

EXECUTIVE SUMMARY

Environmental Clearance for Production of River sand of 10700 M³/Annum with Opencast Manual Mining Method from Sirigida Sand Quarry (ML Area 18.00 Acres or 7.28 Ha) located at in Village Sirigida, Under Talcher- Tahasil of Angul District, Odisha

by

Sanghamitra Bhutia

At: Biharipur Po.- Kankili

Dist.- Angul, Odisha.

Prepared By:



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The project has been proposed for the Mining of Sand from the Government Land by open cast manual extraction mining method. Mining will be confined to the allotted lease area which lies on the Brahamani River bed from which approximately 53,500 cum (Max) during the five year plan period i.e. 10,700 Cu.m/Annum by Open Cast Manual method and the estimated project cost is Rs. 25.00 Lakhs.

The mining lease has been granted in favor of Sanghamitra Bhutia, At-Biharipur, Po-Kankili, in the district of Angul over an area 18.00 acres (7.28 ha.) Khata no-142, Plot no- 1791, situated at Village- Sirigida, Tahasil- Talcher of Angul District, Odisha. Mining has been carried out on the basis of govt. consent order to continue mining operations for 05 years.

The proposed project is an opencast manual mining project, where mining of sand will be done. An Excavator shall be deployed for the removal of overburden & interburden but its deployment will be rarely & occasionally for 4-5 days in a month. Methods of mining will be open cast manual. Mining will be confined to the allotted lease area which lies on the Brahamani River bed from which approximately 53,500 cum of Sand will be excavated. Drilling and Blasting is not proposed in this mining activity.

Salient features of the project

Project Name	Sand mine project at Brahamani River Bed at village – Sirigida, Thasil – Talcher, District- Angul, Odisha. Lessee- Sanghamitra Bhutia, At-Biharipur, Po-Kankili, Angul, Odisha.		
Latitude & Longitude	Corner	Latitude	Longitude
	A	21°00'52.89"N	85°13'32.68"E
	B	21°00'46.07"N	85°13'32.80"E
	C	21°00'47.39"N	85°13'28.69"E
	D	21°00'48.36"N	85°13'26.03"E
	E	21°00'47.93"N	85°13'25.00"E
	F	21°00'48.09"N	85°13'24.39"E
	G	21°00'48.52"N	85°13'24.21"E
	H	21°00'49.03"N	85°13'21.95"E
	I	21°00'49.85"N	85°13'19.56"E
	J	21°00'55.79"N	85°13'20.55"E
Total Geological Reserve	151082 Cu.m		

Total Mineable Reserve in LOI	74289 Cu.m
Total Production in 5 years	53500 Cu.m
Sanctioned period of Mining Lease	2020-2025
Method of Mining	Open cast & Manual
No. of working days in a year	240
No. of workers	17
Type of Land	Govt./ Non forest, Kisam- Nadi
Ultimate Depth of Mining	2m
No. of trees to be planted in 5years	3000
Water Requirement	1.0 KLDs
Proposed CSR	20,000/-
CER	50,000/-
Proposed EMP	70,000/-

Mining Methodology

Sand from river bed within the lease area will be extracted by manual method and the sand will be collected in dry river bed in the lease area.

Mining will be started from center and advanced towards the banks across the river uniformly.

Sand will be transported to the buyer's location by 3-4tonne capacity tractor trolleys and 8/10tonne trucks. About 20trips/day of 10tonne trucks will be required for transportation of the sand from the mine.

No mining operations shall be carried out in proximity of any bridge and/or embankment and during monsoon season.

Baseline Study

PM₁₀ ranges within 71.8-38.1 µg/m³, PM_{2.5} ranges within 39.0-13.5 µg/m³, SO₂ ranges within 7.5-4.1 µg/m³ & NO_x ranges within 15.1-9.1 µg/m³. The parameters monitored at the project area as per NAAQ standards are found to be within limits. It may be observed that the all parameters at all stations are well within the limits prescribed by Central pollution control Board.

Noise is an unwanted sound without musical quality. Artificial noise impact on environment, grown apace is with advancing human civilization. Noise pollution is equally hazardous to environment as air, water and other forms of pollution. Various noise measurement units have been introduced to describe, in a single number, the

response of an average human to a complex sound made up of various frequencies at different loudness levels. The most common scale is, weighted decibel dB (A), and measured as the relative intensity level of one sound with respect to another sound (reference sound).

The impact of noise depends on its characteristics (instantaneous, intermittent or continuous in nature), time of day and location of noise source. The environmental impact of noise can have several effects varying from noise induced hearing loss to annoying depending on noise levels. 8 location are choosen for assessing Noise Quality of the project area.

For Surface Water Analysis 6 location are choosen to know the surface water quality. Surface water analysis data it interpreted that mostly all parameters are within the permissible limit and the water is suitable for agricultural use.

For Baseline study of ground water, resources are selected from different nearby open well and bore well within 5km radius from the project site to know the ground water quality. The locations of the bore wells were chosen from as near as 0.52 Km to as far as 3.0 km from the project site. Due to presence of open wells only 2 identifiable operating public bore wells were chosen for the sampling. Ground Water Analysis Data it interpreted typically that pH is neutral within 7 and all parameter within the permissible limit as per IS 10500. The water is portable at each location.

Project buffer and core zone consist of Sand; Coarse loamy, Typic Ustochrepts; Fine Loamy Typic Ustochrepts; Fine loamy, Fluventic Ustochrepts; Fine loamy, Udifluventic Ustochrepts; Fine Typic Endoaquepts; Fine Vertic Ustochrepts; Fine, Aeris Haplaquepts; Fine- mixed- hyperthermic, Anthreptic Ustochrepts; Loamy Skeletal, Fluventic Ustochrepts; Loamy Skeletal, Lithic Ustochrepts & Loamy Skeletal, Lithic Ustochrepts.

Soil Samples collected from 5 identified locations indicate the soil is Sand Loamy type and the pH value ranging from 6.23 to 7.15 which indicating that soil samples is neutral in nature.

Anticipated Environmental Impacts

The mine working will remain confined to river bed lot only and in no case disturbing any surface area outside which may affect topography or drainage.

The proposed dry sand mining project may impact the ambient air quality due to mining and transportation activities. The increase in particulate matter will not be more than 2µg/m³ over the baseline levels and no gaseous pollutants are expected to be generated other than vehicular emissions.

Trucks carrying the sand are the only sources of noise pollution. With the incremental value being less than the ambient noise levels, there is no likelihood of excess addition of noise, from the mine operation, on the surrounding background noise level.

There are no effluents generated from the proposed mining operations, the surface and ground water quality will not be impacted by proposed dry sand mining.

Excavation in the mining area and construction of roads, offices etc. does not affect the flora in the area where these operations are carried out. Plantation will be carried out on approach roads and nearby vicinity will, over a period of time, upgrade the flora.

Environmental Management Plan (EMP)

Proper environmental management plan is proposed for "Sand" mining project to mitigate the impact during the mining operation.

- No labour camps will be established on river bed.
- No cooking, or burning of woods will be allowed in the nearby area.
- 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.
- In the event of any some causality or injury to any animal occurs, proper treatment will be given.
- No tree cutting, chopping, lumbering, uprooting of shrubs and herbs will be allowed.
- Corridor movement of wild animals, if exists mining operations will be avoided in the area.
- It will be ensured that noise produced due to vehicles movement while carrying sand is within the permissible noise level.
- No piling of River Bed Material will be done in adjoining area.

- If wild animals are noticed crossing the river bed, they will not be disturbed or chased away, instead the labors will move away from their path

Sl. No	Particulars	Capital cost (in Rs.)
1	Environmental Monitoring(Ambient Air Quality Monitoring PM ₁₀ and PM _{2.5} SO ₂ , NO _x and CO & Other Parameters as per regulatory norms))	30,000
2	Water Sprinkling ,Plantation and maintenance	5,000
3	CSR activities	20,000
4	Miscellaneous Activities	15,000
Total Capital Cost in Rs.		70,000
Total Recurring Cost in Rs.		30,000

Environmental Monitoring Program

SL No	Activity	Schedule
Air Pollution Monitoring		
1	Ambient air monitoring of parameters specified by MoEF&CC (PM ₁₀ , SO ₂ & No ₂).	Once in every season except monsoon
Water Quality Monitoring		
2	Monitoring water quality surface water from the river	Once in every season except monsoon
3	Monitoring of one sample of tube well and open well at mine / nearby location. Parameters are essential parameters as per IS: 10500:1991	Once in every season except monsoon
4	Monitoring of water spray requirements	Log-sheet of water spray will be maintained on daily basis
Noise Quality Monitoring		
5	Noise in the ambient atmosphere in mining lease	Once in every season except monsoon
Greenbelt Maintenance		
6	Monitoring schedule for Greenbelt development as per mining plan	Yearly
Soil Quality Monitoring		
7	Soil at six locations	Once in every year

The proposed project is expected to provide employment to local people in different activities such as mining, sizing (sieving) transportation and plantation activities. The revenue generated from the production and sale of mineral will also add to the exchequer of government, which in turn will help in the growth of state economy. Also, as the proposed mine area lies in the flood plain, hence the removal of extracted material will minimize the chances of flood disaster in the area. Land outside the river bed will be made utilizable for the purpose of agriculture; hence the mining will help in improving the fertility of soil. Excavated material will cater the huge increasing demand of mineral in the fast growing construction industry of nearby areas. The project is not expected to have any major adverse impact on the environment and whatever impacts are anticipated during the EIA study will be minimized with the help of suitable mitigation measures.