EXECUTIVE SUMMARY

(ENVIRONMENTAL IMPACTASSESSMENT)

MINING OF SAND, BAJRI AND BOULDERS (MIOR MINERAL)

VILLAGE: BHAURSHATEHSIL&DISTRICT:NAINITAL (UTTARAKHAND)

ToR Letter No. 28/SEAC Dated 12th February, 2019
Study Period: March to May 2019 (Pre-Monsoon season)
Production Capacity:1,32,000TPA
Mine Lease Area- 6.00Ha (GolaRiverbed), Lease Period- 5 Years
(Category "B" as per EIA notification 2006 and its continuous amendments)

APPLICANT

SHRI SATENDRA KUMAR TOMAR
VILLAGE-BAMORI TALLI KHAM,
TH-HALDWANI DISTRICT-NAINITAL U.K

Prepared By

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1.0 INTRODUCTION

Letter of Intent (LoI) over an area of 6.00 hectares of Mining lease has been granted in favor of Shri Satayendra Kumar Tomar by the Industrial Development Section-1, Dehradun, Uttrakhand, vide letter No. 799/VII-1/2018/6kh/2018 dated 15.05.2018, for the period of 5 year. The proposed production capacity of Sand is 1,32,000 TPA. The lease area lies on Gaula Riverbed.The total mine lease area is 6.00 hectares.

As Per EIA Notification Dated 15thJanuary, 2016 and Subsequent Amendments, The Project Falls In Schedule 1 (A) In Category 'B'.

2.0 PROJECT DESCRIPTION

The proposed activity of Sand, Bajri and Boulder mining is located at Village BhaurshaKhasra no. 2519 A over an area of 6.00 Ha. inGaula riverbed in Tehsil and District-Nainital, Uttarakhand. The lease area falls in Survey of India Toposheet (OSM) No. 53 O/7.

2.1 Mine Site Details

Bhaursa Mine total lease area -6.00 ha.

S. No.	Latitude	Longitude
A.	29° 16' 43.38" N	79°36' 25.07" E
B.	29° 16' 41.57" N	79°36' 21.07" E
C.	29° 16' 41.44" N	79°36' 19.32" E
D.	29° 16' 38.72" N	79°36' 19.74" E
E.	29° 16' 35.51" N	79°36' 18.69" E
F.	29° 16' 32.35" N	79°36' 17.80" E
G.	29° 16' 26.98" N	79°36' 15.26" E
H.	29° 16' 24.68" N	79°36' 15.60" E
I.	29° 16' 24.57" N	79°36' 16.37" E
J.	29° 16' 23.70" N	79°36' 17.94" E
K.	29° 16' 21.40" N	79°36' 19.15" E
L.	29° 16' 21.18" N	79°36' 25.05" E
M.	29° 16' 26.48" N	79°36' 23.87" E
N.	29° 16' 26.20" N	79°36' 22.37" E
O.	29° 16' 23.88" N	79°36' 22.87" E
P.	29° 16' 22.41" N	79°36' 23.19" E
Q.	29° 16' 22.29" N	79°36' 22.40" E
R.	29° 16' 26.53" N	79°36' 18.71" E
S.	29° 16' 28.50" N	79°36' 18.42" E
T.	29° 16' 31.96" N	79°36' 19.36" E
U.	29° 16' 34.94" N	79°36' 21.04" E
V.	29° 16' 38.48" N	79°36' 22.30" E

- Type of Land : Gola Riverbed
- Topography : Undulated (Riverbed)
- Project Cost : Rs.50.00 Lakhs
- Cost of EMP : Rs2.00 Lakhs/annum

- Cost of CSR : Rs1.00Lakhs/annum
- Cost of CER : Rs 1.00 Lakhs/annum
- Nearest Highway : District Road Bhimtal ~2 km and NH-87 ~06 km
- Nearest Railway station :Kathgodam Railway station – 38 Km
- Nearest City : Kathgodam ~ 6 Km Distt. Headquarter- Nainital~1.8 Km
- Nearest Airport :Pantnagar ~30 km
- Wildlife Sanctuary/NP :No Ecological Sensitive Area, National Park, Wildlife Sanctuary, Biosphere reserve, Reserve/Protected forest is present in the 10 Km radius of the study area.

2.2 NEED AND BENEFITS OF PROJECT

River channels and their flood plains are important sources of construction grade aggregate materials like Sand, Bajri and Boulder. The durability of river-borne coarser clastics and their sorting by fluvial action make them best suitable raw materials/ingredients for building constructions. The market demands of such construction raw materials are high throughout the country for the construction and infrastructure development projects.

The project lies on bed of Gaula river and also on the palaeo channels (derived from "palaeo" or "old", and channel) of the river. Because of this, during monsoon season, the water may rise above the high flood level causing heavy and devastating floods. Such disasters may damage large tracts of land laying on both the banks of the river especially the agricultural lands. Hence, it is necessary to remove the materials so that the river gets channelized.

2.3 DETAILS OF MINING

Method of Mining	Open Cast Semi-mechanized
Geological Reserves	236570.40 TPA
Mineable Reserves	188100.00 TPA
Proposed Production	1,32,000 TPA
Elevation Range of the Mine Site	620.0 masl to 624.0 masl
Bench Height	1.5 m in Riverbed
Bench Width (Average)	3.0 m
Bench Slope	45°

2.4 METHOD OF MINING

Applied area is a part of a riverbed mining will be done manually in open cast method in quite a systematic manner by forming benches of 1.5 m high. However, there may be variation in the width which the lessee will keep on mending. As per slice plan mineable material is 188100 TPA. So total available mineral is 188100 Tones up to maximum allowable depth i.e. 1.5 m about 1, 32,000 Tones (60000 Cum) mineral will be exploited per year as per base value given in Geology and Mining unit letter. Mine out will be replenished gradually during succeeding rainy season. The sandy soil to be scrapped manually with the help of spade, pickaxe, crowbar. Excavation of riverbed minerals will commerce from top surface of the area and commence towards down removing the minerals manually in 1.5 m slices, ultimate depth for a bench will be 1.5 m. Mining will be restricted up to maximum depth of 1.5 m only. The mineral extraction will be done for a period of 225 days in a year.

Water Requirement: The water required for the project is 5.0 KLD through hired Tankers.

Man Power Requirement: About 122persons will be required for the project.

3.0 DESCRIPTION OF ENVIRONMENT

3.1 Climatic Condition:

- Maximum Temperature: 33° C (Max.)
- Minimum Temperature : 6°C (Min.)
- Relative humidity : 42 –78 % (Max.)
- Wind speed : 2 Km/hr (Max.)

3.2 Baseline Study:

Parameters	Baseline Status
Ambient Air Quality	PM_{10} – 60.8µg/m^3 and 82.0 µg/m^3 $PM_{2.5}$ –30.0 µg/m^3 and 45.0 µg/m^3 SO_2 – 6.0 µg/ m^3 and 15.0 µg/ m^3 NOx –14.0 µg/ m^3 and 24.0 µg/ m^3 **All above results are within permissible limit**
Noise Level	Noise Level During Day Time – 49.3 Leq dB to 54.7 Leq dB Noise Level During Night Time – 39.8 Leq dB to 43.7 Leq dB **All above results are within permissible limit**
Water Quality	**Ground Water:** All the Parameters Like TDS (385.0 to 411.0 mg/L.), pH (7.32 to 7.64), Total Hardness (226.0 to 244.0 mg/L.) **All above results are within permissible limit**
	Surface Water: All the Parameters Like TDS (318.00 to 334.00 mg/L.), pH (6.92 to 7.39) Total Hardness (188.00 to 194.00 mg/L.) **All above results are within permissible limit**
Soil Quality	pH – 6.65 to 8.45, Texture – Sandy loam Organic Matter – 0.92 % to 1.32 % **All above results are within permissible limit**
Ecology And Biodiversity	There is no wildlife sanctuary/biosphere reserve/national parks present within 10 Km radius of the study area. 1 species of schedule-I and 2 species of Schedule-II were observed during study. Subsequently, a budget of **Rs. 10.00 Lakhs** has been earmarked for conservation of wildlife.

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed mining operations are not anticipated to raise the concentration of the pollutants beyond prescribed limits. However, the measures are suggested to mitigate any harmful impacts of pollutants like plantation of trees along haul roads, specially near settlements, to help to reduce the impact of dust on the nearby villages; planning transportation routes of mined material so as to reach the nearest paved roads by shortest route; regular water sprinkling on unpaved roads to avoid dust

generation during transportation etc. Some of impacts may be due to increase in the PCU/hr which is **18 PCU/hr**. Transportation of Minerals should be minimized in the morning and evening and cannot be done in night. The impact on the present noise levels due to mining operations will be restricted to the work zone areas only. The impact on the ambient noise levels will not be felt at the settlement areas due to masking effect with the existing noise levels. There will be no impact on water environment due to mining in riverbed and there is no intersection of water table due to mining activity. There will be no waste water generation from the proposed mining activity except sanitary waste water generation that will be treated in septic tanks and will be used for plantation purpose. There will be no overburden due to mining in the riverbed area. No mining will be carried out during the rainy season to minimize impact on aquatic life. 8 species of Schedule were observed during study period hence, for the same conservation plan was prepared and a budget of Rs. 10.00 Lakhs has allotted for the conservation of wildlife species. The local people have been provided with either direct employments or indirect employment such as business, contract works and development work like roads, etc. and other welfare amenities such as medical facilities, conveyance, free education, drinking water supply etc. Except dust generation, there is no source which can show a probability for health related diseases. Regular water sprinkling will be done with sprinkle mounted tankers and dust masks will be provided to the workers. Medical camps will be organized for this activity. Insurance of all employees as per the rules will also be carried out.

5.0 ANALYSIS OF ALTERNATIVES

Proposed project is minerals specific project and existing land use of mine lease classified as River Body which will continue to be so even after the current mining project is over, hence no alternate site is suggested for this project.

6.0 ENVIRONMENTAL MONITORING PROGRAM

In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will complied as per conditions. For this the lessee Shri.Satayendra Kumar Tomar has taken decision to formulate an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed mine with the objectives mentioned in approved Environment Policy. A budget for monitoring of Air, water, Noise and Soil will be Rs. 0.40 Lakhs which is to be incurred by the project proponent for undertaking pollution prevention measures during the mining activity.

7.0 ADDITOINAL STUDIES

Risk assessments will help mine operators to identify high, medium and low risk levels. This is a requirement of the Occupational Health and Safety Act 2000. Risk assessments will help to priorities the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. Hence mine safety is one of the most essential aspects of any working mine. The conservation plan suggested here is for scheduled fauna (Animal and Bird) will be implemented by the mining lease holder and the budgetary provision is discussed and given in detail for the implementation of the same in the area. It is very important to conserve the scheduled fauna in the area by the local authority as well as by the forest officials. Green belt plantation will be started with the beginning of the mining and will

be completed within five years from the beginning. This plantation will be done at selected places only and only local species will be used in the plantation. A budget of Rs.10.00 Lakhs has been allocated towards conservation of scheduled fauna in the area for the implementation of conservation proposal.

8.0 PROJECT BENEFIT

The management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this area. The company management will contribute to the local schools, dispensaries for the welfare of the villagers. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 2970 no's per annum no's of native species along with some fruit bearing and medicinal trees during the mining plan period. The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is made available only from such mining. The mineral to be excavated is in high demand at the local market for real estate and infrastructure industry. This project will also provide employment to local people helping them to increase their household income for the betterment of livelihood. This mining project generated good amount of revenue in shape of royalty and GST to state and central government.

9.0 ENVIRONMENTAL COST BENEFIT ANALYSIS

It is considered desirable that the mining project may be implemented. Project cost for the proposed Mining project having area of 6.00Ha. falling in Village-Bhaursha, Tehsil & District-Nainital, Uttarakhand is Rs. 50.00 Lakhs. The profit will be Rs. 4.00 per tons.

10.0 Remedial Measures for Noise Control

- No other equipments accept the transportation vehicles and excavator andloaders (as and when required) for loading is allowed.
- Plantation will be taken up along the approach roads and Nearby Govt. building/ School. The plantation minimizes propagation of noise.

10.1 Remedial Measures for Air Pollution Control

- Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive dust emission.
- To control the emissions regular preventive maintenances of equipments will be done to adopt corrective actions wherever needed.
- Plantation will be taken up along the approach roads and Nearby Govt. building/ School. The plantation minimizes propagation of air.

10.2 Remedial Measures for Ground Water Protection

- Mining in the area will be done well above the water table as well as river bed water level therefore impact on water regime is not anticipated.
- Water table lies at depth5-7mbgl inRiver bed.

10.3 Development of Green Belt

Total **2970Nos.**of native species per year along with some fruit bearing and medicinal plants will be planted.

10.4 CORPORATE SOCIAL RESPONSIBILTY

S. No.	Description	Amount(in Lakhs)
1.	Health checkup camp	0.40
2.	Sanitations (Toilet) facilities to the nearest Govt. School	0.60
Total		**1.00**

10.5 CORPORATE ENVIRONMENTAL RESPONSIBILTY

The total estimated cost of the project Project is Rs. 50.00 Lakhs. As per the Office Memorandum F. No. 22-65/2017-IA.III dated 01/05/2018 of the Ministry of Environment, Forest and Climate Change regarding "Corporate Environment Responsibility" (CER), the project proponents are required to allocate funds towards social development activities as indicated in the OM. For new projects with estimated project cost between <100 crores, the project proponent has to allocate and spend minimum 2.0 % of the project cost under the schemes identified under Corporate Social Responsibility. Therefore, and amount of Rs. 1.00 Lakhs will be spent by m/s Satyendra Kumar Tomar under CER activities. The activities shall be finalized during public consultation for EC of the project.

10.6 COST OF EMP MEASURES

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures.

Table Error! No text of specified style in document.**-1: Budget for EMP**

S. No.	Particulars	Capital Cost (Lakhs)
1.	Pollution monitoring – Air, Water, Noise and Soil	0.40
2.	Dust Suppression	0.60
3.	Plantation will be at Village- Bhaursha.	0.50
4.	Haul road and other roads repair and maintenance	0.50
Total		**2.00**

11.0 CONCLUSION

The project will also provide impetus to industrialization of the area and mining would be boon for the district as it will not only result in employment opportunity but also infrastructure development and overall growth of the area.