

## EXECUTIVE SUMMARY

### 1. PROJECT DESCRIPTION

District Survey Report of District Rupnagar has been approved by State Environment Impact Assessment Authority (SEIAA) vide letter No. SEIAA/MS/2023/1086 dated 17/08/2023 (copy of DSR attached as Annexure 5). As per approved DSR, the proposed river bed material (RBM) mining site involves mining of minor mineral i.e. sand from the bed of river Satluj, at a part of Village: Palsari, Brahmur, Tehsil- Nangal & District Rupnagar, Punjab from an auctioned area of 5.21 Ha. **(SITE NO.16)**- 14//11, 19, 21, 23, 15//15, 19//3, 4, 7, 8. **(SITE NO.17)**- 48//22, 54//2, 3, 8, 9, 14, 17, 24, 64//1, 10, 11, 65//5, 6, 7, 15. As per approved mining plan, the proposed production capacity is 35152 TPA of RBM. The river bed material is in high demand in the local market; it is used for basically construction purposes.

**Table No. I.: Year wise development and production for three years is tabulated below:**

Year	RESERVES	
	Total Mineable Reserves (Tonnes)	Recoverable Mineable Reserves (Tonnes) (40% of Mineable Reserve)
First	87881	35152
Second	87881	35152
Third	87881	35152
<b>Total</b>	<b>262629</b>	<b>105456</b>

The proposed mining project has been categorized as Category B1 project as per EIA Notification, 2006.

## 2. Proponent & Address:

As per Chief Engineer/Drainage & Mines and Geology, Punjab office Memo No.5598-5602 dated 05.09.2022, Executive Engineer- cum- District Mining Officer, Rupnagar has been nominated as Project proponent and authorized to carry out mining operation in District Rupnagar.

**Address:** XEN/DMO, Drainage cum Mines and Geology WRD Punjab, Room No. 145, D.C. Complex, Mini Secretariat, Rupnagar.

## 3. Brief description of nature, size and location of the project:

Brief details of the project are described in the **Table No.II:** given below:

S. No.	Particulars	Description																					
<b>A</b>	<b>Mining Lease &amp; Location Details</b>																						
1.	Name of the Project	RBM Mining Project																					
<b>2.</b>	<b>Location</b>																						
a.	Villages	Palsari, Brahmur																					
b.	Tehsil	Nangal																					
c.	District	Rupnagar																					
d.	State	Punjab																					
3.	Lease Area Coordinate	<table border="1"><thead><tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr></thead><tbody><tr><td colspan="3" style="text-align: center;"><b>SITE-16(PIT-I)</b></td></tr><tr><td>1</td><td>31°20'17.63"N</td><td>76°22'45.97"E</td></tr><tr><td>2</td><td>31°20'17.66"N</td><td>76°22'46.54"E</td></tr><tr><td>3</td><td>31°20'16.24"N</td><td>76°22'48.74"E</td></tr><tr><td>4</td><td>31°20'16.26"N</td><td>76°22'47.22"E</td></tr><tr><td colspan="3" style="text-align: center;"><b>PIT-II</b></td></tr></tbody></table>	Pillar No.	Latitude	Longitude	<b>SITE-16(PIT-I)</b>			1	31°20'17.63"N	76°22'45.97"E	2	31°20'17.66"N	76°22'46.54"E	3	31°20'16.24"N	76°22'48.74"E	4	31°20'16.26"N	76°22'47.22"E	<b>PIT-II</b>		
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Name of the Project: Sand Mining

Client: XEN/DMO District Rupnagar, Government of Punjab

Location: Village- Palsarri, Brahmur, Tehsil-Nangal, District Rupnagar, Punjab

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		1	31°20'14.99"N	76°22'50.57"E
		2	31°20'14.24"N	76°22'51.74"E
		3	31°20'13.28"N	76°22'50.57"E
		4	31°20'14.24"N	76°22'48.58"E
<b>PIT-III</b>				
		1	31°20'11.35"N	76°22'55.38"E
		2	31°20'8.12"N	76°22'57.29"E
		3	31°20'10.31"N	76°22'55.19"E
		4	31°20'11.91"N	76°22'53.07"E
		5	31°20'13.06"N	76°22'53.11"E
<b>SITE-17</b>				
		1	31°19'44.67"N	76°23'2.90"E
		2	31°19'44.70"N	76°23'4.38"E
		3	31°19'38.94"N	76°23'7.90"E
		4	31°19'35.78"N	76°23'10.43"E
		5	31°19'32.92"N	76°23'10.39"E
		6	31°19'32.87"N	76°23'12.80"E
		7	31°19'32.26"N	76°23'14.10"E
		8	31°19'30.79"N	76°23'15.41"E
		9	31°19'26.97"N	76°23'15.35"E
		10	31°19'27.03"N	76°23'12.64"E

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		11	31°19'30.92"N	76°23'8.62"E
		12	31°19'30.96"N	76°23'10.35"E
		13	31°19'32.92"N	76°23'7.86"E
		14	31°19'38.89"N	76°23'2.84"E
4.	Lease Period of Mine	03Years		
5.	Cost of the project	Rs: 1,47,63,840 (Approximate)		
6.	Man Power Requirement	30 Nos.		
7.	Water Requirement & Source	Domestic	1.35 KLD	
		Dust Suppression	4 KLD	
		Total water requirement	5.35 KLD	
Source: through tankers.				
<b>B</b>	<b>Environmental Settings</b>			
8.	Elevation(RL)	The highest level is 318.75 mRL and lowest level is 314.40 mRL		
9.	Nearest National Highway /State Highway	National Highway 503 (Chandigarh-Dharmashala) 1.4 Km North East		
10.	Nearest Railway Station	Nangal Dam Railway station approximately 3.66Km North.		
11.	Nearest Airport	Adampur Airport, Jalander approximately 60km, West		
12.	Ecological Sensitive Areas (Wildlife Sanctuaries)	None		

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13.	Reserved/Projected Forests	None
14.	Nearest Village/Town/City	Brahmpur 900m towards NE direction
15.	Nearest River	Satluj River
16.	Seismic Zone	Zone IV

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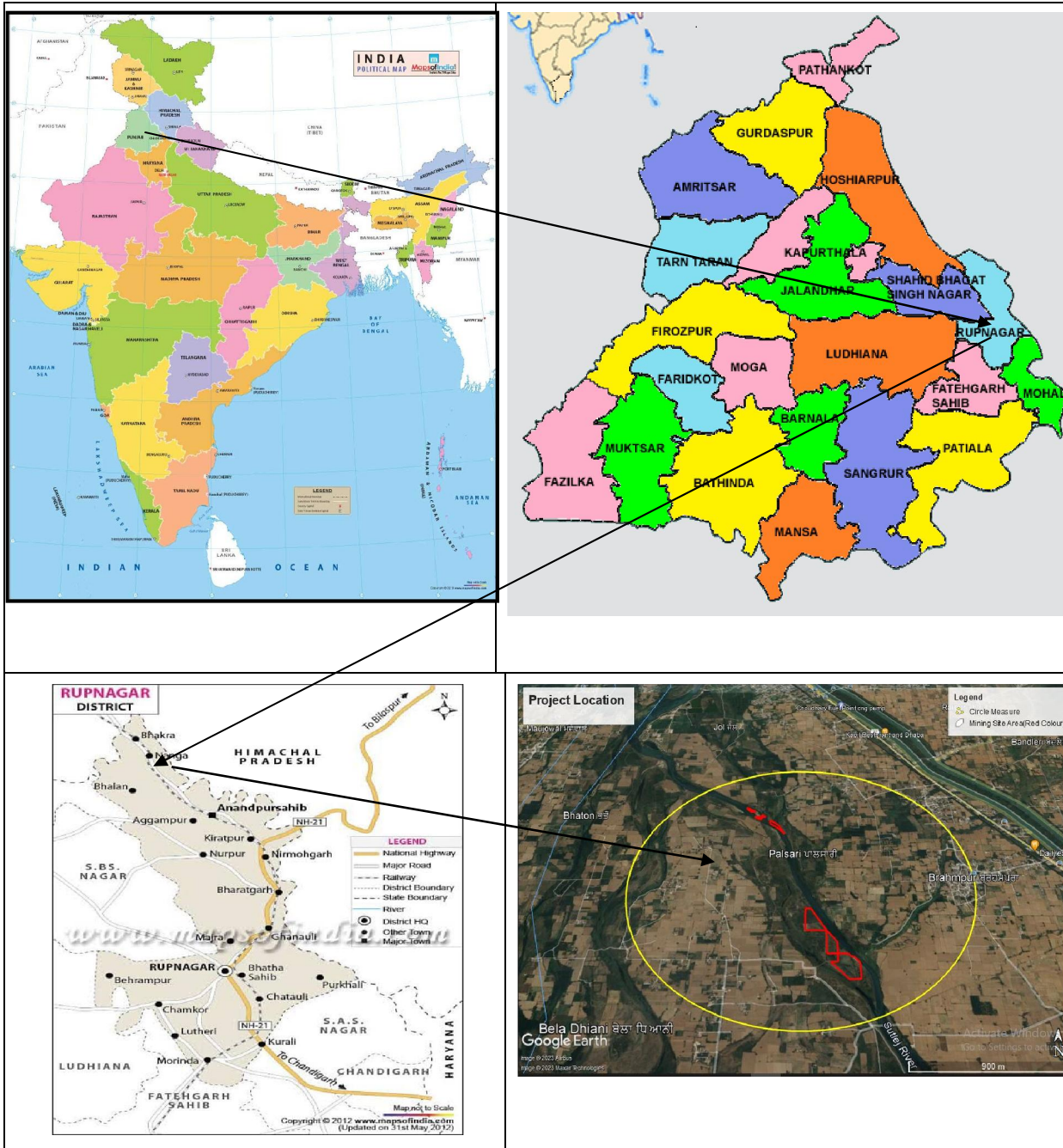


Figure No. I: Project Location

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#### **4. STATUS OF REGULATORY CLEARANCES OF THE PROJECT**

The Mining plan has been approved by Assistant Geologist, Mines & Geology, Water Resources Department, Punjab, Chandigarh vide Memo No. Glg/Pb/M.P./Palsari, Brampur/2331 dated 11.09.2023. There is no National Park, Wildlife Sanctuary & National Monument, within core zone or 10 km radius of the ML area. There is no legal issue against the project in the court of law.

#### **5. METHOD OF MINING**

The mining is proposed by opencast semi- mechanized method without drilling and blasting. RBM will be excavated in slices of 1 metre thickness upto a depth of 1.52m (as per DSR report). RBM deposit fall in bed of river Swan so mining will be done upto 1.52 m depth. The height of slices of layer will be kept 1m each with face slope of 45 degrees. 7.5 m barrier zone will be provided along with the lease boundary as stated under MMR 1961. A distance of 3m or 10% of width of river whichever is more to be left intact as no mining zone. The maximum level of annual production planned is 35152 TPA. Mining will be carried out only in summer i.e. 1st April to 30<sup>th</sup> June from 6.00 am to 7.00 pm and in winter i.e. 1st October to 31st March from 7.00 am to 5.00 pm. Mineral extraction will be done for a period of about 270 days in a year.

#### **6. DESCRIPTION OF THE ENVIRONMENT**

The entire proposed mine lease area is considered as core zone. The surrounding area covering 10 km radius from the periphery of the core zone is considered as buffer zone. The study area covers 10 km radius of the proposed RBM Mining Project located at Village- Palsari, Brahmur, Tehsil- Nangal & District-Rupnagar, State- Punjab.

The climate of the district is characterized by dryness except a brief spell of monsoon season in a very hot summer and a bracing winter. The cold season extends from mid-November to the early part of March. The succeeding period up-to the end of June is the hot season. July, August and half of September constitute the southwest monsoon. The period from mid-September to mid-November is considered as post monsoon. June is

generally the hottest month. Hot and scorching dust laden winds blow during summer season. The project zone lies in the sub-tropical region with four distinct seasons;

Winter – November to February

Summer – March to June

Monsoon – July to Mid-September

Post Monsoon – Mid September to mid-November

The base-line data has been collected during the summer season i.e. from April to June 2023 at the project site and 10 km buffer zone for prominent environmental attributes like Ambient Air Quality, Ambient Noise Level, Water quality and Soil profile. In order to get an idea about the existing state of the environment, various environmental attributes such as meteorology, air quality, water quality, soil quality, noise level, ecology and socio-economic environment have been studied/monitored. The results of monitored parameters are found to be well within the prescribed limits.

## **7. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Based on the Baseline Environment, environmental impacts of the mining activity on the surrounding environment are described in following sub-sections.

### **7.1 Impact on Land Use Pattern and Mitigation Measures**

RBM mining activities result in surface degradation due to road network and river bank erosion. But by adopting the following mitigation measures, the impact will be minimized:

- Road will be maintained in good condition by using local earth material.
- Regular levelling of transportation route.
- Removal of RBM shall not exceed 40% of the mine lease area, which will minimize effect of erosion.
- The mining will not be carried out below the river water level.

### **7.2 Impact on Air Quality and Mitigation Measures**

The mining operations, loading, and transportation operations may cause deterioration in



air quality. Semi mechanized mining method shall be adopted for the mining of RBM and following mitigation measures will be implemented:

- Loaded vehicles will be covered with tarpaulin.
- PUC certified vehicles will be used.
- Overloading will be avoided.
- Plantation will be carried out along the approach road and vicinity area.
- Periodic air quality monitoring will be done and adequate measures will be done.

### **7.3 Impact of Noise Levels and Mitigation Measures**

Noise level will increase due to transportation. To minimize the impact of noise, following mitigation measures will be adopted:

- Proper maintenance of vehicles will be done on regular basis.
- Necessary Personnel protective equipment will be provided to the workers.
- Adequate silencers will be provided in all the diesel engines of vehicles.
- Minimum use of horns and speed limit of 10km/hr in the village area.
- Plantation will be carried out along the approach road and vicinity area.

### **7.4 Impact on Water Resources and Mitigation Measures**

No waste water is generated from the mining activity of minor mineral. However, following mitigation measures will be adopted:

#### **Surface Water Resources**

- Monitoring of water will be carried out periodically. Water analysis will be carried out seasonally.

#### **Groundwater Resources**

- Regular monitoring of water levels and quality in the existing open wells and bore wells in the vicinity will be carried out. If found necessary, additional observation wells will be sunk for monitoring the water levels and quality around the mine representing both upstream and downstream conditions. In addition to this, following mitigation measures will also be adopted:

- River streams will not be diverted to form inactive channels.

- Groundwater will not be intersected during mining activities.
- Mobile toilets will be made available near mine's office.

## **7.5 Impact on Biological Environment and Mitigation Measures**

Ecological impact on aquatic life, flora and fauna and surrounding habitat due to fugitive emission. Following mitigation measures will be adopted:

### **Flora**

- Pollutant like dust, gaseous emanations will be minimized at the generation point itself and adequate measures will be taken to prevent their impact on environment.
- There is no forest in the core zone of mining lease area. So, there will be no deforestation due to mining.
- The greenery will be developed under green belt development programme in the village panchayat land and along the approach road will improve the floral environment of the area.

### **Fauna**

- No mining will be carried out during the monsoon season to minimize impact on aquatic life which is mainly breeding season.
- The lease area is not inhabited by any wild life, as there is no forest cover, hence there will not be any effect on migration or extinction of wildlife.

## **7.6 Socio-Economic Profile**

The social demographic profile of the area is not likely to be much affected, as there is no displacement of people due to the project. The mining in the area has created rural employment. The mining activity in the region has positive impact on the social economic condition of the area by providing employment to the local inhabitants; wages paid increase the per capita income.

## **8. ENVIRONMENTAL MONITORING PROGRAMME**

Following table depicts the monitoring schedule for environmental parameters

Table No.III: Environmental Monitoring Programme

S. No.	Particulars	Parameters for Monitoring	Duration of Station	Monitoring Frequencies	Location
1	Air Emission	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> and CO	24 hr	Twice a week	One location inside and One outside
2	Noise	Spot Noise level recording Leq (day), Leq (night), Leq (dn)	8 hr	Once in a month (Day/ Night)	One location inside and One outside
3	Surface & Ground Water	Physical, Chemical	Grab	Quarterly	One location Surface water and One Location Ground Water
4	Soil Sampling	Physico - chemical parameters and metals	Grab	Twice in a year	One location inside and One outside

## 9. ADDITIONAL STUDIES

### ➤ Risk Assessment

The complete mining operation will be carried out under the management control and direction of a qualified mine manager holding Mines Manager's Certificate of Competency. Moreover, mining staff will be sent to refresher courses from time to time to keep them updated.

### ➤ 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.

➤ **Public Hearing**

As per Terms of Reference (TOR) issued from SEIAA vide letter No. SEIAA/PB/MIN/2023/TOR/43 dated 05.10.2023, under EIA Notification of the MoEF dated 14-9-2006, as amended from time to time, public hearing has to be conducted.

## 10. PROJECT BENEFITS

The impact on the civic amenities will be substantial after the commencement of mining activities. Medical facilities will be provided in the form of first-aid facility at the mine. These medical facilities will also be available to local people in the surrounding in case of emergencies.

- Generation of employment and improved standard of living;
- Increased revenue to the State by way of royalty, taxes and duties; and
- Superior communication and transport facilities etc.

The employment of local people in primary and secondary sectors of project will upgrade the prosperity of the region.

## 11. ENVIRONMENT MANAGEMENT PLAN

The summary of environmental management plan is given below:

**Table No. IV: Summary of Environment Management Plan**

S. No.	Parameter	EMP
1	Land Environment	Fugitive emission shall remain confined locally within working area and emission at haul road will be controlled by water sprinkling and plantation.
2	Air Environment	Water spraying will be done for dust suppression. Trucks will be covered with tarpaulin to stop

		dust emission. PUC Certified Trucks will be deployed for transportation.
3	Water Environment	Mining will not interfere with the ground water table.
4	Noise Environment	Minimum use of Horns near the village area. Use of loud sound systems in transport vehicles will be prohibited.
5	Biological Environment	Awareness program will be conducted for labours to sensitize them about importance of biological environment
6	Health & Safety	Labours will be made aware of the ways of working and safety measures. Medical facilities & first aid boxes along with anti-venom will be provided in the mine premises. Health Awareness Programmes and camps shall be arranged for local villagers.

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