EXECUTIVE SUMMARY

OF

ENVIRONMENTAL IMPACT ASSESSMENT

For

RBM of Gravel and Sand at Shamtoo-1: Block/PKL B-11

Khasra no / Killa No. - 55 min, 141 Min, 142, 143

Village- Shamtoo, District – Panchkula, Haryana

Area – 46.50 Ha

Proposed capacity: - 4,00,000 TPA

Applicant

M/s Starex Minerals,
Add: J.S Height, Block A,
Opp. Shivansh Mahindra Service Centre,
Dhamdha Road, Khapri, Dist. Durg

PMS
PRESERVING TOMORROW

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EXECUTIVE SUMMARY

INTRODUCTION

The proponent has applied for mining lease in the name of shamtoo -1 Block Gravel and Sand mining Project over an area of 46.50 Hectare at Village- Shamtoo, District: Panchkula, Haryana is a minor mineral project for exploitation of river sand. The average production is proposed to be 4,00,000 TPA is the total production during the plan period. Copy of letter is enclosed as Annexure No. II. As per the MoEF, New Delhi Gazette dated 14th September 2006 amended in December 2009 and April 2011, the proposed mining project is categorized as category 'B1'.

PROJECT DESCRIPTION

LOCATION

The mine lease area is located in Village- Shamtoo, District: Panchkula, Haryana, is on (Khasra no/ Killa No.- 55 min, 141 Min, 142, 143) of Dangri river covered in the Survey of India Topo H43K14 & H43L2 and is bounded between the Latitude - 30°37'42.00" N to 30°38'33.00" N and Longitude – 76°59'12.00" E to 76°59'34.3" E.

Area & production: The total ML area is 46.50 Ha Proposed rate of production will be 4 Lakh TPA.

Connectivity:

Nearest Railway Station: Ghaghar Railway Station is approx 13.64 km towards SW direction.

Nearest Airport: Chandigarh Airport is approx. 19.43 km towards W direction.

Nearest Highway: NH-73 is approx 4.51 km in SW direction.

Interstate Boundary: Haryana and Punjab Interstate boundary is 8Km SW Direction.

Ecological Sensitive Areas (National Park, Wild Life Sanctuary, Biosphere Reserve, Reserve/ Protected Forest etc.) within 10 km distance: List of Wild life sanctuary Reserve/ Protected Forest is given below:

1. Khol Li Raitan Wild Life sanctuary is 2.41 Km, NW Direction.
2. Dharti Protected Forest is 8.5 Km, NE Direction.
3. Palasara Protected Forest is 7 Km, NE Direction

4. Paonta Protected Forest is 7.2 Km, NNE Direction
5. Kadana Protected Forest is 8.5 Km, E Direction
6. Rajpura Protected Forest id 9.5 Km, E Direction.

Salient Features of Project

Name of the applicant	M/s Starex Minerals
Address of Lessee	Add: J.S Height, Block A, Opp. Shivansh Mahindra Service Centre, Dhamdha Road, Khapri, Dist. Durg .
Name of Mine	Riverbed Sand Mining
Village	Shamtoo
District & State	Panchkula, Haryana
Mineral	Minor mineral (Sand)
Area (ha)	46.50 Ha.

MINING

Sand will be excavated from Shamtoo-1: Block/PKL B-11 Sand Quarry which lies on river bed of Dangri river. The river sand deposits are derived from hard rock due to weathering, erosion and long-term transportation. Size of the sand grain is small and shape is mostly rounded because of long transportation from the source. These deposits are renewable unlike other mineral deposits. It is mostly difficult to assess the deposit of a specific stretch with certainty every year as sand gets deposited in various patches along the river course. Unlike other mineral resources sand is formed and gets deposited through physical action. However, the assessment has been made based on prevailing surface conditions. Based on the surface exposures, the updated geological reserves as well as mineable reserve have been estimated in the entire lease area. Existing B level of river varies from 338.50 to 336.65 msl. Working bottom level of river varies from 335.50 to 335.65 msl.

RESERVE AND PRODUCTION

Geological reserve:

Lease area in Ha.	Total Proved geological reserve MT= Area * depth * BD (A)	Blocked area of 50m strip after each km, 25% blocked in river banks, lease boundary etc = ha.	Blocked Geological reserve MT
46.50	25,38,900	12.25	6,68,850

Mineable reserve:-

Mineable Reserves

Lease area in Ha.	Total Proved geological reserve MT= Area * depth * BD (A)	Blocked area of 50m strip after each km, 25% blocked in river banks, lease boundary etc = ha.	Blocked Geological reserve MT	Total Mineable Reserve in Blocked area MT	Mineable Reserve (Per Year)
46.50	25,38,900	12.25	6,68,850	18,70,050	4,00,000

Year wise Production detail

Year	Production (Tonnes)
1st Year	4,00,000
2nd Year	4,00,000
3rd Year	4,00,000
4th Year	4,00,000
5th Year	4,00,000
Total	**20,00,000**

SITE FACILITIES AND UTILITIES

Water Supply

In the river bed mining projects there is as such no need of water to carry out operations, except for dust suppression& drinking. The number of working people is14so the water requirement for workers for drinking purpose will be around 0.69 KLD& the total water requirement will be around 6.61 ~ 6.60 KLD. This water will be supplied from the nearby area.

Temporary Rest Shelter

A temporary rest shelter will be provided for the workers near to the site for rest. In addition, First aid box along with anti-venoms to counteract poison produced by certain species of small insects, if any and sanitation facility i.e. septic tank or community toilet facility will be provided for the workers.

BASELINE ENVIRONMENTAL STATUS

Environmental data has been collected in relation to proposed mining for Air, Noise, Water, Soil, Flora & Fauna. The baseline environment study was carried out over an area with radial distance of 10 km around the mining lease area during post monsoon season from October 2020 to December 2020.

Baseline Environmental Status

Attribute	Baseline status
Ambient Air Quality	**Observations:** Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 7 AQ monitoring stations were found to be 59.75µg/m^3 at AQ2 and 86.81µg/m^3 at AQ4, respectively. Minimum & maximum concentrations of PM2.5 for all the 7 AQ monitoring stations were found to be 27.73µg/m^3 at AQ2 and 46.08µg/m^3 at AQ1, respectively. As far as the gaseous pollutants SO_2 and NOx are concerned, the prescribed CPCB limit of 80µg/m^3 for residential and rural areas has never surpassed at any station. The maximum & minimum concentrations of SO_2 were found to be 6.13µg/m^3 at AQ5 & 16.08µg/m^3 at AQ7, respectively. The maximum & minimum

	concentrations of NO_X were found to be 9.33µg/m^3 at AQ5 & 23.87µg/m^3 at AQ1, respectively.
Noise Levels	Noise monitoring was carried out at seven locations. The results of the monitoring program indicated that both the daytime and night time levels of noise were well within the prescribed limits of NAAQS, at all the four locations monitored.
Water Quality	6 Groundwater samples and 3 surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500. From the Surface water analysis it is evident that most of the parameters of the samples comply with 'Category 'C' standards of CPCB indicating their suitability for Drinking water source after conventional treatment and disinfection.
Soil Quality	Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.25to 8.02, which shows that the soil is alkaline in nature.
Ecology and Biodiversity	There are no Ecologically Sensitive Areas present in the study area, but many reserved forests regions surround the project area.
Socio-economy	The implementation of the Shamtoo-1: Block/PKL B-11 sand mining project on river Dangri in Panchkula district will throw opportunities to local people for both direct and indirect employment. The study area is still lacking in education, health, housing, water, electricity etc. It is expected that same will improve to a great extent due to proposed mining project and associated industrial and business activities.

ANTICIPATED ENVIRONMENTALIMPACTS

Impact on Air Environment

The proposed mining activities loading and movement of other transport vehicles used in mining will generate dust (SPM/RSPM). Proper water sprinkling shall be carried out at the mine site.

The mineral will be transported by road through covered tarpaulin trucks/tippers to reduce the fugitive emission caused by the wind.

Impact on Water Environment

Mining of sand from within or near *river* has an indirect impact on the physico-chemical habitat characteristics during monsoon season. These characteristics include in stream roughness, elements, depth, velocity, turbidity, sediment transport and stream discharge.

The detrimental effects, if any, to biota resulting from bed material mining are caused by following:

- Alteration of flow patterns resulting from modification of the *river*
- An excess of suspended sediment during monsoon season.

Project activity will be carried out only in the dry part of the Dangri River. Hence, none of the project activities affect the water environment directly. In the project, it is not proposed to divert or truncate any stream in monsoon season only. No proposal is envisaged for pumping of water either from the *River* (in monsoon) or tapping the ground water.

Impact on Land Environment

The proposed extraction of stream bed materials, mining below the existing streambed, and alteration of channel-bed form and shape may lead to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology if, the operations are not carried out systematically.

The systematic and scientific removal of sand will not cause bed degradation. The silt and clay generated as waste will be used for plantation or filling up low lying area elsewhere. The mining is planned in non monsoon seasons only, so that the excavated area gets replenished gradually during the monsoons each year.

Impact on Noise Environment

The proposed mining activity is semi-mechanized in nature. No drilling & blasting is envisaged for the mining activity. Hence, the only impact is anticipated is due to movement of vehicles

deployed for transportation of minerals. The vehicles will be maintained in good running condition so that noise will be reduced to minimum possible level.

Impact on Biological Environment

As the proposed mining will be carried out in a scientific manner, not much significant impact is anticipated. No mining will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season for many of the species. The mining site has no vegetation, no clearance of vegetation will be done. Haul roads will be sprinkled with water which would reduce the dust emission, thus avoiding damage to the crops.

Impact on Socio Economic Environment

The impact of mining activity in the area is positive on the socio-economic environment of the region. Sand mining will be providing employment to local people whenever there is requirement of manpower.

POST PROJECT ENVIRONMENTAL MONITORING

S.No.	Description of Parameters	Schedule of Monitoring
1	Air Quality	24 hourly samples twice a week in each season except monsoon
2	Water Quality (Surface &Groundwater)	Once a season for 4 seasons in a year
3	Soil Quality	Once in a year in project area
4	Noise Level	Twice a year for first two years & then once a year
5	Socio-economic Condition	Once in 3 years
6	Plantation Monitoring	Once in a season

ADDITIONAL STUDIES

Public Hearing

Public hearing is yet to be conducted.

Risk Assessment

The complete mining operation will be carried out under the management control and direction of a qualified mine manager holding. The DGMS have been regularly issuing standing orders, model standing orders and circulars to be followed by the mine management in case of disaster, if any. Moreover, mining staff will be sent to refresher courses from time to time to keep them alert.

Disaster Management Plan

Emergency preparedness is an important aspect in the planning of Disaster Management. Personnel would be trained suitably and prepared mentally and physically in emergency response through carefully planned, simulated procedures. Similarly, the key personnel and essential personnel shall be trained in the operations.

PROJECT BENEFITS

Physical Benefits: Road Transport, Market, Enhancement of green cover & Creation of community assets.

Social Benefits: Increase in Employment Potential, Contribution to the Exchequer, Increased Health related activities, Educational attainments & Strengthening of existing community facilities.

Environmental Benefits:

- Controlling river channel and protection of banks.
- Reducing submergence of adjoining agricultural lands due to flooding.
- Reducing aggradation of *river* level.
- A check on illegal mining activity.

CORPORATE SOCIAL RESPONSIBILITY

2% of capital cost of the project cost will be allotted for the Corporate Environmental Responsibility as per OM dated 1st May 2018. The following has been proposed considering the needs & demand of the people. **CER is 12.18 Lakhs/- .**

SI. No.	**Activity**	**Capital Cost** (in Lakh.)
1	Health check-up camp will be organized for the local community in the Gram Panchayat	4.0
2	Drinking water facility in nearby village	3.0
3	Distribution of mask and sanitizer to the people of Shamtoo village.	1.18
4	Skill development program camps like computer learning, sewing etc. in Shamtoo village.	4.0
TOTAL (in life time)		**12.18 lakhs.**

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- Extraction will be done from the bed leaving safety zone from bank.
- The maximum working depth will remain above ground water table of the area.
- Provide health facilities to the workers & surrounding people in the impact area to reduce the health impacts.
- Ensuring wildlife protection & arranging awareness campaigns for the same.
- Minimize activities that release fine sediment to the *river*.
- Effective mitigation measures will be adopted to minimize disturbance during transportation & handling of minerals
- Establishment of reclamation program with plantation of local/native & fast growing species
- Establishment of restoration plan during the closure of mine at the onset of monsoon season.
- Establishment of effective Disaster Management Plan to take timely precautionary measures to avoid effects of impending disasters.
- Establishment of effective Monitoring Program monitored by Environment Management Cell.

BUDGET ALLOCATION FOR EMP IMPLEMENTATION

Environment Management Budget

SI. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 50,000 40,000 10,000 10,000
3.	Green belt development	2,50,000	1,00,000
4.	Maintenance of haul road	1,40,000	1,20,000
Total		**3,90,000**	**4,30,000**

CONCLUSION

Based on the EIA study it is observed that there will be an increase in the dust pollution, which will be controlled by sprinkling of water and plantation. There will be an insignificant impact on ambient environment and ecology due to the mining activities moreover the mining operation will lead to direct and indirect employment generation in the area. Green belt development around the area will also be taken up as an effective pollution mitigative technique, as well as to control the pollutants released from the premises of the Mine. Monitoring program will be followed till the mining operations continue. Hence, it can be summarized that the development of the mine will have a positive impact on the socio-economic environment of the area and lead to sustainable development of the region.

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