

PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 12TH JUNE 2023

The SEAC met on 12th June 2023 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

- | | | |
|------------------------------|---|-----------------------|
| 1. Sri Sashi Paul | - | Chairman (through VC) |
| 2. Dr. K. Murugesan | - | Member Secretary |
| 3. Dr. Chittaranjan Panda | - | Member |
| 4. Prof. (Dr.) H.B. Sahu | - | Member (through VC) |
| 5. Shri Jayant Kumar Das | - | Member |
| 6. Er. Fakir Mohan Panigrahi | - | Member (through VC) |
| 7. Prof. (Dr.) B.K. Satpathy | - | Member |
| 8. Dr. K.C.S Panigrahi | - | Member (through VC) |
| 9. Prof. (Dr.) Abanti Sahoo | - | Member (through VC) |
| 10. Dr. Ashok Kumar Sahu | - | Member |
| 11. Dr. Rabinarayan Patra | - | Member (through VC) |

Draft proceedings of the meeting was finalized by the members through e-mail and final proceedings of the meeting was confirmed by the members through e-mail. The agenda-wise proceedings and recommendations of the committee are detailed below.

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. SAHU METALIKS PVT. LTD. FOR BIRUPA RIVER SAND QUARRY, BHAIRPUR OVER AN AREA OF 5.058 HA. IS LOCATED IN MOUZA - BHAIRPUR, TAHASIL – SALIPUR, IN DISTRICT - CUTTACK OF SRI AMRIK SINGH – EC

1. This proposal is for Environmental Clearance of M/s. Sahu Metaliks Pvt. Ltd. for Birupa River Sand Quarry, Bhairpur over an area of 5.058 ha. is located in Mouza - Bhairpur, Tahasil – Salipur, in District - Cuttack of Sri Amrik Singh.
2. **Category:** The project falls in category “B” under Schedule of activity 1(a)-Mining of minerals as per the EIA Notification,2006 and its subsequent amendments.
3. The Letter of Intent (LOI) was granted to Sri Amrik Singh vide letter No.383 dated 03.02.2018 for the period of 5 years by Tahasildar, Salipur.
4. This Mining Plan is approved vide letter No. 7847/DG dated 28.04.2018 by the Directorate of Geology, Bhubaneswar, Cuttack District.
5. Mining lease is an identified sairat source in the Cuttack DSR in Annexure – I, sl.no. – 24.
6. **TOR details:** Terms of Reference (TORs) has been granted by SEIAA, Odisha vide No – 1265/SEIAA dated 09.04.2021.
7. **Public hearing details:** The Public Hearing was held on 09.03.2022 at the playground of Bhairpur mouza situated near Tarini Mandir under Salipur tahasil in Cuttack district. The villagers

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

did not raise any specific issues on the environment. Budget earmarked for the action plan of public hearing is Rs. 3 lakhs.

8. **Location and connectivity:** The Proposed Sand Mining Project is located at Birupa River Sand Bed in Plot No.- 01, Khata no. - 655, over an area of 5.058 ha., Kissam- Nadi, of Bhairpur-Village, Salipur-Tahasil, Cuttack-District, Odisha-State. The said lease is located in survey of India Topo Sheet No. F45T14, bounded by Latitude: 20° 30' 44.70" to 20° 30' 51.02" N, Longitude: 85° 58' 43.02" to 85° 58' 55.56" E. The Lease area is accessible from SH 9A at a distance of 1.75 km, which is well connected to National Highway - 5. The nearest railway station is Nirgundi at distance 3.5 km from the lease area. Nearest airport is Bhubaneswar airport at a distance of 35 Km from the mining lease area.
9. **Topography and drainage:** The general topography of the area around the mine site is general plan agricultural land along the river. The area constitutes almost alluvial plain without any conspicuous topographical features and forms a part of the vast Indo-Gangetic plain. The proposed area is undulating. The flow rate of the river varies with the quantity of precipitation in the catchment area. The lease area surrounded mostly with agricultural lands. There is no major impact of mining on the topography of the area. The mining lease area in riverbed will be replenished with sediments after monsoon and the area which in agriculture field will be reclaimed after mining. Drainage system in the region is dendritic. General flow direction of Birupa River is from west to east.
10. **Baseline study:** Baseline study was conducted during Mar to May 2021 (Pre-monsoon Season) around 10km radius of mine lease boundary
 - a) **Ambient Air quality:** Ambient air quality of the study area has been monitored at 8 locations for 12 air quality parameters. The AAQ analysis indicates that the concentration of PM10 varied from 46 to 66 µg/m³, PM2.5 from 25 to 58 µg/m³, SO₂ from <4 to 8.8 µg/m³, NO_x from <9 to 13.9 µg/m³. Benzene, BaP, Ni, As, & Pb were found below detection limit.
 - b) **Noise quality:** Near industrial area day and night noise levels are 45.8 dB (A) to 44.2 dB (A). In residential areas daytime noise levels varied from 51.2 dB (A) to 47 dB (A) and nighttime noise levels varied from 41.9 dB (A) to 38.5dB (A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels are well within the prescribed limit by CPCB (55 dB (A) Day time & 45 dB (A) Nighttime).
 - c) **Surface water:** pH values varied between 6.9 to 7.1 while Turbidity varies from 8.2 to 11.0 NTU, Dissolved Solids varied from 86 to 94 mg/L, Dissolved oxygen varies from 7.0 to 7.1 mg/L, BOD varied from 1.5 to 1.7 mg/L and Chloride values varied between 12 to 13.4 mg/L. Iron values varied from 0.23 to 0.28 mg/L, Manganese values varied below 0.02 mg/L. Sulphate values varied from 11 to 13.6 mg/L and Nitrate values varied from 1.2 to 2.3 mg/L. Zinc 0.1 to 0.12 mg/L. Copper below 0.05. Fluoride, Arsenic, Lead, Chromium, Cyanide, Selenium, Fluoride, Phenolic compound and Cadmium have been observed below detection limit and Total Coliform varies from 162 to 279 MPN/100 ml.
 - d) **Ground water:** pH values varied between 7.0 to 7.3 while Dissolved Solids varied between 174 to 186 mg/l and total hardness varied from 89 to 94 mg/l. Chloride values varied between 6.2 to 6.7 mg/l. Calcium values varied between 22.1 to 28.1 mg/l while

Magnesium values varied between 5.3 to 5.9 mg/l, Sulphate values varied from 2.1 to 3.5 mg/l and Nitrate values varied from 2.5 to 3.2 mg/l. Zinc values varied below 0.05 mg/l & Boron value below 0.01 mg/l. Lead, Copper, Manganese, Fluoride, Mercury, Cadmium, Cyanide, Arsenic, Selenium, Chromium, Phenolic compounds and Aluminum have been observed below detection limit.

- e) **Soil quality:** The pH of the soil samples ranged from 6.4 to 6.6. Indicating that the soils are slightly acidic to moderately alkaline in nature. Nitrogen content ranged from 0.07 % to 0.09 %. Potassium ranged from 0.08 % to 0.09 %.

11. **Total reserves and production:** As estimated, geological reserve of sand is 35140 CuM and mineable reserve is 31224 Cu.M. During the plan period, a total of 23200 CuM (4640 cum/annum) sand will be extracted. At the end of the plan period the quarry level will be 23 m RL.
12. **Replenishment study:** The pre-monsoon data on was carried out in date 10.06.2022 by using DGPS Survey Method and the post monsoon data on 05.12.2022 by using UAV/ Drone Method. Considering the safe workable area for pre- monsoon and post-monsoon survey was 12045.92 m2. It is estimated that during Pre-monsoon the extractable sand available is 11565.96 m3 and during Post-monsoon the extractable sand available is 11436.94 m3.It is observed that erosion of 164.92 m3 has been done with average thickness of 0.013m.
13. **Method of mining:** The winning of mineable reserve of sand of Birupa River Sand Quarry' Bhairpur will be carried out by opencast by manual dry pit mining method. Sand is to be excavated in layers up to a depth of 1.0m. No machines are proposed to be deployed to carry out wining of sand. Total handling of sand from excavation screening stacking and loading to the user carriers like tractors/Tippers will be done manually. To maintain safety and stability of riverbanks a safety distance of 3m or 1/10th of the width of the river on both side of riverbank will be left as per sustainable sand.
14. **Water requirement:** Total water requirement will be approx.. 1 KLD that will be required for different purposes like domestic, dust suppression, plantation purposes & sourced from private suppliers.
15. **Power/Fuel requirement:** Minimal power required for office shall be taken from the General Electric supply of the area. The approximate quantity of the fuel used per day is 0.014 KLD diesel is required as fuel.
16. **Greenbelt:** It is proposed to plant 50 Nos. per year of native species (250 Numbers of native species will be planted during the 5-year plan period) along with some fruit bearing and medicinal trees during the plan period and a budget of Rs. 0.5 Lakh for plantation is given in EMP.
17. **Manpower requirement:** 11 nos. of person are to be employed daily for the manpower requirement of the proposed project.
18. **Project Cost:** The project proponent will incur a total cost of Rs. 50.00 Lakhs. This will include cost of labour, cost of transportation, fuel charges etc. 2.0 % of capital cost has been earmarked towards CER which is Rs 1.00 Lakh. Capital & recurring cost estimated for environmental management is Rs. 3.0 Lac & Rs.1.0 lakhs respectively.

19. **Environment Consultant:** The Environment consultant **M/s EHS 360 Labs Pvt. Ltd., Chennai** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s EHS 360 Labs Pvt. Ltd., Chennai** along with the project proponent, the SEAC recommended the following:

A) The proponent may be asked to submit the followings for further processing of EC application;

- a) Revised replenishment study report as present replenishment study is done in DGPS for pre-monsoon and Drone method for post monsoon which aren't comparable to one another. Further the replenishment study report is representing negative data/erosion.
- b) Latest KML file as the present KML file is showing two distinct patches of sand in between the water body.
- c) Detail note on Transportation of sand from proposed quarry to river embankment and mention type of road to be used for transportation.
- d) Cross section details and net loss of sand shall be clarified.

B) The proposed site shall be visited by Sub-Committee of SEAC to verify the followings;

- i) Environmental settings of the lease area.
- ii) Availability of sand within the lease area.
- iii) Mining activity, if any carried out in the lease area.
- iv) Road connectivity to the lease area.
- v) Distance of the road and railway bridge from the boundary of the lease area.
- vi) Cluster approach if any.
- vii) Distance of embankment from sand deposit.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR OSTAPURA-BHOLANUAGAON CLUSTER STONE QUARRY OVER AN AREA OF 10.925 HA IN VILLAGE - OSTAPURA & BHOLANUAGAON, TAHASIL – GHASIPURA IN DISTRICT KEONJHAR OF SMT SAGARIKA JENA - EC

1. This proposal is for Environmental Clearance for Ostapura-Bholanuagaon Cluster Stone Quarry over an area of 10.925 Ha in village - Ostapura & Bholanuagaon, Tahasil – Ghasipura in district Keonjhar of Smt Sagarika Jena.
2. **Category:** The proposed project fall in B1 category under Schedule 1(a) Mining of Minerals as per EIA Notification 2006 and its Amendments thereafter.
3. **Legal Issues / Court case details** – A case was filed at the Hon'ble High Court vide case no - W.P(C) No. 34014/2022 filed by Sri Jayanta Kumar Mishra, Bhimasen Hasda, Sudhanshu Sekhar

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

Nayak Vrs SEIAA, Odisha on illegal mining of Ostapura Stone Quarry of Bholanuagaon & Ostapura Cluster Stone Quarry the Hon'ble High Court had passed the judgement to consider the case infavour of petitioner and expedite the process of EC within a period of four weeks from date of production of certified copy of the order.

4. As per the decision of the court case the Regional Officer, Keonjhar has submitted the details of public hearing conducted for Ostapura-Bholanuagaon Cluster Stone Quarry on dated 11.10.2022 and following proceedings had been submitted to SEIAA, Odisha on dated 18.11.2022.
5. There is also submission of Enquiry Report regarding mining of Ostapura Stone Quarry of Bholanuagaon and Ostapura cluster stone quarry from Tahasildar, Ghasipura that the Ostapura Stone Quarry and Bholanuagaon stone quarry are two permanent minor mineral sources. Prior to implementation of amendment of OMMC Rule, 2016 these sources were put to auction regularly each year. Observing all formalities, these two sources have also been auctioned as long term lease for 5 years i.e. from 2020-21 to 2024-25 for Ostapura Stone Quarry and from 2022-23 to 2024-25 Bholanuagaon stone quarry. Operationalization of these sources are awaited for Environmental Clearance from SEIAA. As per report of R.I. it is revealed that the stone crusher at Ostapura is not functioning at present and no loss of property of the nearby inhabitants is noticed.
6. Past Production details of Ostapura Stone Quarry and Previous EC compliance report has been submitted duly certified by Tahasildar, Ghasipura.
7. The Mining plan of Ostapura Stone Quarry has been approved for a period of five years by The Joint Director of Geology, Keonjhar. Vide letter no – 218/CZ, on dated 15.01.2021. This Mine Plan of Bholanuagaon stone quarry is approved vide letter No. 969 dated 19.05.2022 by the Joint Director Geology, Keonjhar.
8. The proposed cluster does not come under DLC land as certified by Tahasildar.
9. The District Survey Report for Road metal/Building Stone / Black Stone in respect of Keonjhar district has been prepared in accordance with Appendix – x, Para – 7 (iii) (a) of S.O. No – 3611(E) dated 25.07.2018 of MoEF & CC, New Delhi and approved by Collector, Keonjhar on dated 28.01.2020. The identified sairat sources is listed in Annexure – I, Sl. No.31 & 28 of DSR report.
10. **ToR details:** Terms of Reference (TORs) has been granted by SEIAA- Odisha vide the Reference No: 1522/SEIAA dated 17-06-2021.
11. **Public hearing details:** Issues raised during public hearing are measure for protection of house premises from blasting operation in mines, dust emission causing problem to school children, priority of employment to the unemployed youth of the villagers, overall development of villagers, supply of stone to the villagers at reasonable price, development of road, construction of Laxmi Temple, Mahaveer Temple and Mahadev temple, Rejuvenation of village ponds & Mahadev temple, for no cracks in the houses, compensation for land losers agriculture fields affected due to mines & damage building and help for widows & others. Budget for Public hearing issues is allocated is 23.5 lakhs.
12. **Location and connectivity:** The cluster is located in village Ostapura and Bholanuagaon over an extent 10.925 Ha under Ghasipura Tehsil in Keonjhar district, Odisha. The quarry Lease area, lies between Latitude of 21° 13' 35.9" N to 21° 13' 47.0" N and Longitude of 86° 04' 08.5 " E to

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

86° 04' 18.9" E bearing Khata no 169 plot no 905/1, Kisam Parbat-II (Ostapura) and Khata no 145 plot no 3/1, Kisam-Parbat-I (Bholanugaon). The lease area is located in survey of India Topo Sheet No. F45/O4, the nearest village of the quarry lease area is panchugochina in 0.3Km towards North West, for the local transportation road for the quarry lease area is sailing road at 0.55Km towards south east, the quarry lease area is near to NH-20 (Keonjhar-panikoila Road) at 2.30 km towards South east direction. Nearest road bridge and river embankment from Ostapura-Bholagaon cluster stone quarry is 5.5km and 6.2km respectively. Bhalugaon reserve forest is at 1Km from the project site.

13. **Baseline study** : Study Period for the baseline data was carried between Mar to May 2021 (Pre-monsoon Season) ; 10km radius around mine lease boundary.
- Ambient air quality : The AAQ analysis indicates that the concentration of PM10 varied from 48 to 74 µg/m³ , PM2.5 from 21 to 47 µg/m³ , SO₂ from BDL to 10.4 µg/m³ , NO_x from BDL to 18.8 µg/m³ . Benzene, BaP, Ni, As, & Pb were found below detection limit.
 - Surface water analysis: Surface water pH values varied between 6.9 to 7.3 while Dissolved Solids varied from 116 to 134 mg/L, Dissolved oxygen varies from 5.0 to 6.2 mg/L, BOD varied from 1.8 to 2.8 mg/L and Chloride values varied between 65 to 78 mg/L. Iron values varied from 0.15 to 0.24 mg/L, Manganese values varied from 0.02 to 0.04 mg/L. Sulphate values varied from 12 to 22 mg/L and Nitrate values varied from 3.0 to 3.4 mg/L. Zinc 0.05 to 0.12 mg/L. Copper BDL to 0.02. Fluoride, Arsenic, Lead, Chromium, Cyanide, Selenium, Fluoride, Phenolic compound and Cadmium have been observed below detection limit and Total Coliform varies from 942 to 1074 MPN/100 ml.
 - Ground water analysis: pH values varied between 6.8 to 7.4 while Turbidity ranged from <1 to 2.0 NTU. Dissolved Solids varied between 96 to 118 mg/l and total hardness varied from 111 to 129 mg/l. Chloride values varied between 7 to 10.7 mg/l. Calcium values varied between 17.1 to 18 mg/l while Magnesium values varied between 9.6 to 10.7 mg/l, Sulphate values varied from 12.3 to 23.1 mg/l and Nitrate values varied from 2.2 to 3.6 mg/l. Zinc values varied from 0.05 to 0.12 mg/l & Boron from 0.12 to 0.21 mg/l. Lead, Copper, Manganese, Fluoride, Mercury, Cadmium, Cyanide, Arsenic, Selenium, Chromium, Phenolic compounds and Aluminium have been observed below detection limit.
 - Soil Environment: It is evident from the results that the texture of soil within the study area is sandy silt to sandy loam. Soil of the study area is acidic in nature. The bulk density of soil samples varies from 1.44 to 1.58 gm/cm³; while porosity varies from 33 to 47%.
 - Noise Environment: Noise level varies from 48.4 to 60.3 dB (A) during Day time and 38.3 to 48.1 dB (A) during Night time, which are below the prescribed limits of CPCB
14. **Total production and reserves**- As estimated, geological and mineable reserve of the Ostapura stone quarry is 11,88,054 cum and 787644 cum. Year wise production of road metal is 81853 cum (Total production in 5 years is 409265 cum). For Bholanugaon stone quarry, geological and mineable reserve 671145.3 cum and 339894 cum respectively. Year wise production of road metal is 28683 cum (Total production in 5 years is 143415 cum).
15. **Method of Mining**: Mining operations will be carried out by Semi-mechanized opencast mining method with drilling and blasting. Quarrying activities will be done following all the security majors. Rules and regulations of DGMS and IBM will be observed during the Quarrying operations to avoid unwanted circumstances. The topsoil will be used for greenbelt development and mine waste will be stacked separately, will be used as road building

material. Wet drilling will be carried out & Blasting will be done on contract basis. Muffled blasting will be carried to reduce the ground vibration, fly rock etc. due to blasting. Conventional method of mining will be adopted in cluster area. In the present plan period it is proposed to shape the quarry with bench height and width of 5m and 5m respectively. The slope of individual bench will be maintained around 80° to 85° with ultimate pit slope of less than 45°.

16. **Water Requirement:** The total water requirement for the project estimated to be 10.0 KLD for mining, spraying, greenbelt development and domestic uses and will be sourced from the nearby available water source/accumulated rain water in mined out pits.
17. **Waste Generation and Disposal:** Total 1, 05,690 m³ of OB and 9095 m³ of waste will be generated in Ostapura Stone Quarry which will be dumped temporarily at the north-east corner part of the lease area. And it will be subsequently utilized for road construction and maintenance during the plan period. 15935 cum of waste and OB of 46855 cum will be generated in Bholanuagaon Stone Quarry which will be dumped temporarily at the Southern part of the lease area.
18. **Greenbelt:** Total 270 no of native species will be planted in 2,430 m² area, during the plan period in Ostapura Stone Quarry. Total 230 no of native species will be planted in 1900/2070 m² area, during the plan period in Bholanuagaon Stone Quarry.
19. **Manpower requirement:** Considering the proposed maximum annual production over the Ostapura Stone quarry and Bholanuagaon Stone Quarry, total man power of 99 and 49 people will be required for the proposed project respectively.
20. **Project cost:** Estimated cost of the Ostapura & Bholanuagaon Stone Quarry is Rs.2, 00, 00,000/- . Rs. 3.0 Lakh is incurred for implementing CSR activities.
21. **Environment Consultant:** The Environment consultant **M/s EHS 360 Labs Pvt. Ltd., Chennai** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s EHS 360 Labs Pvt. Ltd., Chennai** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Proceedings of the Court case and mention the status if the proponent has mentioned regarding it to SEIAA.
- b) Documents of Bholanuagaon stone quarry like Previous EC letter, Previous EC compliance report and other relevant documents related to it.
- c) Previous Environmental Clearance along with its compliance report.
- d) Magazine and Blasting management w.r.t to flying rocks along with mitigation measures to be taken for it.
- e) Dust management due to mining.
- f) Detailed note on the usage of non-saleable/waste products with supporting documents.
- g) RL of ground water table.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF SALESINGH STONE QUARRY OVER AN AREA OF 22.50 ACRES OR 9.106 HECTARES IN VILLAGE SALESINGH, TAHASIL MANESWAR, DISTRICT SAMBALPUR OF SRI AJAY TIWARI – EC (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 14.103 HA CONSISTING OF TWO STONE QUARRIES) - EC

1. This proposal is for Environmental Clearance of Salesingh Stone Quarry over an area of 22.50 acres or 9.106 hectares in village Salesingh, Tahasil Maneswar, District Sambalpur of Sri Ajay Tiwari (submitted under cluster approach with total cluster area 14.103 ha consisting of two Stone Quarries).
2. **Category:** As per the EIA notification 2006 and its subsequent amendment, proposed project falls in category B1 under Schedule of activity 1(a)-Mining of Minerals.
3. The proposed project is in cluster situation as two leases are within 500 m radius & total lease area becomes greater than 5 ha i.e, 14.103 ha.
4. The proposed mine lease has been granted to Tahasildar Maneswar. Salesingh Stone Quarry area has been allotted to Sri Nihar Das & Smt. Kanchanbala Das by the Tahasildar Maneswar on behalf of Government of Odisha in accordance with the provision of the Odisha Minor Mineral Concession Rules, 2016 through long term quarry lease for the purpose of mining of stone.
5. The mining plan for the ML area has been approved by the Joint Director, Geology Authorized officer, Zonal Survey, Sambalpur, Odisha vide Memo no 141/ZS dated 25.01.2021 & vide letter no- 1142 dated 10.08.2021.
6. The Lease has been issued by LOI/ Form F letter no 932 dated 10.03.2022 & 633 dated 10.02.2021.

S no.	Name of Quarry	Name of the leasee	Khata/plot no.	Lease area (Ha.)	Form F letter no	Mining plan approval letter
1	Salesingh Stone Quarry	Sri Nihar Das	Khata no- 229, Plot no- 826(P)	9.106	Letter no.- 932 dated 10.03.2022	Letter no- 1142 dated 10.08.2021
2		Smt. Kanchanbala Das	Khata no- 229, Plot no- 826/1 & 826/2	4.997	Letter no.- 633 dated 10.02.2021	Memo no- 141/ZS dated 25.01.2021
Total				14.103 ha		

7. **TOR details:** Terms of Reference (TOR) has been prescribed by SEIAA, Odisha, vide letter no. 4591/SEIAA & 4595/SEIAA dated 19.05.2022.
8. **Public hearing details:** Public hearing was conducted on 03.11.2022 in Salesingh village under Maneswar Tahasil. Issues raised during public hearing are damage of houses and school building

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

along with noise pollution due to blasting activities, air pollution and its adverse effects on health, agricultural fields and its yield accidental issues due to plying of vehicles, dissatisfaction of villagers regarding public hearing meeting venue.

9. **Location and connectivity:** The proposed Salesingh Stone Quarry come under the village Salesingh, Tehsil-Maneswar, District- Sambalpur, in the State of Odisha. Geographically the ML area of Mine 1 (Sri Nihar Das) extends from 21° 19'03.76"N to 21° 19'14.73" N and 83° 57'40.64" E to 83° 57'56.62"E and the ML area of Mine 2 (Smt. Kanchanbala Das) extends from 21° 19'04.30' N to 21° 19'17.01"N and 83° 57'35.03"E to 83° 57'48.95"E. Mine 1 bears Khata no-229, Plot no-826(P) and Mine 2 bears Khata no-229, Plot no-826/1 & 826/2. The proposed area falls in SOI top sheet No. F45M3, F44R1, F45M4, F44R16. The elevation of the site ranges from 155 mRL to 190mRL. The Mine Lease area is approx. 16kms of aerial distance from the district headquarters Sambalpur. The proposed ML area can be approached by SH-15 which is approx.1.3 km away from ML area. Nearest reserve forest Labdera Bulibunga at 1.20 Km southeast.
10. There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves (existing as well as proposed) with in 10 kms radius of Mine lease area
11. **Drainage:** The drainage pattern of the area of dendritic type. Surface runoff water of the area is drained through natural slopes. Mahanadi River is flowing at distance of 5.0 km in NW side of the area which controls the drainage system in the region.
12. **Baseline study:** The baseline environment quality was carried out over a radial distance of 10 km around the mining lease area during Pre-Monsoon Season of 2022 covering the months of March 2022 to May, 2022.
 - a) **Air quality:** The minimum and maximum level of PM10 recorded within the study area was in the range of 35.9 µg/m³ to 68.4µg/m³ with consolidated 98thpercentile range between 52.4 to 67.9 µg/m³ . PM2.5 recorded with in the study area is in the range of 14.5 µg/m³ to 28.6 µg/m³ and 98 percentile range between 20.7µg/m³ to 28.5µg/m³. The minimum and maximum levels of SO₂ recorded with in the study area were in the range of 5.1µg/m³ to 11.3µg/m³ and 98th percentile was recorded between 6.5µg/m³ to 9.0µg/m³ . he minimum and maximum levels of NO_x recorded within the study area was in the range of 7.9µg/m³ to 15.4µg/m³ with 98th percentile range between 10.2µg/m³ to 15.4µg/m³ .
 - b) **Noise levels:** Noise monitoring reveals that the minimum &maximum noise levels at day time were recorded between as 49.1 dB (A) & 53.1 dB (A) respectively. The minimum & maximum noise levels at night time were found to be 36.2 dB (A) & 41.7 dB (A) respectively It is observed that the noise levels are well within the prescribed Ambient Air Quality Standards with respect to Noise.
 - c) **Ground water:** The analysis results indicate that the pH ranges from 7.41 to 7.73. Total Dissolved Solids ranges from 509 to 588mg/l. Total Hardness (as CaCO₃ Fluoride (as F)ranges from 0.4 to 0.6 mg/l.) ranges from 236 to 312 mg/l. The chlorides and Sulphates were found to be in the range.

- d) Surface water : The pH ranges from 7.16 to 7.36. Chloride varies from 78 to 102 mg/l. Dissolved Oxygen (DO) ranges from 6.2 to 6.9 mg/l. BOD (3 Days at 27 °C) ranged from 16 to 34 mg/l. COD ranges from 3.2 to 6.6 mg/l.
- e) Soil quality: The analysis results show that soil is basic in nature as pH value ranges from 7.69 to 8.06 with organic carbon 0.76 to 0.91%. The concentration of Nitrogen, Phosphates & Potassium has been found to be in good amount in the soil samples. Results of soil sampling analysis showed best for fertility.

13. **Total production and reserves:** As estimated, geological and mineable reserve of quarry 1 is 12,76,213.5 cum and 8,30,250 cum respectively. Total production for 5 years is 22518 cum. Geological and mineable reserve of quarry 2 is 724592 cum and 627302 cum. Geological and mineable reserve of the cluster is 2,000,805.5 Cum and 1,457,552 Cum respectively. Total production for 5 years is 26564 cum. The life of the mine is more than 100 years.

Table- Total Reserves details of the proposed cluster

S no.	Name of the Quarry	Geological reserve (cum)	Mineable reserve (cum)
1	Salesingh Stone Quarry – (Mine 1)	12,76,213.5	8,30,250
2	Salesingh Stone Quarry – (Mine 2)	7,24,592	6,27,302

Table- Year wise production details of the proposed cluster

Year	Mine 1 (Sri Nihar Das)			Mine 2 (Smt. Kanchanbala Das)		
	Volume of Evacuation (cum)	Volume of Rock Mass, 90% (cum)	Volume of waste (cum)	Volume of Evacuation (cum)	Volume of Rock Mass, 70% (cum)	Volume of waste (cum)
1 st	5010	4509	501	7420	5194	2226
2 nd	5010	4509	501	7420	5194	2226
3 rd	4980	4482	498	7632	5342	2290
4 th	5010	4509	501	7632	5342	2290
5 th	5010	4509	501	7844	5491	2353
Total	25,020	22,518	2,502	37,948	26,564	11,384

14. **Mining methodology:** Mining will be carried out by opencast semi-mechanized method with adoption of drilling & blasting. Handling of rock mass will be done both manually & by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting & sizing. Loosening of rock mass will be done by drilling & blasting. In order to prevent haphazard excavation of pits and suitable blending of ore, the excavation has been proposed at one place. In mine 1, proposed height & width of bench is 5 m & in mine 2 it is 3m. The excavated rock mass will be loaded in to 20 t capacity of trippers or truck by excavator.

15. **Water requirement:** the total water requirement will be around 7.81 KLD. This water will be supplied from the nearby area. This water will be supplied from the nearby village through hired tankers (Mine 1-6.50 KLD; Mine 2- 1.30 KLD).

16. **Waste generation and management:** No OB will be generated during plan period. There will be generation of about 10 % of total volume of rock mass i.e, 501 cum/annum from mine 1 and about 30% of total volume of rock mass i.e, 2226 cum/annum from mine 2 will be generated as waste. There will be generation of total 13,886 cum of mineral waste from both of the mines during plan period. These wastes will be utilized for making of mine road & allied infrastructure. No dumping is proposed in mine 1 as the entire waste will be directly used for the maintenance of mine road. In mine 2, about 70% of the waste will be transported to the crusher site along with valuable building stone & the remaining 30% of the total waste will be separated at the quarry head & will be stacked in the temporary waste dump of area 0.0106 ha & will be utilized by lease for making of mine road & allied infrastructures. Since the dump will be active during the plan period so no reclamation and rehabilitation have been suggested the retaining wall around the dump will be constructed to prevent the wash off dump. Around the retaining a garland drain and settling tank will be provided to prevent the possible transportation of mine dust or fines.

Year	Mine 1 (Sri Nihar Das)		Mine 2 (Smt. Kanchanbala Das)	
	Volume of waste (cum) 10%	Dump area/ dump site	Volume of waste (cum) 30%	Dump area/ dump site
1 st	501	No dumping is proposed	2226	0.0106 ha./ in SE direction of lease area (above mining pit), dump height- 2m, slope- less than 45 ^o .
2 nd	501		2226	
3 rd	498		2290	
4 th	501		2290	
5 th	501		2353	
Total	2,502		11,384	

17. **Greenbelt:** Proposed plantation program is 1032 no. of tress for (Mine 1), 378 no. of tress for (Mine 2). Total plantation proposed for this project is 1410 nos of trees.

Year	Plantation in safety barrier zone		Plantation along approach road and in buffer zone	No. of plants in buffer zone consulting local authorities
	Mine 1 (Sri Nihar Das)	Mine 2 (Smt. Kanchanbala Das)		
1 st	89 (0.891 ha)	75 (0.75 ha)	800	446
2 nd	Maintenance	Maintenance	Maintenance	Maintenance
3 rd				
4 th				
5 th				
Total	89	75	800	446
Total Plantation	1410			

18. **Manpower requirement:** Total Requirement of Labour and other supervisory manpower will be around 19 (for both quarry) persons during the mining period (Mine 1-13 persons ; Mine 2- 6 persons)

19. **Project cost:** The estimated project cost of the cluster is about Rs. 40 lakhs (Mine 1- 20 lakhs, Mine 2 -20 lakhs). Budget for Corporate Environmental Responsibility (CER) for Mine 1 (Sri Nihar Das) is 40,000; for Mine 2 (Smt. Kanchanbala Das) is 40,000(Total CER budget for the cluster is 80,000). : Budget for occupational health is 4,00,000 and budget for water, shelter and sanitation for mine worker is 3,00,000(capital cost) and 75,000(recurring cost). Budget allotted for the Environmental Management Plan of Mine 1 is 3,86,400(capital cost) and 2,70,000 (recurring cost) and of Mine 2 is 95,600(Capital Cost) and 2,70,000 (recurring cost).For cluster EMP budget is 4,82,000(Capital Cost) 5,40,000(recurring cost).

Sl. 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	--	1,00,000 80,000 20,000 20,000
3.	Green belt development	2,82,000	1,00,000
4.	Maintenance of haul road	2,00,000	1,20,000
Total		4,82,000	5,40,000

Table-CSR budget in Cluster

Sl. No.	Activity	Capital Cost (in Rs.)
1.	Financial aid for medical camp in Salesingh village.	30,000
2.	Skill development program camps like computer learning, sewing etc. in village Salesingh.	20,000
3.	Construction of separate toilet for boys & girls at public place in village Salesingh.	30,000
TOTAL		80,000

20. **Environment Consultant:** The Environment consultant **M/s P and M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P and M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- KML file shows 3 quarries in cluster approach but proposal submitted for 2 quarries under cluster approach. This may be clarified.
- Proposed Transportation route for stone duly certified by the concerned Tahasildar.
- RL of ground water table during summer and rainy season along with RL of the surface post mining as per the approved mine plan.

- d) SOP to be followed during Blasting.
- e) Specific measures against management of dust, noise, vibration and fly rocks.
- f) Precautionary measures to prevent the runoff affecting the nearby agricultural fields.
- g) Do the proposed height and width of benches follow the DGMS guidelines?

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF BADAOLMA SAND MINING CLUSTER CONSISTING OF 3 SAND QUARRIES ON RIVER ANGI OVER AN AREA OF 9.383 HA. OR 23.20 ACRES IN BADAOLMA MOUZA, TAHASIL DABUGAON, DISTRICT NABARANGAPUR OF TAHASILDAR DABUGAON (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 3 SAND QUARRIES)-EC

1. This proposal is for Environmental Clearance of Badaoolma Sand Mining Cluster consisting of 3 Sand Quarries on river Angi over an area of 9.383 ha. or 23.20 acres in Badaoolma mouza, Tahasil Dabugaon, District Nabarangapur of Tahasildar Dabugaon (submitted under cluster approach with consisting of 3 Sand Quarries).
2. **Category:** As per EIA notification 2016 and subsequent amendments, the project is coming under category 'B' (B1) under Schedule of activity 1(a)-Mining of Minerals.
3. **Project details:** The cluster include three mining lease area i.e., Badaoolma I sand bed over an area of 4.01 Ha or 9.91Acres in favour of successful bidder Niranjan Swain(LOI letter no.885/2020, dated 26.06.2020) Badaoolma II Sand bed over an area of 2.553Ha or 6.31 Acres in the favour of successful bidder Soumya Ranjan Mishra(LOI letter no 1402/2020,dated 21.09.2020).and Badaoolma III sand bed over an area of 2.82 Ha, 6.98 Acres in favour of Sri Prem Chand Gupta(LOI letter no 1397/2020,dated 21.09,2020). All the three mines located within 500m radius from each other forming a cluster of sand bed. The Quarry lease of Badaoolma-I, II, III has been granted by Tahasildar Dabugaon to the successful bidders for excavation of minor mineral (River Sand) for five years.
4. Mine plan for Badaoolma Sand Quarry – I, II, III has been approved by Joint director, Geology, Koraput vide letter no 1102 dated 08.06.2020; letter no 2228 dated 21.07.2020; letter no 2190 dated 20.07.20 respectively.
5. These are new mines in cluster as per DSR, Nabarangpur.
6. **TOR details:** Terms of Reference (TORs) has been granted by SEIAA- Odisha vide the Reference No: 649/SEIAA dated 26-02-2021.
7. **Public hearing details:** Public hearing was successfully executed on date 20.07.2022 at Gram Panchyat office premises of Badaoolama village under Dabugaon Tahasil in Nabarangpur District per the guidelines given in EIA Notification 14th September' 2006 and its subsequent amendment. Issues raised during public hearing of the Sand mining from the river bed, widening of roads as plying of vehicles will be more, road maintenance, plantation, dust suppression measure, protection of environment, peripheral development. CER budget proposed is Rs.120000.

Table-CER Budget

Sl. No.	Activity	Capital Cost (in Rs./annum)
1.	Financial aid for medical camp in Badaoolma village.	60,000
2.	Skill development program camps like computer learning, sewing etc. in Badaoolma village.	60,000
TOTAL		1,20,000

8. **Location and connectivity:** The proposed River Bed Sand Mining will be carried out on Angi River located at village: Badaoolma , under Tahasil: Dabugaon, Dist Nabarangpur, Odisha. The Lease Cluster over an area of 9.383 Ha bearing Khata No.326. Plot No: 778,855,760,449,518,855,803,916 Kisam- Nadi. The project site is located in survey of India toposheet no (73G/4, 65I/7) (Badaoolma I falls between latitude of Latitude: 31°17'02.23"N to 31°27'54.68"N Longitude: 82°18'55.23"E to 82°19'10.23"E.and Badaoolma II falls between Latitude: 31°17'02.23"N to 31°27'54.68"N Longitude: 82°18'55.23"E to 82°19'10.23"E. Badaoolma III falls between latitude of 19°23'32.92"N to 19°23'45.33"N and longitudes of 82°18'47.38"E to 82°18'57.05"E. Nearest road is village road which is located the distance of 100 meter from cluster area. The site is well connected to NH-130 CD & SH-39 at the distance of 11.00 Km in NE direction. Nearest Railway Station is Ambagaon Railway Station which is located on distance of 39.00 Kms in SW direction from the lease area.

9. **Topography and drainage:** The topography of the area is a flat terrain which lies at an elevation of more than 2m from the level of flow of water. The gradient of flow of water in the river is gentle. So, in the lease area, the highest elevation is 115mRL & lowest elevation is 113mRL in sand. The lease area here is a river sand quarry. Drainage system in the region is dendritic. General flow direction of river is from North to South. Work will continue only during summer months when there is no water in the leasehold. Mining will be restricted to a depth above the ground water level.

10. Baseline study:

- a) Ambient air quality: Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 7 AQ monitoring stations were found to be 58.7 µg/m³ at AQ3 and 88.20 µg/m³ at AQ1, respectively. Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM2.5 for all the 7 AQ monitoring stations were found to be 23.21 µg/m³ at AQ3 and 49.95 µg/m³ at AQ1, respectively. As far as the gaseous pollutants SO₂ and NO_x are concerned, the prescribed CPCB limit of 80µg/m³ for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO₂ were found to be 5.69 µg/m³ at AQ3 & 15.94 µg/m³ at AQ1, respectively. The minimum & maximum concentrations of NO_x were found to be 9.83 µg/m³ at AQ3 & 26.48 µg/m³ at AQ1, respectively.
- b) Groundwater analysis: pH varies from 7.19 to 7.73 during study period. Total hardness varies from 280.34 mg/l to 329.4mg/l . Total dissolved solids vary from 846 mg/l to 1238 mg/l.

- c) Surface water analysis: The analysis results indicate that the pH ranges between 7.32 and 7.72. Dissolved Oxygen (DO) was observed in the range of 6.8 to 7.4 mg/l against the minimum requirement of 4 mg/l. BOD values were observed to be in the range of 3.62 – 4.3 mg/l. The chlorides and Sulphates were found to be in the range. Bacteriological examination of surface water samples revealed the presence of total coliform in range of 1.8×10^3 MPN/100 ml to 2.0×10^3 MPN/100 ml.
- d) Soil analysis: Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.25 to 8.02, which shows that the soil is alkaline in nature. Potassium is found to be from 234.20mg/kg to 253.56mg/kg. The water holding capacity is found in between 26.94 % to 32.09%.
- e) Noise level study: Noise monitoring reveals that the maximum & minimum noise levels at day time were recorded as 59.4 Leq. dB (A) at NQ3 & 50.6 dB (A) at NQ5, respectively. The maximum & minimum noise levels at night time were found to be 48.2 dB (A) at NQ3 & 38.8 dB (A) at NQ5. There are several other sources in the 10 km radius of study area, which contributes to the local noise level of the area. Traffic activities as well as activities in nearby villages and agricultural fields add to the ambient noise level of the area.
11. **Replenishment study:** For the said project replenishment study has been done by UAV/Drone survey (volumetric survey) method. The first survey has been carried out in the month of May/June before closing of mines for monsoon season. The second survey is carried out in the Month of Nov/Dec after the monsoon.
12. The volume of sand available in Badaoolma-I sand quarry after post monsoon study is around 22168.25 m³, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total mineable reserve available for mining is $30360 + 22168.25 = 52,528.25$ m³ whereas, approved production capacity for the year is 6072 m³.
13. The volume of sand available in Badaoolma-II sand quarry after post monsoon study is around 8088.6 m³, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total mineable reserve available for mining is $33430 + 8088.6 = 41,518.6$ m³ whereas, approved production capacity for the year is 6670 m³.
14. The volume of sand available in Badaoolma-III sand quarry after post monsoon study is around 12977.94 m³, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total mineable reserve available for mining is $16000 + 12977.94 = 28977.94$ m³ whereas, approved production capacity for the year is 3200 m³.
15. **Total production and reserves:** It has been proposed to collect approximately 12040 m³ Year /annum of river bed material annually. Yearly production for Badaoolma Sand Quarry I, Badaoolma Sand Quarry II and Badaoolma Sand Quarry III is 6720 cum/annum (33600 cum for 5 years), 2120cum/annum (10,600cum for 5 years) and 3200cum/annum (16000 cum for 5 years) respectively. As estimated, Geological reserve for Badaoolma Sand Quarry I, Badaoolma Sand Quarry II and Badaoolma Sand Quarry III is 72252cum, 22982cum and 25423 cum

respectively. Mineable Reserves for Badaoolma Sand Quarry I, Badaoolma Sand Quarry II and Badaoolma Sand Quarry III is 33602cum, 11200cum and 16000 cum respectively.

S. No.	Year	Badaoolma Sand Quarry I	Badaoolma Sand Quarry II	Badaoolma Sand Quarry III	Total Production in m ³
1	1st	6720	2120	3200	12040
2	2nd	6720	2120	3200	12040
3	3rd	6720	2120	3200	12040
4	4th	6720	2120	3200	12040
5	5th	6720	2120	3200	12040
Total		33600	10600	16000	60200

16. **Mining method:** The sand will be excavated by open cast manual method. Since the depth of sand deposit is 1.0m, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. Keeping in view of the market demand and resource availability in respect of reserves, proposed sand quarry is scheduled to produce @ 12040 cum/year (maximum) for the plan period.

17. **Water requirement:** For the Badaoolma sand cluster 8.0 KLD of water will be required. For drinking & domestic purpose, water requirement will be 0.20 KLD, water requirement for Green belt development and dust suppression will be 7.86 KLD as per following heads given in the Table for each quarry.

Activity	Calculation	KLD
Drinking	@ 10 lpcd per labor $10 \times 20 / 1000 = 0.20$ KLD	0.20 KLD
Dust Suppression	Total approach road to be water sprinkled = 960 m $960 \text{ m} \times 6 \text{ m} \times 0.5 \times 2 \text{ times} / 1000 = 5.76$ KLD	5.76 KLD
Plantation	950 plant (during plan period) @ 2 L/per plant = $950 \times 2 \text{ lts} = 1900 / 1000 = 1.90$ KLD	1.90 KLD
Total		7.86 KLD

18. **Traffic details:** The V/C ratio for Cluster will change from 0.075 to 0.080 with LOS remain "A" i.e "Excellent". So the additional load on the carrying capacity will be affected to a minimum level.

19. **Greenbelt:** About 950 number of trees will be planted along approach road & in village during the first year (Approach Road – 580 nos – along both sides of approach road at spacing of 2 m. Village area - 370 nos. In village area like school premises, Anganwadi, Panchayat Bhawan). Plantation will be done with suitable local species like Teak, Mango, Neem, Jamun, Jhaun etc after consultation with the local authorities. (Badaoolma Sand Quarry – I-400 trees; Badaoolma Sand Quarry – II- 260 trees and Badaoolma Sand Quarry – III- 290 trees).

Year	No. of plants along both side of approach road	No. of plants in Buffer Zone consulting authorities local	Location	Species
1 st	580	370	Approach road – 580 nos – along both sides of approach road at spacing of 2 m. Village area - 370 nos. In village area like school premises, Anganwadi, Panchayat Bhawan	Guava, mango, Jamun, jhaun, neem etc
2 nd	Maintenance	Maintenance		
3 rd				
4 th				
5 th				
Total	580	370		
Total	950			

20. **Manpower requirement:** Due to the proposed sand mining, there will be generation of employment for 20 persons in Badaoolma Sand Cluster. Out of which 10 personnel will be engaged with Badaoolma I; 4 persons will be engaged in Badaoolma II and 6 persons in Badaoolma III sand quarry.

21. **Project cost:** As per EIA submitted - Budget for Corporate Environmental Responsibility (CER) for Badaoolma Sand Quarry I, II & III (For Cluster) is Rs. 1,20,000 (CER Cost for Badaoolma Sand Quarry - I, Badaoolma Sand Quarry – II, Badaoolma Sand Quarry – III is Rs 60,000, Rs 30,000 and Rs 30,000 respectively). Budget for occupational health is Rs.1,30,000. Budget allotted for the Environmental Management Plan of Badaoolma Sand Quarry I, II & III (For Cluster) incurs capital cost of Rs.4,30,000 and recurring cost of Rs 9,60,000. (For Badaoolma Sand Quarry I, capital cost is Rs. 1,75,000 and recurring cost is Rs. 3,20,000; Badaoolma Sand Quarry – II, capital cost is Rs. 1,02,000 and recurring cost is Rs. 3,20,000 and Badaoolma Sand Quarry – III, capital cost is Rs. 1,53,000 and recurring cost is Rs. 3,20,000).

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	3,00,000
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	1,90,000	1,50,000
4.	Maintenance of haul road	2,40,000	1,80,000
Total		4,30,000	7,40,000

22. **Environment Consultant:** The Environment consultant **M/s P and M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P and M Solution, Noida** with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Total length/Span of the bridge leaving the safety zone area along with layout showing distance from safety zone and mining area.
- b) Clarification for mismatch of quantity given in Mining Plan and replenishment study.
- c) Permission for use of Revenue road from the Concerned Tahasildar.
- d) Give justification for extraction of less quantity of sand while sand availability in the proposed lease is much more than the proposed extraction.
- e) Revised replenishment study for third quarry after leaving the safety zone.
- f) EMP budget given in EIA for cluster and during presentation has different Recurring cost. Correct EMP budget for cluster to be submitted.
- g) Revised Mining Plan for Badaoolma Sand Quarry – III after leaving non mining safety zone from Bridge, which is at 100meters as per the Sand Mining guidelines of MoEF&CC, 2020.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF KAPILASH SAND QUARRY, OVER AN AREA OF 13.635 ACRE. /5.518 HA. AT VILLAGE - KAPILASH, TAHASIL - DHARAKOTE, DISTRICT-GANJAM OF SRI CHIRANJIBI DASH – EC

1. This proposal is for Environmental Clearance of Kapilash Sand Quarry, over an area of 13.635 acre. /5.518 ha. At Village - Kapilash, Tahasil - Dharakote, District-Ganjam of Sri Chiranjibi Dash.
2. **Category:** As per the Gazette Notification dated 14th September 2006 and its subsequent amendments on dated 01.12.09 and 04.04.2011, the project is classified as category “B1” of 1 (a)-Mining of Minerals.
3. The mining lease area is listed as an identified sand minor mineral in Page – 93, Serial no 1, in DSR of the Ganjam district.
4. The mining lease granted by Tahasildar, Dharakote, Ganjam has been auctioned and leased out to the successful bidder Sri. Chiranjibi Dash, S/o – Mochia Dash, At – Hanumandwara, PO – Gadadamodarapalli, P.S. – Dharkote, Dist – Ganjam after obtaining statutory clearances. The mining lease will be granted on for long term basis for 5 years and the lease period will start from the date of registration of executed lease deed.
5. The Mining plan has been approved by the Deputy Director of Geology (Authorised Officer), O/o The Joint Director of Geology (S.Z), Berhampur vide memo no – 588/SZ on dated 02.05.2022.
6. **ToR Details:** Terms of Reference (ToRs) Letter for the Kapilash Sand Bed has been obtained in favor of Sri Chiranjibi Das vide file no – 5191/SEIAA on dated 19.08.2022.
7. **Public hearing details:** The public hearing in respect of the above project was held on 03.01.2023 as per schedule and the venue in accordance with the EIA notification S.O.1533 (E) dt.14.09.2006. Issues raised during public hearing are easy availability of sand at the locality,

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

local employment, local development and repair of roads. Rs. 3,50,000 is incurred for the action plan of public hearing.

8. **Location and connectivity:** The Kapilash Sand quarry is on Khata no- 201, Plot no – 391 of Kisam Nadi at village Kapilash in Dharakote Tahasil in Ganjam District of Odisha. The area under discussion is featured in Survey of India Topo Sheet No – E45A10 and is bounded between the Latitude -19° 38' 52.41" N to 19° 39' 11.89" N and Longitude – 84° 35' 22.36" E to 84° 35' 37.34" E. Village Kapilash is located at a distance of 0.33 km from the lease area and Dharakote at a distance of 2 km WSW direction, 50 km from the District Headquarters Ganjam in SE direction and 148 km in ENE direction from the State Capital Bhubaneswar. Brahmapur Railway Station is the nearest railway station in SSE direction located at a distance of 45 km from the lease area. Nearest Road Bridge is at a distance of 1.2 km NW direction from the mining lease area. Unmetalled road from the lease area of 133 meter is connecting to NH 59. NH- 59 is the nearest National Highway which is at a distance of 0.20 km SW direction. Distance of the river bank/ embankment from the lease boundary is 0.24 km. Nearest Road bridge is at a distance of 1.2 km in NW direction near to the mining lease. High Transmission Electric line is at 0.5Km away from mining site.

9. **Baseline study:**

- a) **Soil Status** - It has been observed that the pH of the soil in the study area ranged from 7.43 to 8.06. The electrical conductivity was observed to be in the range of 340.33 $\mu\text{mhos/cm}$ to 380.1 $\mu\text{mhos/cm}$. The total nitrogen values range between 104.2 to 175.8 mg/kg. The phosphorus values range between 41.4 to 54.95 mg/kg, indicating that the phosphorus content in the study area falls in less to medium category. The potassium values range between 182.5 – 222.7 mg/kg. **Surface Water** The analysis results indicate that pH and total coliform of the Surface water was found to be in range of 7.2 – 7.95 and 210 - 320 MPN/100ml.
- b) **Ground Water:** The analysis results of ground water samples showed the pH in range of 6.84- 7.82 which are with the specified standard limits of 6.5 to 8.5. Color and turbidity of the samples <5. 0 Hazens and < 1.0 NTU respectively. The total hardness of the samples ranged from 240.2 mg/l – 292.3 mg/l. Calcium and magnesium concentrations ranged from 53.35 mg/l -68.9 mg/l and 30.40 mg/l –45.39 mg/l respectively. The total dissolved solids of the samples ranged from 550.9 mg/l – 724.3 mg/l. The TDS values are within the stipulated 2000 mg/l. Range of chlorides and sulphates concentrations ranges from 106.9 mg/l- 147.8 mg/l and 38.4 mg/l – 51.8 mg/l respectively. Fluoride concentration ranged from 0.28 mg/l – 0.42mg/l and is found to be within the permissible limits. Iron concentrations in ground water varied from 1.06-1.28 mg/l. Zinc levels varied from 0.53-0.80 mg/l respectively. Aluminium concentration in ground water is <0.02 mg/l at all locations.
- c) **Air quality:** The maximum value for PM10 observed at Jahada Mine site location 71.4 $\mu\text{g/m}^3$ and minimum value for PM10 observed at Kharigurha Village 45.1 $\mu\text{g/m}^3$. The maximum value for PM2.5 observed at Jahada Mine site location 45 $\mu\text{g/m}^3$ and minimum value for PM2.5 observed at Kharigurha Village 26.5 $\mu\text{g/m}^3$. The maximum value for SO2 observed at Jahada Mine site location 11.5 $\mu\text{g/m}^3$ and minimum value for SO2 observed at Haripur Village 5.1 $\mu\text{g/m}^3$. The maximum value for NO2 observed at Jahada Mine site location 20.0

µg/m³ and minimum value for NO₂ observed at Haripur Village 7.4 µg/m³. The maximum value for CO observed at Project Site location 1.27 mg/m³ and minimum value for CO observed at Haripur Village 0.32 mg/m³.

d) **Noise study:** The daytime (Leqday) noise levels are observed to be in the range of 44.7 –54.8 dB(A) which are within the prescribed limit of 55 dB(A). The maximum noise level of 54.8 dB (A) was observed at project site and the minimum noise level of 44.7 dB(A) was observed at Village Sasapur during the study period. It is observed that the day time noise levels are in accordance to the prescribed limit of 55 dB (A). B) The nighttime (Leqnight) Noise levels are observed to be in the range of 33.2 – 44.6 dB(A) Which are within the prescribed limit of 45 dB(A). The maximum noise level of 44.6 dB (A) was observed at project site and the minimum noise level of 33.2 dB (A) at Village Haripur during the study period. It has been found that the night time noise levels are in accordance to the prescribed limit of 45 dB (A).

10. **Total production and reserves:** The average production is proposed to be 12000 cum/year and 60000 cum is the total production during the plan period.As estimated geological and minable reserve of the proposed quarry is 47028 cum/annum and 40202 cum/annum. Extractable mineable reserve is 24121 cum.

11. **Replenishment study:** The volume of sand available after post monsoon is around 30553.52 m³, which can be treated as safe extractable within the framework of the study after arrival of river level as it was in pre-monsoon. Further volume of sand also computed which can be extracted as on date (during mining plan preparation) is 24121m³. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 24121 + 30553.52 = 54674.52 m³ whereas, approved production capacity for the year is 12,000 m³.

Pre-Monsoon Standard Elevation	48.00
Post-Monsoon Standard Elevation	48.76
Difference in Elevation (D)	48.76-48.00= 0.76
Volume = A X D	40202 X 0.76= 30553.52 m ³
Approved Annual Production Capacity	12000 m ³ / Year

12. **Method of Mining:** The sand will be excavated by open cast manual method and thickness of sand deposit for mining is taken as 1.0m. Handpicks and spade axe will be used by laborers for extracting & loading of sand. Keeping in view of the market demand and resource availability in respect of reserves, proposed sand quarry is scheduled to produce @ 12,000 cum/year for the plan period.

13. **Power Requirement:** It will not be required for operations as the mining will be worked out during daytime only. Minimal power required for office shall be taken from the General Electric supply of the area.

14. **Manpower requirement:** Employment Generation from the project is 20 nos. of people. OMS has been assumed to be 2.5 cum. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day-to-day requirements of the mining personals.

15. **Greenbelt:** Plantation work will be carried out at the safety zone of the lease area. 250 number of saplings proposed during plan period will be planted. Plantation shall be done with suitable local species like teak, mango, Jammu, jhaun, neem etc. per year and also along the approach road during the plan period.
16. **Project cost:** Project cost is 30 Lakhs and EMP capital cost will be 4.70 Lakhs and recurring cost will be 2.35 Lakhs. The project proponent proposes to spend about Rs. 3.5 Lakhs for CER activities.

S. No.	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1.	Air pollution Control: Dust Suppression/ Water Sprinkling	30,000	1,00,000
2.	Road Maintenance	50,000	60,000
3.	Greenbelt	40,000	25,000
4.	Personal Protective Equipment	-	20,000
5.	Environmental monitoring	-	30,000
6.	Addressal of Public Hearing issues	3,50,000	-
Total		4,70,000/-	2,35,000

17. **Environment Consultant:** The Environment consultant **M/s Parivesh Environmental Engineering Services, Lucknow** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Parivesh Environmental Engineering Services, Lucknow** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- A write up regarding management of sand transportation as the said transportation route is nearby to school and college.
- Give justification for extraction of less quantity of sand (12,000 cum) while sand availability in the proposed lease is much more than the proposed extraction as found from replenishment study (30,000 cum) and mining plan (24,000 cum).

ITEM NO. 06

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S. TRL KROSAKI REFRACTORIES LIMITED FOR PROPOSED ENHANCEMENT IN PRODUCTION FROM 1,50,000 TPA TO 3,00,000 TPA OF QUARTZITE FROM CHHUINPALI QUARTIZE MINE OVER AN AREA OF 252.34 ACRES OR 102.123 HA. IN VILLAGE CHHUINPALI UNDER LAKHANPUR TAHASIL OF JHARSUGUDA DISTRICT OF SRI ATUL KUMAR DAS - TOR

- The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
- This proposal is for Terms of Reference for Environmental Clearance of M/s. TRL Krosaki Refractories Limited for Proposed Enhancement in production from 1,50,000 TPA to 3,00,000 TPA of Quartzite from Chhuinpali Quartize Mine over an area of 252.34 Acres or 102.123 Ha. In Village Chhuinpali under Lakhanpur Tahasil of Jharsuguda District of Sri Atul Kumar Das.

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

3. **Category:** As per the EIA Notification S.O. 1533, dated 14th September 2006 and subsequent amendments, this project falls under Category B1 under activity 1(a)-Mining of Minerals.
4. **Project details:** The Chhuinpali Quartzite Mine is a Mining Lease area was initially executed for Mining of Quartzite ore in favour of M/s Tata Refractories Limited (Now TRL Krosaki Refractories Limited) over an area of 102.123 hectares or 252.35 acres comes under village Chhuinpali in, Lakhanpur Tahasil of Jharsuguda District, Odisha. Originally the mining lease was granted in favour of M/s Tata Refractories Limited on 22.05.2000 over an area of 102.123 hectares or 252.35 acres for 20years.The lease expired on 21.05.2020. But as per the Mines and Minerals (Development and Regulation) Amendment Act 2015 read with rule 66 of OMMC Rule 2016, the period of lease has been extended up to 50 years i.e 21.05.2050 through Supplementary Lease Deed dtd. 29.05.2020. The present proposal for environment clearance is proposed for enhancement in production of quartzite from 1,50,000 TPA to 3,00,000 TPA from the lease area.
5. **Mining plan chronology:** The mining plan was submitted under Rule 22 (4) of MCR, 1960 with detailed planning for five years for the period from 1999-00 to 2003-2004 and was approved vide. letter no. BBS/JSG/Qtz/MP-26 dated 25.11.1999 of the Indian Bureau of Mines. The Scheme of mining was prepared under Rule 12 of MCDR 1988 for a period of five years commencing from 2004-05 to 2008-09 which was approved by Director of Mines, Odisha vide letter no. MXXX-16-2004-453 dated 09.01.2008. The subsequent Scheme of Mining was prepared for the period from 2009-10 to 2013-14 and was approved vide. Letter No MXV-b-11/08-5100/DM dated 05.05.2010 of the Directorate of Mines, Bhubaneshwar, Odisha and the above said scheme was valid up to 31.03.2014. Then the scheme of mining was prepared for the period from 14-15 to 18-19 and was approved vide letter no MXII(b) 14/2015- 6127/DM. dt. 30.06.2016. Subsequently, the scheme of mining was prepared for the period 19-20 to 23-24 with an enhanced production proposal of 1, 50,000 MT per annum and was approved vide letter no MXXII (b) 11/2018 – 2843/DM dated 30.03.2019. Presently, this modification of the approved mining scheme is prepared for the remaining period of two years from 2022-23 to 2023-24 approved memo No-MXXX-I-4/2022 3067 dated 27.12.2022 as the Lessee intends to enhance the annual production of quartzite from 150000 MT to 300000 MT per annum.
6. Surface right was granted by the District Collector, Jharsuguda over the total lease area. An area over 83.791 hectare was granted under surface right on dt 11.08.2014 vide letter No 1036 and an area over 18.332 hectare was granted on dt 29.06.2000 vide letter No 3099.
7. The proposed land does not fall under DLC land as per letter no 3568 dated 20.08.2019 as certified by DFO, Jharsuguda Forest division.
8. Environmental Clearance letter was issued by MoEF & CC, New Delhi vide letter number J-11015/134/2008-IA.II(M) dated 18th August 2012 for undertaking mining operation in the lease area.
9. Consent to establish has been obtained from State Pollution Control Board, Odisha vide letter no. 1739/III-CON (NOC)-296/2009-10 dtd. 21.06.2011 and for 100 TPH crusher unit, Consent to Establish has been issued vide letter no.1055/IND/NOC-112 dated 08.08.2017 and CTO has been granted vide letter no 162 dated 01/02/2022 valid up to 31.03.2027.
10. **Location and connectivity:** Chhuinpali quartzite mining lease area is situated in village Chhuinpali of Lakhanpur Tehsil in Jharsuguda district, Orissa. The area forms a part of the hill

called 'Chelia Dungri'. This area falls under latitude 21° 46' 29.87N to 21° 45' 31.49" N and Longitude 83° 34'09.56" E - 83° 33'17.65" E in the toposheet no. 64 O/5. The total area of the mining lease is 102.123 Ha bearing Khata No 4 and Plot No.- 23/P, 26/P, 27/P, 29/P, 30/P, 31,32/P, 55/P, 56/P,63/P,73/P,74,75/P,76/P,77/P,93/P,95/P, and 158/P. The highest altitude of the area is 425 m from M.S.L and the lowest altitude is 213 M.S.L. Nearest river embankment and road bridge 1.0 km and 2.60 km away respectively. The lease area with the entire hill feature of Chelia Dunguri is encircled by an all weather gravel road and is connected via Pujaripali, Jampali and Kapilapur to Bhikampali over a distance of about 5 km. Bhikampali is on NH 49 passing through Jharsuguda–Belpahar-Rigarh. The site is at a road distance of 45 Km from TRL Krosaki factory at Belpahar, 42 Km from the railway station at Belpahar, 65 Km from the Raigarh in the adjacent state of Chhattisgarh, which is the nearest major commercial and industrial centre.

11. Reserves: The revised mineable reserve of useable quartzite in the lease area is 203,78,735 MT. In the ensuing review period 6,18,750MT of ROM will be exploited. After this review period 197,59,985 MT quartzite will be left. Keeping in view the production of quartzite@ 3,00,000per annum, life of the mine will be 65.86 years or say 66 years after this modified scheme period. Geological reserve and mineable reserve of the proposed project is 212,46,935 cum.

RESERVE BLOCKS	GEOLOGICAL RESERVE	MINEABLE RESERVE
Block-A	64,00,500	61,54,500
Block-B	148,46,435	142,24,235
Total	212,46,935	203,78,735

Year	Production Target (MT) for quartzite as Proposed in mining scheme	Production Achievement of Quartzite (MT)	Shortfall/ Excess & reasons for deviation
2019-20	140000	40116.300	Due to covid pandemic and labour issues.
2020-21	142500	72541.000	
2021-22 (Jan'22)	145000	122170.000	

Year	Total Excavation in m ³ (A)	Top soil in m ³ (B)	OB in m ³ (C)	Inter Burden Waste (1% Of ROM) In M ³ (D =Ax.01)	ROM		SB in m ³ (G)	Total Waste With Swelling Factor of 1.6 (H=dx1.6)	Ore To Waste Ratio MT/ M ³ (I)
					Ore In M ³ (E= A-D)	Usable Quartzite In Mt (F=Ex2.5)			
2022-23	121250	0	0	1213	120037	300092	0	1941	1:0.01
2023-24	126250	0	0	1263	124987	312467	0	2021	1:0.01
Total	247500	0	0	2476	245024	612559	0	3962	-

12. Mining method: The lease area is divided in to two blocks namely Block-A and Block-B and surface right over the total lease area has been obtained by the lessee. At present, Block A has been worked by Semi-mechanised system of mining operation with 6 m high benches which are suitable and safe for semi-mechanized operations like machine loading of blasted mass and manual labour loading into tipper/trucks if required. The 6 m benches are drilled with jackhammers and the drilled holes are blasted with small diameter explosives. Blasting is carried out once or twice a day, depending on convenience and availability of drilled blocks. At times, drilling is also conducted by Deep-hole drilling with 100 mm diameter & 6-10 mtrs long holes with use of large diameter cartridge explosives for blasting.

13. Mine development: Development during 1st Year In the year 1st year the development has been proposed in the grid between 220E-275E and 600N-850N. To fulfil the required production target, mining will be concentrated in 2 nos. of benches. The RLoF of the top most bench will be 250 metre and the RL of the bottom most bench will be 239.7m. The benches will proceed from east to west. The orientation of the benches will be in N-S direction. All the benches mostly encountered with useable quartzite. In the 2nd year the development has been proposed in the grid between 25⁰E-22⁰E and 60⁰N-85⁰N. To fulfil the required production target mining will be concentrated in 3 nos. of benches with extension to their length west in continuation of the last bench of 2022-23. Thus the quarry floor will reach 227.7 mRL. The benches will proceed from the east to west direction. The orientation of the benches will be in N-S direction.

14. During proposed scheme period, the individual benches will kept nearly vertical. Keeping the height and minimum width of the benches at 6m and 6 m respectively, the ultimate slope angle will be kept at around 45° at the end of the mine

Table: EXISTING MINING DETAILS

Existing Quarry	One existing quarry in Block A Area: 6.505 Ha; Ultimate depth: 232 mRL
Existing Dump	One existing Dump Area: 0.555 Ha; Ultimate height of the dump:
Existing Method of mining	Semi mechanized open cast
Existing production	Allowable 1,50,000 TPA (Approved under EC)
Existing Grade of Production	Refractory Grade Quartzite with SiO ₂ 98 % (min) and Fe ₂ O ₃ content 0.5 % (max) Steel Plant Grade Quartzite with SiO ₂ 97 % (min) and Fe ₂ O ₃ content up to 1.5 %.
Existing Ore processing	Screen & one Crusher unit (100 TPH)

15. Waste management: A quantity of 88, 64,682m³ of swollen waste will be generated due to mining during the conceptual period. However, in the present review period the swollen waste to be generated is around 3962 m³ as the mining will be done over the useable quartzite area devoid of over burden. The waste generated during excavation will be utilized for mine road construction and other allied infrastructure and if required will be shifted to the proposed dump.

16. Water requirement: Water requirement for the project is 11.5 KLD (Source: Ground water & RWH) Permission has been obtained from CGWA vide letter CGWA/NOC/MIN/ORIG/2022/14541 dated 14/02/2022 for withdrawal of 15 KLD.

17. Greenbelt: Till date 11.24 Ha of plantation zone with 14000 saplings has been made within the ML area and 8.0 Ha of plantation made in the village waste land of Banjari and Kumar village. Huge plantation has been carried out within the lease area i.e. along the Safety Zone, OB dump and dump Slope. During this monitoring period 2000 nos of plantation has been done over an area of 0.844 Ha & the cumulative plantation is 35310.

Year	Location	Area (Ha)	No. of sapling	Species planted	Density
2013-2014	Kumar village	6.0	6000	Neem, Karanja, Simarouba	1000/ Ha
	Bajari Village	2.00	3000	Teak, Neem, Karanja	1500/ Ha
2014-2015	Bhikampali Village	1.8	3000	Neem, Karanja, Simarouba	1600/ Ha
2015-2016	Green belt & Avenue	1.0	1500	Debadaru 300, Saguana-230, Karanja- 550, Krushnachuda-200, Radhachuda- 200, Neem-440, Jamu- 50	2000/Ha
	Safety zone	0.5	500	Teak, Krushnachuda, Bamboo,	1000/ Ha
	Safety Zone	0.44	1100	Teak, Jackfruit, Mango, Jamun, Krushnachuda, Bamboo, Palash, deodar etc.	2500/Ha
2016-2017	Safety Zone	0.512	2000	Jamu, Karanja, Neem, Krushnachuda, Teak	2500/ Ha
	Dump	0.132			
	Avenue Plantation	0.16			
2017-2018	Safety zone	0.308	2000	Karanja-150, Neem-350, Krushnachuda-1200, Radhachuda- 300	3125/Ha
	Dump	0.332			
	Avenue plantation	0.12			
2018-2019	Safety Zone	1.2	3000	Karanja, Neem, Krushnachuda, Chakunda	2500/ Ha
2020-2021	OB dump slope/ Safety Zone	0.844	2110	Chakunda, Krushnachuda, Krushnachuda	2500 / Ha
2021 - 2022	OB dump slope/ Safety Zone	0.844	2000	Chakunda, Krushnachuda, Krushnachuda	2500 / Ha
Total		16.192 Ha	26210		

18. Manpower: Total 200 nos of workers will be indirectly employed and 30 nos will be directly employed for mining of decorative stone in the lease area.

19. Project cost: This is an expansion project. The existing mine proposed enhancement in production of Quartzite from 1.5 MTPA to 3.0 MTPA from Chhuinpali Quartzite Mines in village Chhuinpali, Dist- Jharsuguda, Odisha bearing an estimated project cost of 7.75 crores.

20. **Environment Consultant:** The Environment consultant **M/s Kalyani Laboratories Pvt.Ltd, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Kalyani Laboratories Pvt. Ltd, Bhubaneswar** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Land schedule and kism of land.
- b) Certificate from the concerned DFO that no forest land is involved within the lease area.
- c) Certificate from the State Pollution Control Board, Odisha about exact distance of the boundary of the mine from boundary of Severely Polluted Area (SPA), IB Valley.
- d) Mitigation measures to be taken towards protection of Seasonal Nalla.
- e) Environmental impacts on River Mahanadi which is at 300 metres distance from proposed quarry, due to enhancement in production (almost double the present Production). Submit the NOC/permission letter from the Dam Authority for the enhancement quantity.
- f) Justification for doubling the capacity of the mine, when they have not achieved 20% of the existing production capacity.
- g) Comparative table for change in Environmental and physical factors/features for existing production capacity and proposed capacity and possible impacts due to enhance in production.
- h) Compliance Report to Previous Environmental Clearance conditions duly certified by RO, MoEF&CC.
- i) Revised plan for site specific conservation plan certified from Forest Authority.
- j) Complete Material balance of the whole process along with chemical composition of products and wastes.
- k) Detail record of periodic health check-up of employees.
- l) Note on dust control and management.
- m) Revised Traffic Study Report vetted by reputed institute.

ITEM NO. 07

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF PANCHAPADA – LAHANDABUD – THARKASPUR - H.KATAPALI 'G' SAND BED UNDER CLUSTER APPROACH CONSISTING OF “CLUSTER PANCHAPADA SAND BED (CONSTITUTE OF PANCHAPADA SAND BED A,B,C,D&E) ” & “CLUSTER OF LAHANDABUD SAND QUARRIES (CONSTITUTE OF LAHANDABUD SAND BED B & C)” & “THARKASPUR SAND BED” & “H.KATAPALI SAND QUARRY 'G' (CASE NO.-04/2019)” OVER TOTAL AREA OF 72.843HA OR 180.00 ACRES IN VILLAGE PANCHAPADA, LAHANDABUD, THARKASPUR AND H.KATAPALI RESPECTIVELY UNDER JHARSUGUDA TAHASIL OF JHARSUGUDA DISTRICT OF TAHASILDAR, JHARSUGUDA - TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.

2. This proposal is for Terms of Reference for Environmental Clearance of Panchapada – Lahandabud –Tharkaspur - H.Katapali 'G' Sand Bed under cluster approach consisting of “Cluster Panchapada Sand Bed (Constitute of Panchapada Sand Bed A,B,C,D&E) ” & “Cluster of Lahandabud Sand Quarries (Constitute of Lahandabud Sand Bed B & C)” & “Tharkaspur Sand Bed” & “H.Katapali Sand Quarry 'G' (Case No.-04/2019)” Over total area of 72.843Ha or 180.00 Acres in village Panchapada, Lahandabud, Tharkaspur and H.Katapali respectively under Jharsuguda Tahasil of Jharsuguda District of Tahasildar, Jharsuguda.
3. **Category:** As per EIA notification 2006 and subsequent amendments, the project is coming under B1 Category (under cluster approach) and the lease area is more than 5.0 Ha under Schedule 1(a)-Mining of minerals.
4. The Cluster lease area has been proposed to be granted by the Tahasildar Jharsuguda to the applicant Tahasildar Jharsuguda for minor mineral (River Sand) for five years. The mining plan has been approved by The Joint Director Geology, Authorized Officer, Zonal Survey, Sambalpur. Cluster mining plan of Panchapada Sand Bed (Constitute of Panchapada Sand Bed A,B,C,D&E) - vide memo no.1411/ZS, Dt.:23/09/2022. Cluster of Lahandabud Sand Quarries (Constitute of Lahandabud Sand Bed B&C)-vide memo no.1418/ZS, Dt.:23/09/2022. Mining plan of Tharkaspur Sand Bed Quarry - vide memo no. 1416 dated 23.09.2022. Mining plan of H.Katapali Sand Bed Quarry 'G'-vide memo no.1282/ZS, Dt.:31/08/2021.
5. Among all the lease area of the cluster the H. Katapali Sand Quarry G has been issued the environmental clearance having EC identification no- EC22B001OR143284 dated 06.05.2022 by SEIAA, Odisha
6. **Location and connectivity:** The cluster lease area is located in survey of India toposheet no F45M1 & F44R13 and bounded between the latitudes of 21°53'51.78"N to 21°55'13.51"N and longitudes of 83°58'12.09"E to 84° 00'12.60"E and is accessible from Jharsuguda Town through SH-10 at about 2.35 km which is located at a distance of 6.25Km from the lease area. The site is well connected to NH-49 at a distance of 4.08 Km & SH-10 at a distance of 2.35 Km. Nearest Railway Station is Jharsuguda Railway Station located at a distance of 5.55Km. Nearest airport is Veer Surendra Sai Airport located at a distance of 6.07 Km from the lease area. The area is located at a distance of 4.85 Km from the district headquarters, Jharsuguda. The proposed river sand bed mining will be carried out on River located at village: Panchapada, Lahandabud, Tharkaspur & H.Katapali respectively under Jharsuguda Tahasil of Jharsuguda District, Odisha. The cluster over an area of 72.843 Ha or 180.00Acres & bearing Khata No.- 878, 176, 32, 465, Plot No.-530/3974, 380/1838, 380(p), 534/646, 41/5808, Kisam: Nadi. Nearest embankment is at IB River, Bhasma Road Bridge, at an aerial distance of 6.85 Kms from the Mining Lease area. OPTCL is at an aerial distance of 5.06 kms from the mining lease area. Ilage road is passing at an aerial distance of 1.44 kms from the mine lease area. Bhasma Road Bridge is the nearest road bridge which is at an aerial distance of 6.92kms from the Cluster mining lease area. The nearest reserve forest is Ushakothi reserve forest, situated at an aerial distance of 55 km.

Quarry Name	Mouza	Khata No.	Plot No.	Kissam	Area (Ac)	Area (Ha.)
Cluster of Panchapada Sand Bed (Constitute of Panchapada Sand Bed - A,B,C,D & E)	Panchapada	878	530/3974	Nadi	125	50.587
Cluster of Lahandabud Sand Quarries (Constitute of Lahandabud Sand Bed - B,C)	Lahandabud	176	380/1838, 380(P)	Nadi	32	12.950
Tharkasur Sand Bed	Tharkasur	32	534/646	Nadi	15	6.070
H.Katapali Sand Quarry-G	H.Katapali	465	41/5808	Nadi	8	3.238
Total lease area under cluster approach					180 Ac.	72.845 Ha.

7. **Total production and reserves:** The average proposed rate of production for Panchapada Sand Bed (Constitute of Panchapada Sand Bed A,B,C,D & E),Lahandabud Sand Bed (Constitute of Lahandabud Sand Bed B&C),Tharkasur sand Quarry & H.Katapali Sand Bed 'G' is 303800cum. Total Geological and mineable Resources of Cluster mining plan of Panchapada Sand Bed(Constitute of Panchapada Sand Bed A,B,C,D&E) is 540990 cum and 499141 cum respectively. Total Geological and mineable Resources of Cluster of Lahandabud Sand Quarries (Constitute of Lahandabud Sand Bed B & C) is 97125cum and 90232 cum respectively. Geological and mineable Resources of Tharkasur Sand Bed is 46790 cum and 42039 cum respectively. Geological and mineable Resources of H. Katapali Sand Quarry-'G' is 58058 cum and 50000 cum respectively. Geological and mineable Resources of Panchapada-Lahandabud-Tharkasur-H.Katapali 'G' Sand Bed (under cluster approach) is 742963cum and 730154 cum respectively.

GEOLOGICAL RESERVE			
Name of the lease	Area of Potential Sand (m ²)	Thickness of Sand (m)	Geological Resource of Sand (m ³)
	S	T	D= S X T
Panchapada Sand Bed-'A'	92805	1.5	139208
Panchapada Sand Bed-'B'	81867	1.5	122800
Panchapada Sand Bed-'C'	81615	1.5	122423

Panchapada Sand Bed-'D'	77571	1.5	116357
Panchapada Sand Bed-'E'	26801	1.5	40202
Lahandabud Sand Bed-'B'	39361	1	39361
Lahandabud Sand Bed-'C'	57764	1	57764
Tharkaspur Sand Bed	46790	1	46790
H. Katapali Sand Quarry-'G'	29029	2	58058
Total Cluster Geological Reserve			742963

Mineable Reserve of Panchapada Sand Bed(Constitute of Panchapada Sand Bed A,B,C,D&E)			
Name of the Mines	Surface Area of Sand (m ²)	Thickness of Sand (m)	Vol. of Sand (m ³)
Panchapada Sand Bed-'A'	86673	1.5	130010
Panchapada Sand Bed-'B'	75717	1.5	113575
Panchapada Sand Bed-'C'	75437	1.5	113155
Panchapada Sand Bed-'D'	72254	1.5	108382
Panchapada Sand Bed-'E'	22679	1.5	34019
Total Mineable Reserve of Panchapada Sand Bed A,B,C,D&E)			540990
Lahandabud Sand Bed-'B'	35479	1	35479
Lahandabud Sand Bed-'C'	54753	1	54753
Total Mineable Reserve of Cluster of Lahandabud Sand Quarries (Constitute of Lahandabud Sand Bed B & C)			97125
Tharkaspur Sand Bed	42039	1	42039
H. Katapali Sand Quarry-'G'	25000	2	50000
Total Mineable Reserve			730154

8. **Mining method:** The method of mining will be conducted in open cast manual method and loading can be done manual. The depth of the mining 1.5 m. After that the sand are extracted and loaded & transferred to the users through Tractors and Trucks. To avoid environmental pollution or any accidental hazardous the mining activity will be restricted to day time only. The quarry will be worked for five years.

9. **Water requirement:** Water requirement for the cluster project will be 22.55 KLD. i.e., Panchapada Sand Bed(14KLD), Lahandabud Sand Quarries(4.75 KLD), Tharkaspur Sand Bed(1.8 KLD) and H. Katapali Sand Quarry-'G'(2KLD). Ground water will be used for drinking and domestic purpose whereas surface water will be used for green belt development and dust suppression.
10. **Fuel/Solar requirement:** Solar lights will be used for day to day living purposes. Trucks and Tractors will be used for transportation. So the approximate quantity of the fuel/Diesel used per day is 100Lit/day.
11. **Project cost:** The approximate cost of the project is coming around ` 80 lakh for 5 years.
12. **Environment Consultant:** The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) As proposed sand cluster lease area is very big i.e 72.843Ha. revised proposal after modifying the cluster area (as per MoEFCC guidelines 2020) having mines 500meters apart will be considered.

ITEM NO. 08

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S. MAAPARTHIBI TRADERS FOR SEMELIA STONE QUARRY OVER AN AREA OF 10.117 HA FOR PRODUCTION OF 11,400 C.UM/ANNUM AT KHATA NO. 01, PLOT NO. 1195 (P) & 1196 (P), VILLAGE SEMELIA, TEHSIL-LAKHANPUR, DISTRICT- JHARSUGUDA OF SRI SATYANDRA KUMAR CHANDRA – EC

1. This proposal is for Environmental Clearance of M/s. Maa Parthibi Traders for Semelia Stone Quarry over an area of 10.117 ha for production of 11,400 c.um/annum at Khata no. 01, Plot no. 1195 (P) & 1196 (P), village Semelia, Tehsil- Lakhanpur, District- Jharsuguda of Sri Satyandra Kumar Chandra.
2. **Category:** As per the EIA notification 2006 and its subsequent amendment, proposed project fall in category B schedule 1(a)-Mining of Minerals.
3. **Project details:** This is a new Stone Quarry over an area of 10.117ha and not coming under DLC land that is certified from the concerned DFO. For the production of 11,400 Cum per year for a period of Concession of 5 years the mining Plan for the Proposed Project has been approved by Deputy Director of Geology Authorized officer, O/o Joint Director Geology, Zonal Survey, Sambalpur , Vide Letter No 624/ZS Dated 13.04.2021
4. The proposed mine lease has been granted to Tahasildar Lakhanpur. In turn, Semelia Stone Quarry area has been allotted to M/s Maa Parthivii Traders by the Tahasildar Lakhanpur, Jharsuguda, Odisha vide letter no 1643 dated 17.03.2020.
5. **TOR details:** Terms of Reference (TOR) has been prescribed by SEIAA, Odisha, vide letter no.1815/SEIAA for quarry dated 26.07.2021.

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

6. **Public hearing details:** The Public Hearing has been conducted on 12.07.2022 at Semelia Village Tehsil Lakhanpur in Jharsuguda District, of Odisha under the supervision of Addl. District Magistrate, Jharsuguda. The issues raised in public hearing are agriculture, threat to surface and ground water, development of school/college, proposal of check dam on river.
7. **Location and connectivity:** The proposed Semelia Stone Quarry comes under the village Semelia, Tehsil-Lakhanpur, District- Jharsuguda, in the State of Odisha on Khata No. – 01, Plot No. – 1195(P)& 1196(P), covered in the Survey of India Topo Sheet No. F44R6. Geographically the ML area extends from 83°26'42.16"E to 84°26'53.42"E and 21°40'28.93"N to 21°40'39.30"N. with a highest elevation of 195mRL and the lowest elevation 189 mRL. Nearest Railway Station is Kotarlia Railway Station at a distance of 23.00 km in NE; Nearest Airport is Raipur Airport (Chhattisgarh) at 188 Km in NE; Nearest Highway is NH-200 is at a distance of 11.0 Km in N Direction; Nearest Sanctuary is Debrigarh Wild life Sanctuary is situated 8.2 kms in SE; nearest Reserve Forest is Holsari Dungri RF and Dechua RF are present with in the study at a distance of 8.0 Kms in SE ; Nearest Water Body is Mahanadhi River, approx. 0.5Km. in S direction.
8. **Seismicity of Area:** The project site falls under seismic zone II which is a least active zone (MSK VIII). The IS code assigns zone factor of 0.24 for zone II as shown in the seismic zonal map of India.
9. **Topography and drainage:** The North –Western part of the district is mainly hilly. About 80 % of the area is characterized by isolated hillocks and rounds and undulating plains. A part of Hirakud reservoir occupying 185 sq. km is present in southern part of the district. The highest and lowest topographic elevation of the district are 474 metre and 193 metre respectively. The drainage of the district is controlled by the Mahanadi in the western part and Ib river, a tributary of the Mahanadi in the central and eastern part. The drainage pattern is mainly dendritic and high drainage density is found in the western part of the district. The ML area is Stony Barren Land having with flat terrain. The highest elevation of the mine lease area is 195 mRL and minimum Elevation is 189 mRL. The proposed project does not impact natural drainage pattern of the area.
10. **Reserves:** Total Geological Reserves are estimated to be 1029344 Cu.m while Total Mineable Reserves are 486200.5 Cum

Category	Section considered	Cross sectional Area of Rock Mass (m ²)	Length of influence in (m)	Vol. of rock Mass(m ³)	Vol.of Waste Rock Mass (5%) (m ³)	Vol. of usable Rock Mass (95%) (m ³)
		A	B	C=AXB	D=CX0.05	E=CX0.95
1 st year	X-X'	90	120	10800.0	540.0	10260
2 nd year	X-X'	90	120	10800.0	540.0	10260
3 rd year	X-X'	95	120	11400.0	570.0	10830
4 th year	X-X'	100	120	12000.0	600.0	11400
5 th year	X-X'	100	120	12000.0	600.0	11400
TOTAL				57000	2850	54150

The average production during plan period= 11400 m³Per annum

11. **Mining Method:** Mining will be carried out by opencast semi-mechanized method without drilling & blasting. The proposed machinery that are deployed during mining activity are Excavator, Rock breaker, trucks/ tipper Water carrier etc. will be used by manual labors for sorting & sizing. In

order to prevent haphazard excavation of pits and suitable blending of ore, the excavation has been proposed at one place. The excavated rock mass will be loaded in to 10 t capacity of trippers or truck by excavator. The development of the quarry will be carried out by benching pattern, the minimum height of the bench will be 2 mts. The overburden generated will be 5% of the excavated rock mass that is 2850 Cum. the waste generated will be disposed away from the lease area before the waste comes in contact with dam Water in monsoon.

12. Waste generation: About 540 Cum to 600 Cum of Waste will be generated every year (and about 2850 Cum of waste will be generated during the plan period. Temporary Dumps over an area of 0.020 ha has been proposed on the North-Eastern part of the lease area. The height of the dump shall not exceed 6 m. The amount of waste generated shall be kept within the lease area for a very short period of time and shall be used for road construction and maintenance from time to time each year.

Category	Section considered	Cross sectional Area of Rock Mass (m2)	Length of influence in (m)	Vol. of rock Mass(m3)	Vol.of Waste Rock Mass (5%) (m3)
		A	B	C= AxB	D= Cx0.05
1 st year	X-X'	90	120	10800.0	540.0
2 nd year	X-X'	90	120	10800.0	540.0
3 rd year	X-X'	95	120	11400.0	570.0
4 th year	X-X'	100	120	12000.0	600.0
5 th year	X-X'	100	120	12000.0	600.0
	TOTAL			57000	2850

13. Water requirement: Water requirement Total water requirement for the mining project is 6.7 or 7.0 KLD. This water will be supplied from the nearby village through hired tankers.

14. Greenbelt: About 881 no. of Plants will be planted in 0.551 Ha of the Safety zone, 610 No. of Plants will be planted in the unmined out area with in the mine lease. 300 no. of plants on both sides of the approach road with 2mts spacing and 500 No. of plants within the nearby village will be planted in consultation with Forest Department and Village Local Authorities. About 2290 number of trees will be planted in first two years of the mining. Plantation will be done with suitable local species like Teak, Mango, Neem, Jammun, Jhaun etc after consultation with the local authorities.

Year	Total Plantation	Plantation in safety barrier zone and unmined out area (0.551 Ha+0.381 Ha=0.932Ha)	Plantation along approach road of length 0.3 km	Plantation in village consulting local authorities
1 st	1281	880	150	250

2 nd	1010	610	150	250
3 rd	Maintenance	Maintenance	Maintenance	Maintenance
4 th				
5 th				
Total	2290	1490	300	500

15. Employment Potential: Besides the direct and indirect employment to 27 persons, the company will provide vocational skill training to the unemployment youth of the neighbouring villages through outside agencies. Local villagers residing in the nearby villages shall be employed as semi-skilled workers.

16. Project cost: The estimated project cost is about Rs. 50 lakhs. About Rs. 1.0 lakh/annum has been kept under CER budget for development works in village. About Rs. 9.7 lakh (capital cost) & 5.5 lakh/annum has been allocated as EMP budget

S.No.	Particulars	Amount (Lakh)	
		Capital	Recurring
1	Dust Suppression	3.0	0.5
2	Plantation and its protection (@ Rs. 200/sapling including fencing)	4.6	1.6 (Rs 300/- per Person* 2 Persons for 270 Days)
3	Personal Protective Equipment (@ Rs. 2000/PPE kit)	0.5	0.5
4	Environmental Monitoring (Air, water, soil, noise)	-	1.2 (0.5 lakh, 0.4 lakh, 0.20 lakh, 0.10 lakh)
5	Garland drain & settling tank	1.0	0.5
6	Haul road construction/ maintenance (Approach road, approx. 0.3km)	0.6 (@ Rs 2.0 Lakh/km)	1.2 (@ Rs. 300*200 days* 2 labor)
	Total	9.7	5.5

Sl. No.	Activity	Capital Cost (in Rs.)
1.	Financial aid for the construction & maintenance of roof wall and painting of school of Semelia village	40,000
2.	Project Proponent will help Village Authorities of Semelia during constructing the check Dam	60,000

TOTAL	1,00,000
--------------	-----------------

17. **Environment Consultant:** The Environment **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) RL of mining area (Pre and post mining as per the approved mining plan), agricultural field and RL of the ground water table in summer season and monsoon season.
- b) Silt and dump management taking into consideration of RL in mining area, agricultural fields and water bodies.
- c) SOP for control of dust and noise.

ITEM NO. 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF PURUTIGUDA SAND QUARRY OVER AN AREA OF 13.688 ACRES OR 5.539 HA. HAVING KHATA NO.512, PLOT NO. 1285 IN VILLAGE PURUTIGUDA UNDER KASHINAGAR TAHASIL OF GAJAPATI DISTRICT OF SRI BANSIDHAR SWAIN - EC

1. This proposal is for Environmental Clearance of Purutiguda Sand Quarry over an area of 13.688 Acres or 5.539 Ha. having Khata No.512, Plot No. 1285 in village Purutiguda under Kashinagar Tahasil of Gajapati District of Sri Bansidhar Swain.
2. **Category:** The proposed mining project falls under Category 'B1' with project activity type "1(a)" -Mining of Minerals) as per Notification of MoEF & CC vide S.O. No. 3977(E), Appendix-XI dated the 14th August,2018 and EIA notification 2006 and amendment thereof of Ministry of Environment and Forests, New Delhi.
3. Quarry lease has been awarded to Sri Bansidhar Swain S/o-Jayadev Swain, by Tehsildar of Kashinagar for 5 years via letter no. 5440/ Sairat dated 09/11/2021.
4. Mining Plan with Progressive Mine Closure Plan has been approved by Deputy Director Geology O/o Joint Director Geology, South Zone, Berhampur, Odisha vide letter no. Memo no.-1051/SZ dated 31/10/2021.
5. **TOR details:** Terms of Reference (TORs) was granted by SEIAA vide letter no 4125/SEIAA dated 02/03/2022.
6. **Public hearing details:** Public hearing was held on 09.11.2022 at 11.00 AM in Grampanchayat Office, Khandava under Kashinagar tahasil in Gajapati district in reference to the proposed Purutiguda Sand Mine. Issues raised during public hearing hearing are sand mining from the river bed, safety and security in the lease area to avoid accidents, transportation of sand, control of noise during sand mining and sand transportation, dust suppression measure, protection of environment, road development, plantation, utilization of DMF fund for peripheral development of village.

7. **Location and connectivity:** Purutiguda Sand Quarry is a new proposed project located at Village: Purutiguda, Khata No. 522, Plot No. 1285, Tehsil: Kashinagar, District: Gajapati, Odisha. Total mining area is 5.539 ha bearing Khata No. 522, Plot No.1285 in SOI Toposheet No: 65N/13 bounded by Latitude N18°57'15.58"to 18°57'27.18"N and Longitude E83°49'26.59" to 83°49'33.20"E. The area is approachable by fair weather road. The applied area is about 150 km away from Visakhapatnam International Airport, Andhra Pradesh Airport. The nearest railway station is at Bansdhara Hault Railway Station 1.5 Km from the site. Nearest Bridge Banshadhara Bridge is 15 km, SE and nearest River Embankment is about 3 km, S and nearest railway bridge is 0.7Km from the project site. Nearest Reserve is Forest Vallarha Reserve Forest which is 2Km, W from the project site.
8. **Baseline summary:** Baseline study of the study area was conducted during pre-monsoon from 1st March 2022 to 31st May 2022 for Purutiguda Sand Quarry.
- a) Air quality: The concentrations of PM10 and PM2.5 for all the 9 AAQM stations were found between 52.7 to 88.9 µg/m³ and 23.7 to 45.30 µg/m³ respectively. The concentrations of SO₂ and NO_x were found to be in range of range of 7.90 to 15.10 µg/m³ and 11.20 to 27.2 µg/m³ respectively.
 - b) Noise study: Ambient noise levels were measured at 9 locations around the Mine site. Noise levels varied from 44.4 dB (A) Leq to 54.8 Leq dB (A)during day time 36.1 (A) Leq to 44.6 Leq dB (A) during night time.
 - c) Ground water: The ground water analysis for all the 8 sampling stations shows that pH varied from 7.29 to 7.49, total hardness varied from 260 mg/l to 520 mg/l & total dissolved solids varied from 153.4 mg/l to 242 mg/l. The water samples contain chloride 13.8 mg/l to 26.4 mg/L, Ca from 27.2 mg/l to 90.5 mg/l, Magnesium varies from 16.52 mg/l to 58.1 mg/l.
 - d) Soil analysis: Samples collected from 8 identified soil locations indicate pH value ranging from 7.29-7.61. Organic Matter ranges from 0.25% -0.55%in the soil samples. Nitrogen is found to be in moderate amount as it ranges from 116 mg/kg- 161 mg/kg and Phosphorous in less amount i.e. from 32 mg/kg- 52 mg/kg, whereas the Potassium is found to be ranging from 115 mg/kg - 135 mg/kg.
9. **Replenishment Study:** UAV/Drone method was used to survey the area for Replenishment Survey. The calculated Mineable reserve of Post-Monsoon survey and the Mineable reserve in Pre-Monsoon are taken for comparing the amount of sand replenished. The sand deposited in the lease area in this monsoon season is exceeded by 43% i.e. 21652CuM of the amount of sand in the Pre-Monsoon Replenishment Study report. So, the final mineable reserve of the lease area is said to be 50832 CuM.
10. **Total production and reserves:** It is proposed sand quarry mine having lease area of 5.539 ha with proposed production capacity of 50,000 m³ /year of sand (2,50,000 cum for 5 years). The geological reserve and mineable reserve of Purutiguda Sand quarry 66692 Cum and 57442 Cum respectively.
11. **Mining method:** Proposed method of mining would be opencast manual mine. Sand shall be exploited manually and loaded in Truck & Tractors. Ground water table would not be intersected by the proposed mining. Mining shall be carried out without adoption of drilling & blasting. The

extracted sand shall be loaded into tractor trolleys manually & dispatched to various parties. Mined out material will be loaded into the dumpers manually and will be sent for commercial use as per the demand of the market. It will be transported by Covered trucks / dumpers to its final destination. No overburden or top soil will be generated as the area lies in river bed. The present level of the lease area is 65 mRL. During plan period, the quarry floor will be 63 mRL or up to water table whichever is less in Purutiguda Sand quarry.

12. **Water Requirement:** The total water requirement for the project estimated to be 25 KLD for mining, spraying, greenbelt development and domestic uses and will be sourced from the nearby available water source and drinking water will be sourced from tanker water.

S. No.	Particulars	Quantity (KLD)	Source
	Dust Suppression (on haul roads etc)	5.0	Water will be sourced from nearest available source.
	Green Belt Development/ Plantation	5.0	
	Drinking/Domestic & Sanitation	15.0	
Total		25.0	

13. **Waste Water Management:** No liquid waste will be generated from mining activities. A small amount of domestic wastewater from office toilet will be discharged into the soak pits/septic tank.

14. **Greenbelt/ Plantation:** Greenbelt will be developed along haul road. Plantation will be done along haul road and in villages nearby. Native Species like Teak, Mango, Jammu, Jhaun, Neem etc. will be preferred for the plantation. 50 plants per year will be planted as per the plantation program.

Year	Number of saplings purposed	Location	Type of saplings
1st Year	50	Plantation is carried out safety zone of the lease area (river bank areas)	Teak, Mango, Jammu, Jhaun, Neem etc.
2nd Year	50		
3rd Year	50		
4th Year	50		
5th Year	50		
Total	250		

15. **Man power Requirement:** Total man power of 65 people will be required for the proposed project. Mine workers will be engaged from the nearby villages.

Designation	Number of persons (Purutiguda Sand Quarry)
Supervisory Personnel/ Statutory Personnel	5
Skilled laborers (Operator and Helper)	20

Semi-skilled Laborer	20
Unskilled Laborer	20
Total	65

16. **Project cost:** The total budget for Environment Monitoring Program for the proposed project is Rs. 30,000 per year. Corporate Environmental Responsibility (CER) budget includes a cost of 4 lakhs. Apart from the other expenses, Salary for labour and office staff will be kept around 2Lakh per annum and for documentation purposes around 2Lakhs per annum. Total project cost is Rs.25 lakhs. Capital Cost for EMP is Rs. 1,45,000. Recurring cost of EMP is Rs. 75,000 per annum.

S.no	Particulars	Capital Cost	Annual Recurring cost
1	Pollution Control	55,000	20,000
2	Pollution Monitoring	25,000	10,000
3	Afforestation along Approach Road and maintenance of Approach road	35,000	25,000
4	Occupational health and safety	30,000	20,000
Total		1,45,000	75,000

17. **Environment Consultant:** The Environment consultant **M/s Green Circle, Inc., Gujarat** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Green Circle, Inc., Gujarat** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent.

- Revised replenishment study along with section wise details, reduced level, and summary.
- Justification as per production plan how manual method of mining will be done.

ITEM NO. 10

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF BALAPADU QUARTZ & QUARTZITE MINES WITH PROPOSED EXCAVATION OF 54500 CUM/YEAR OF QUARTZ & QUARTZITE HAVING AN AREA OF 55.394 HA. LOCATED AT PLOT NO. 53/P&69/P OF KHATA NO.18, VILL-BALAPADU, TAHASIL- RAYAGADA, DISTRICT- RAYAGADA OF SRI BALAKRISHNA PADHY – TOR

- The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
- This proposal is for Terms of Reference for Environmental Clearance of Balapadu Quartz & Quartzite Mines with proposed excavation of 54500 CUM/year of Quartz & Quartzite having an area of 55.394 Ha. Located at Plot No. 53/P&69/P of Khata No.18, Vill- Balapadu, Tahasil-Rayagada, District- Rayagada of Sri Balakrishna Padhy.

3. **Category:** As per EIA notification 2006 and subsequent amendments, the project falls under item 1(a)-Mining of Minerals in the Schedule of EIA Notification, 2006 & Subsequent amendments thereof.
4. The Mining lease for Quartz & Quartzite Deposit over an extent of 55.394 ha of Village Balapadu Under Rayagada Tahasil of Rayagada District of Odisha, was originally granted to Tahasildar Rayagada for a period of 20 years Letter No 6451/SM/III(G)SM.15/06 dated 25.07.2007 The ML area period of concession from 2009-10 to 2028-29.
5. The Mining Plan of the Mining Project has been approved by Director of Geology, Bhubaneswar, Odisha vide letter no 298 dated 13.01.2016.
6. **Location and connectivity:** The lease area is bounded by Latitude: 19° 05' 56.0" N to 19° 06' 07.0"N Longitude: 83° 22' 08.0" E to 83° 22' 10.00"E. It is a part of area covered in the Survey of India Toposheet No. 65 M/8. The lease area is located at a distance of 12km from Rayagada town. The lease area is located at a distance of 59km from District head quarter. Rayagada town is the nearest place from the lease area .Rayagada is connected to the lease area by metal road at a distance of 8 km. The nearest railway station is at Rayagada Railway Station which is about 2.05 km from the mine lease area. The nearest airport is Visakhapatnam (Andhra Pradesh) Airport at 200 KMs from the mining site. Nearest Reserve Forest is Benakhamar reserve forest which is 65.1km away from the lease area.
7. There is no national park, wild life sanctuary, eco sensitive areas and industrial area situated within 10Kms radius of the lease area.
8. **Baseline study:**

Attributes	Parameters	Results
Ambient Air Quality	PM ₁₀	61.69-69.3µg/cu.m
	PM _{2.5}	23.75-39.93µg/cu.m
	SO ₂	5.3-10.46µg/cu.m
	NO _x	8.99-16.27µg/cu.m
SurfaceWater Quality	PH	7.15-7.82
	TDS	244-293mg/l
	Sulphate	14.26-50mg/l
	Chloride	45.58-48.08 mg/l
Ground Water Quality	PH	6.91-7.84
	TDS	440-1024 mg/l
	Sulphate	42-92mg/l
	Chloride	40-320mg/l

Attributes	Parameters	Results
	Fluoride	0.63-1.40 mg/l
Noise Level	Day	55.2dBA
	Night	44.9dBA
Soil	pH	7.23-7.67
	Potassium	140 to 360
	Phosphorous	10.34-13.11mg/kg
	Nitrogen	112 – 318 Kg/Ha
	Electrical Conductivity	74 to 171 μ s/Cm

9. Mining method: The mining of quartz will be done by open cast Semi- mechanized method for excavation & then loading into dumpers/ tractors/tippers for transport to the users' destination. The quarry will be mined for twenty years.

10. Total reserves and production: The average proposed rate of production is 54500Cu. m (max) per annum and a total production of 190500 Cu.m in the plan period. As estimated mineable and geological reserve of the proposed project is 77,96,880 cum and 1,06,53,747 cum respectively.

Year	Cross Section	Cross section area (m ²)	Length of influence (m)	ROM (m ³)	Waste vol. 15% of ROM (m ³)	Saleable stone volume 85% of ROM (m ³)
2019-20	Lapse period.					
2020-21	Lapse period.					
2021-22	Lapse period.					
2022-23	Lapse period.					
2023-24	DD'	127	200	25400	3810	21590
	EE'	145.5	200	29100	4365	24735
G.Total	-----	----	-----	54500	8175	46325

11. Water requirement: The total water requirement will be approximately 5 KLD for different purposes like domestic, Dust suppression, plantation purposes. Water will be withdrawn from tube wells from nearby village.

12. Greenbelt: Plantation will be raised along both sides of the roads, available vacant spaces and in the lease area. It is proposed for planting 150 nos. of saplings per annum by the lessee in the lease boundary and village approach roads which is to be undertaken in consultation with the concerned authority.

13. Manpower requirement: There will be generation of employment for 100 persons. Out of which, 23 nos. are skilled, 28 nos. semi-skilled & 44 nos. unskilled and 5 supervisors.

14. Project cost: Total cost of the project will be ` 30 Lakh.

15. Environment Consultant: The Environment consultant **M/ Green Circle Inc. Gujarat** along with the proponent made a presentation on the proposal before the Committee

Considering the information furnished and the presentation made by the consultant, **M/s Green Circle, Inc., Gujarat** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Details of mining method along with slope, body of mining and presence of forests without causing any disturbance to the ecological balance of the area.
- b) Stripping ratio along with photos of mineralization.
- c) Details of mining method to be used.
- d) Approved DSR with inclusion of identified sairat source in it.
- e) KML file shows the site is full of vegetation. Certificate from concerned DFO that proposed quarry is not part of DLC land.
- f) Lease documents of Steel and Mines Department, Govt. of Odisha.

ITEM NO. 11

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR M/S. FERRO ALLOYS CORPORATION LTD OF EXPANSION IN CHROMITE ORE PRODUCTION FROM 0.24 MILLION PA (OPENCAST) TO 1.5 MILLION TPA (OPENCAST AND UNDERGROUND) WITH MAXIMUM EXCAVATION OF 2.5 MILLION TPA (OPENCAST AND UNDERGROUND) ALONG WITH INSTALLATION OF A NEW CRUSHER AND COB PLANT TO ENHANCE THE BENEFICIATED CHROME ORE FROM 0.1 MTPA (OPENCAST) TO 0.8 MTPA (OPENCAST AND UNDERGROUND) AND A BACKFILL PLANT IN OSTAPAL CHROMITE MINE (72.843 HA) AT VILLAGE GURUJANGA TEHSIL SUKINDA DISTRICT JAJPUR OF SRI SANDEEP KITTANA ACHARYA – TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. This proposal is for Terms of Reference for Environmental Clearance of M/s. Ferro Alloys Corporation Ltd for Expansion in Chromite ore production from 0.24 Million PA (opencast) to 1.5 million TPA (Opencast and underground) with maximum excavation of 2.5 million TPA (Opencast and underground) along with installation of a new crusher and COB plant to enhance the beneficiated chrome ore from 0.1 MTPA (opencast) to 0.8 MTPA (Opencast and underground) and a Backfill plant in Ostapal Chromite Mine (72.843 ha) at Village Gurujanga Tehsil Sukinda District Jajpur of Sri Sandeep Kittana Acharya .
3. **Category:** As per EIA Notification dated 10th November 2006, as amended from time to time; the project falls under S. No. ‘1’ (Mining of Minerals), Project or Activity ‘1(a) - (4)’, and S. No. ‘2’ (Mineral Beneficiation) Project or Activity ‘2(b) - (4)’ Category “B”.
4. **Mining lease status:** The mining lease over an area of 72.843 Ha, which comes under the part of Daitari Protected Forest and Village Gurujanga, was granted to M/s Ferro Alloys Corporation Limited (“FACOR”) on 13/08/1985 for 20 years i.e., from 13/08/1985 to 12/08/2005. Mining lease deed was executed on 22.08.1985 and registered on 13.08.1985 in favor of M/s FERRO ALLOYS CORPORATION LIMITED (“FACOR”).The lease was expired

on 12/08/2005, but it has continued to conduct the mining operations in the said lease under the deemed extension provisions of section 8 of the MMDRA, 1957 with Rule- 24-A (6) of the MCR, 1960 till 21/08/2016. As per the MMDR amendment Ordinance, 2015 under sec. 8A, the lease period has been deemed to be extended for a period of fifty years i.e., from 13/08/1985 to 12/08/2035. The supplementary Lease Deed has been executed on 22/08/2016. Thereafter, Hon'ble NCLT Cuttack Bench under the provisions of Insolvency and Bankruptcy Code (IBC)-2016 vide its order dt. 30.01.2020, has approved the resolution plan of M/s Sterlite Power Transmission Limited (Vedanta Ltd.). Pursuant to the said order with of NCLT Cuttack, the Board of Directors of M/s. FERRO ALLOYS CORPORATION LTD. have been changed with effective from dt.21.09.2020. Consequently, the Board of Directors have appointed the nominated owner of the company vide its resolution dt. 27.09.2020, in accordance with the statutory provisions.

5. **Environment Clearance** has been obtained from MoEF&CC vide letter No J-11011/594/2008-IA.II (I) dated 31.10.2022. CTE for 0.24 million TPA chromite Production Capacity 5181/IND-II-CTE - 6642 dated 31.03.2022. CTO for 0.24 million TPA chromite Production Capacity and 0.1 million TPA Chrome Ore concentrate 11221/IND-I-CON- 1163 dated 28.06.2022 (Valid up to 31.03.2026)
6. CGWA NOC regarding the abstraction of ground water is obtained vide reference CGWA/NOC/MIN/REN/1/2021/6481; Validity: 02.08.2020 – 01.08.2022.
7. **Location:** M/s Ferro Alloys Corporation Limited proposing expansion in Ostapal Chromite Mine (ML Area -72.843 ha) for Chromite ore production (ROM) from 0.24 million TPA (opencast) to 1.5 million TPA (Opencast and underground) with maximum excavation of 2.5 million TPA (Opencast and underground) along with installation of a new crusher and COB plant to enhance the beneficiated chrome ore from 0.1 million TPA (opencast) to 0.8 million TPA (Opencast and underground) and a Backfill plant for backfilling of Underground mined out stopes at Village- Gurujanga, Tehsil-Kaliapani, District- Jajpur, Odisha bounded by Latitude: 21° 03' 26.60" N to 21° 04' 00.98" N and Longitude: 85° 47' 04.39"E to 85°47' 34.29" E in SOI Toposheet No. Core Zone -73G/16 and Buffer Zone –73G/16, 73G/12, 73H/9 & 73H/13. Nearest NH/ SH are Tomka - Mangalpur State Highway (~0.34 km in South Direction), NH-200 (~14 km in South East Direction) direction from mine site. The nearest railway station is Jajpur Railway Station (~55.0 km in SE direction) from the mine site. Nearest airport is Biju Patnaik International Airport, Bhubaneswar (~142 km in South direction).

8. Land- use details:

S. No.	Type of land use	At present -As on date (Ha)	At the end of Plan Period (Ha)	Conceptual Period- End of life of mine (Ha)
1.	Area under mining	30.67	34.54	34.54
2.	Mineral Storage	1.56	1.29	1.29
3.	OB/ Waste Dump	28.58	20.08	20.08
4.	Tailing Pond	0.29	1.50	1.5
5.	Infrastructure (Workshop, Admin Building)	-	1.67	1.67

6.	Road	0.95	2.06	2.06
7.	Effluent treatment plant	0.44	0.44	0.44
8.	Mineral separation plant	1.42	2.11	2.11
9.	Greenbelt within 7.5m (Safety Zone)	4.07	4.07	4.07
10.	Others	4.863	5.083	5.083
	Total	72.843	72.843	72.843

9. **Topography:** The entire lease area is a flat terrain having a gentle slope of from South to North. The highest ground elevation in this area is lying in the Northern part of the lease area at an altitude of 158 m AMSL and the lowest relief in this area is 135 m AMSL lying in the Southern part. General ground level of the mining lease area is 146.5 m AMSL
10. **Proposed Method of Mining:** Sublevel method of underground mining is proposed. Mode of Entry will be declined. The selected mining method is predominantly Longitudinal Longhole Open Stoping (LHOS) with backfill. Vertical stoping method utilising long-hole drilling and blasting, stopes are unsupported; pillars are usually left between stopes and occasionally within stopes. Ore will be extracted from the stope via the lower extraction drift using remote-controlled loaders The LHD (Low profile Dumper) equipment will move the rock to a re-muck bay and re-handle the material into trucks. The trucks will move ore to surface via the decline. Mineral will be transported to existing (20 TPH) and proposed crusher (250 TPH) and existing (20 TPH) and proposed COB plant (250 TPH) by trucks/dumpers of 45 t capacity.
11. **Water requirement:** Existing water requirement for the project is 3400 KLD which will be 8500 KLD after expansion. Water is being/will be sourced underground seepage water & Mine sump water. Requirement of drinking water is met from the bore wells already installed in mining lease area.
12. **Power requirement:** Existing power requirement for this project is 0.55 MW which will be 10.0 MW after expansion. Power is being sourced from power grid.

S. No.	Particular	Requirement			Source
		Existing	Additional	Total	
1.	Water Requirement (KLD)	3400	5100	8500	Mine sump water & Ground Water (2 nd renewal is under process)) (Till 7th year of this project water requirement will be within the existing permitted quantity 3400 KLD & on 12 th year it will be required

S. No.	Particular	Requirement			Source
		Existing	Additional	Total	
					8500KLD)
2.	Manpower Requirement (Nos)	657	54	714	Preference is being/ will be given to the locals as per their eligibility & availability
3.	Power Requirement (MW)	0.55	10	10.55	State Grid Power Supply

13. **Green Belt:** Total area under greenbelt/plantation is estimated as 24.15 ha (Greenbelt on 4.07 ha +Plantation on 20.08 ha) which has been completed. Species planted in Green Belt and waste dump are Chakunda, Chhatian, Neem, Karanja, Krushnachuda, Sisama, Barakoli, Saguan, Panas, Amba, Pijudi/Pijuli, Bahada. Density of Trees will be @2500 trees/ha with the survival rate of 90%.

14. **Waste generation:** During plan period, 3 million tons of waste will be generated from opencast mining out of which will be dump is existing 2 no's of waste dump as well as backfilled over an area of 5.05 ha up to a depth of 30 m. During plan period of underground mining, 0.39 million tons of waste will be generated from underground mining which will be stacked in North dump. No waste generated at the conceptual stage through opencast mine and total of 2 million tons waste generated at the conceptual stage and it will be dumped in the waste dumps area.

15. **Employment generation:** The total man power for the project is 125 person. Unskilled /semi-skilled manpower is being/ will be sourced from the local area.

16. **Project cost:** Cost for Environment Protection Measures includes Capital Cost of Rs. 13.36 Crore and Recurring Cost of Rs. 0.87 Crore/annum. Total cost of the Project is Rs 600 Crore.

17. **Environment Consultant:** The Environment consultant **M/s JM EnviroNet Pvt. Ltd, Gurugram** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s JM EnviroNet Pvt. Ltd, Gurugram** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- a) Technological features and safety aspects of underground mines and details of underground mining study report.
- b) Existing facilities for water balance, material balance and management of wastewater with Layout for existing production.
- c) Address hexavalent Chromium Pollution and management.
- d) Details of other units that will be in the process of expansion particularly in reference to environmental parameters.
- e) Impact of expansion on peripheral soil environment and water environment in terms of quantity of hexavalent chromium to be present in soil, ground water and surface water.
- f) Study report with respect to the suitability of material to be used for backfilling.
Feasibility of reduction of dependency on ground water by having adequate storage facility in underground/surface sumps.

ITEM NO. 12

PROPOSAL FOR AMENDMENT ENVIRONMENTAL CLEARANCE FOR PANDIAPATHAR DECORATIVE STONE MINE OVER AN AREA OF 23.67 ACRES 9.579 HA AT VILLAGE PANDIAPATHAR TAHASIL ASKA DISTRICT GANJAM OF MD MAHAMMAD RAZZAK - MOD EC

1. This proposal is for Amendment of Environmental Clearance for Pandiapathar Decorative Stone Mines over an area of 23.67 acres 9.579 ha at Village Pandiapathar Tahasil Aska District Ganjam of MD Mahammad Razzak.
2. **Category:** As per EIA notification 2006 and subsequent amendments, this project is coming under Category B1 schedule 1(a) - Mining of minerals.
3. Pandiapathar Decorative Stone Mines over an area 23.67 Acres of 9.579 hectares had been granted and executed in my favour of Md Irfan Razzak which is valid up to 19-12-2047 for 30 years lease period from the date of execution date 20-12-2017.
4. Environmental Clearance obtained on the above said mines vide letter No. SEIAA/2119 on dated 26-10-2016 for production capacity of 20,100 cum upto the lease period.
5. The Mining Plan of the project has been approved by the Director of Mines, Odisha, Bhubaneswar vide his letter no. 8084/DM date 19-09-2015 for 5 (five) years the Mineral Reserve as per approved Mining Plan are 3,23,380 cum with production capacity of 20,100 cum for the lease period as stated in the approved Mining Plan. The Mining Plan was valid upto 31-03-2023.
6. The Consent to Operate (CTO) issued by the Regional Office, State Pollution Control Board, Berhampur vide his letter No. 343/CTO – 1614/2018 and CTO Order 260/2017-18 on dated 20-01-2018 the approved quantity is 4533 cum/annum. The Consent Order valid up to 31-03-2020.
7. The Modified Mining Plan has been approved by the Director of Mines, Odisha Bhubaneswar vide letter No. 306/DM on dated 13.01.2020. Again, the CTO issued by the Regional Office, State Pollution Control Board, Berhampur vide letter No. 1253/CTO- 1614/2018 and CTO order 260/2020-21 on dated 20-05-2020 and the approval quantity is 4533 cum and the CTO valid for the period up to 31-03-2023.

Proceedings of the SEAC meeting held on 12.06.2023

Environmental Scientist, SEAC

8. The Project proponent had submitted the Scheme of Mining for next five years that is from 2023-24 to 2027-28 which has been approved by the Directorate of Mines and Geology, Odisha Bhubaneswar vide letter No. 4944/DoMG dated 03-04-2023. The production capacity is 4008 cum per Annum. In the Scheme of Mining there is no change in mining technology as well as scope of working keeping the production level same as per previous approved Mining Plan submitted.
9. The Project proponent have applied the CTO to the Regional Office, State Pollution Control Board, Berhampur for next five years from 2023-24 to 2027-28 and the capacity is 4008 cum per annum as per approved by Scheme of Mining along with PMCP.
10. The Regional Office, State Pollution Control Board, Berhampur issued the CTO for the period upto 31-03-2024 and the approval quantity is 670 cum per annum.
11. In the above context project proponent has requested to clarify that Environment Clearance which has been granted on 26-10-2016 for the capacity of 20,100 cum for Mining Plan/Scheme of Mining would be valid for 5 (five) years or coterminous with the lease period.

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by a detailed presentation before the SEAC by the proponent.

- a) Copy of Mining Plan approved by the Director of Mines, Odisha, Bhubaneswar vide his letter no. 8084/DM date 19-09-2015.
- b) Copy of modified Mining Plan approved by the Director of Mines, Odisha Bhubaneswar vide letter No. 306/DM on dated 13.01.2020.
- c) Copy of Scheme of Mining for next five years that is from 2023-24 to 2027-28 which has been approved by the Directorate of Mines and Geology, Odisha Bhubaneswar vide letter No. 4944/DoMG dated 03-04-2023.
- d) Clarification letter from Director, Mines, Odisha, Bhubaneswar that the quantity as approved in Mining Plan vide his letter no. 8084/DM date 19-09-2015 is for plan period (i.e. 5 years) not for entire lease period (i.e. 30 years).


Member Secretary, SEAC