### **5.2 Population Projection:**

The project will employ most of the workers from nearby villages. Only supervisory staff will be hired from outside. There will not be any increase in population due to the project. However, few people from other areas may migrate in this area for business opportunities.

### **5.3 Land use planning (breakup along with green belt etc.)**

#### **Impact Assessment:**

Land area indicating the area likely to be degraded due to quarrying, pitting & roads.

The impact on the land form or Physiography will be limited to the modification of the slope. The landscape and land use will undergo a radical change due to open cast mining. The impact during next five years is limited as benches will be formed. Besides these benches, roads will also modify the Physiography.

### **5.5 Assessment of Infrastructure Demand (Physical & Social)**

Temporary office and stores will be provided in the mining area. Specified first-aid box with all necessary facilities will be maintained at the site office. Communication services like post office and telephones are available in the nearby village. Some of the villagers are having mobile phones.

### **5.6 Amenities/Facilities:**

Additional facilities will be made as per the requirement. Arrangements for safe and healthy working conditions. Provision of Drinking water from nearby villages or through tankers in dry period.

### **5.7 Transport of Men and Material:**

Workers from nearby villages will be engaged for mining and transportation purposes. They will come for work on foot. The material from the mine will be transported by trucks / dumpers.

## **6.0 Proposed Infrastructure**

### **6.1 Industrial Area (Processing Area)**

No infrastructure is proposed.

### **6.2 Residential Area (Non Processing Area)**

As local workers from nearby areas will be engaged for the mining activity, no residential area/housing are proposed.

### **6.3 Green Belt/Afforestation:**

The lease area is in the river bed & devoid of any vegetation. Mining activities will not cause any harm to riparian vegetation cover as the working will not extend beyond the 20.0 m offset left against

the banks in the river. Link road from the active zone pass through the areas. It is proposed to have plantation on both sides of the roads as greenbelt to provide cover against dust dissemination. Plantation will also be carried out as social forestry programme in villages, school and the areas allocated by the Panchayat State authorities.

Native plants like Pipal, Neem, Awala and other local species will be planted. A suitable combination of trees that can grow fast, evergreen and also have good leaf cover shall be adopted to develop the greenbelt. Thick plantation will work as a pollutant arrestor, reduces floods as well as avoids the situation of erosion of soil during monsoon season.

#### **6.4 Social Infrastructure:**

Physical & Social Infrastructure is provided, and if necessary other facilities will also be provided by mine's proponent.

This Project is providing employment to local people directly and indirectly. Indirect employers are shopkeepers, mechanic, drivers, transporters etc. The lessee will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, in surrounding areas.

- Road facility (existing roads will be maintained regularly)
- Public transport system improvement
- Direct & Indirect employment opportunity
- Social awareness camps,
- Increase revenue, sales tax, road tax to state government
- Formation of self- help groups for the women in nearby villages

#### **6.5 Connectivity:**

The lease area lies in village-Sadhunagar, Tehsil- Sitarganj , District- Udham Singh Nagar , State- Uttarakhand and it lies 1.44 km SE of village-Sadhunagar. The site is nearly 9.45 km away from Sitarganj. The mining site is 1.50 km, west away from the Sitarganj Road. The Nearest State Highway SH-37 is 18.43 km ,West away from the site. & The Nearest National Highway NH-125 is 9.55 km , South away from the site.

#### **6.6 Drinking Water Management (Source & Supply of Water):**

The main drinking water requirement will be for mine workers. The strength of workers will be 74. It can be seen that drinking water requirement will be 1.11 KLD. The drinking water is provided through Hand-pump and bore well.

**6.7 Sewerage System:** Mobile Toilets will be provided for mine workers.

**6.8 Industrial Waste Management:** Not Applicable

### 6.9 Power Requirement & Supply/ Source:

The operation will be done only during the day light; hence there is no power requirement for the project at site.

### 7.0 Rehabilitation and resettlement (R &R) Plan

It is entirely a government traverse land, sanctioned the Mine Lease to the project proponent. No human settlements are existing in the applied lease area. The proposed project does not involve any rehabilitation and resettlement.

- There is no human settlement within the mine lease area.
- No human settlement will be disturbed due to the mining activity. Hence, no Rehabilitation and Resettlement issues are present.

### 8. Project Schedule & Cost Estimates:

Likely date of start of construction and likely date of completion:

Proposed project will be started after getting Environment Clearance and progressive closure plan will be submitted in due course of time.

### Project Cost along with analysis in terms of Economic Viability of the Project:

The project cost is about Rs. 81.97 Lakhs as all the equipments will be required for Mining & hence, will be taken on rent. There is built in profit margin, therefore, proposed project will be economically viable.

S. No.	Description	Unit	Total (Rs.)
<b>A. Project Operation Cost</b>			
<b>1.</b>	<b>Manpower Cost:</b>	(Total Man power 74) Assuming 240days	69,96,000
	Mining competent person - 01	Rs. 25,000/ month= 3,00,000	
	Administrative -01	Rs. 20,000/ month= 2,40,000	
	Supervisor -02	Rs. 500/ day= 1,20,000 x 2=2,40,000	
	Un skilled: Laborers charge -70	Rs.370 / day= 88,800x70=62,16,000	

2.	<b>Expenditure on Occupational Health:</b> PPE & First Aid Facility  Medical checkup and Medicine (Once in a month)	3000/worker (3000 x 74)= 2,22,000  <i>Doctor's visit:</i> 10,000/ month ( 8 working months) =80,000 <i>Medicines</i> (Assuming 500/worker) 500 x 74 = 37,000 (Mine operation Month: 8) = 2,96,000	5,98,000
3.	<b>Equipment's/Tools/Machineries</b>	240 days Assuming Rs.5000/day	12,00,000
4.	<b>Drinking and Sanitary Facilities</b>	➤ Rs. 1000/day for drinking/domestic (240 days) ➤ Rs. 30,000/ Bio-toilets x 2	3,00,000
<b>Total Project Operation Cost (A)</b>			<b>Rs. 90,94,000 (90.94 Lakhs)</b>

<b>B. Break-up of Expenditure on Environment Protection &amp; Environment Management</b>			
<b>5.</b>	Haulage Road Repair & Maintenance <ul style="list-style-type: none"> <li>• Filling, Leveling and widening of the road up to width of 6m and length of 200 m.</li> <li>• Setting &amp; Fixing of Cut Stone on the leveled road.</li> </ul>	Annual  200 m (L) x 6 m (W)	2,00,000
<b>6.</b>	Water Sprinkling on Haulage Road for Dust Suppression	Assuming Rs.1000/day for 240 days of working Tanker Cost: Rs. 1000/Tanker Tanker Capacity: 5000 liter, No. of Tankers required: 1	2,40,000
<b>7.</b>	Plantation along the road side & post plantation care	Plantation@100/sapling (80 sapling/Year) Post plantation care @500/day (For 1500 Saplings Annually.i.e.365 days). <i>Note: Annual cost will increase with increase in no. of sapling.</i>	1,90,500
<b>8.</b>	Environmental Monitoring & Compliances.	➤ <b>Half Yearly Monitoring of Environmental Parameters viz. Air, water, Noise &amp; Soil.</b> ➤ Half Yearly Submission of Compliances.	4,00,000
<b>Total Environment Protection &amp; Management Cost (B)</b>			<b>Rs. 10,30,500 (10.30 Lakhs)</b>
<b>Total Project Cost (A+B)</b>			<b>Rs. 90.94 + 10.30 (101.24Lakhs)</b>

**Corporate Environment Responsibility:**

**CER (Corporate Environment Responsibility) details for the Project**

CER plan is given below:

- Total Cost of the Project = Rs.101.24 Lakhs
- Yearly CER cost for the project, i.e. 2% of the total project cost  
**Rs. 101.24 Lakhs x 0.02 = Rs. (2.02 Lakhs)**

<b>This is the Proposed CER Plan, Activities will be Finalized as per the Actual need of the area (ON THE BASIS OF NEED BASE ASSESSMENT SURVEY)</b>		
<b>S.N.</b>	<b>Particulars</b>	<b>Activity</b>
1.	Drinking water supply	Provide drinking water facility in surrounding villages and schools by hand pump installation.
2.	Health	Free distribution of medicines, health check-up camps nearby village
3.	Electrification including solar power	Solar lamp distribution & Solar street light installation
4.	Rain water harvesting	Rainwater harvesting structure in the nearby Parks, Temple & Govt. School.
5.	Education	Distribution of school bags & Books in nearby Primary Schools

### **9.0 Analysis of proposal (Final Recommendations)**

- There will be direct and indirect employment at the first instance. The employment will be given to locals.
- Further, the share of indirect employment like increased purchasing power, dhabas and retail shops etc. is largely shared by local residents.
- The most important aspect of the project is the land under mining is almost agricultural land and not providing any income to the owner, implying that there will be no significant impact on the livelihood of residents.
- Finally, all aggregate will be used in construction of road, which otherwise is a contribution towards building nation.

### **9.1 Financial and social benefits with special emphasis on the benefit to the local people including tribal population, If any, In the area**

No tribal population is residing in the study area. There will be social benefits from the mining operations.

### **10.0 CONCLUSION**

The basic objective of the project is to effective utilization of Mineral in the country and /or region. With the development and industrialization has enhanced the demand of building material in last 10-15 years. Mainly in infrastructure projects like highways, buildings, township etc, which has raised the demand of river bed material beside of the other mineral. River bed material mining not only provides the building material but also employment, economic growth of the state that will ultimately enhance the socio-economic status of the people of the region. The project will be environmental compatible to the surrounding due to the high standards of pollution control measures to be adopted during the operation activity. Thus it can be safely stated that the mining activities will not have any adverse effect on the surroundings, if the proper environmental management plan is adopted.