PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 06th APRIL, 2021

The SEAC met on 06th April, 2021 at 11:00 AM through video conferencing in Google Meet under the Chairmanship of Sri. B.P. Singh. The following members were present in the meeting.

1.	Sri. B. P. Singh	-	Chairman
2.	Dr. D. Swain	-	Member
3.	Prof. (Dr.) P.K. Mohanty	-	Member (through VC)
4.	Prof. (Dr.) H.B. Sahu	-	Member (through VC)
5.	Sri. J. K. Mahapatra	-	Member
6.	Sri. K. R. Acharya	-	Member
7.	Prof. (Dr.) B.K. Satpathy	-	Member (through VC)
8.	Dr. Sailabala Padhi	-	Member (through VC)
9.	Dr. K.C.S Panigrahi	-	Member (through VC)

The agenda-wise proceedings and recommendations of the committee are detailed below.

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-1 MINES CONSTITUTED OF ANJIRA & MAKUNDPUR HILLOCKS OVER AN AREA OF 137.86 ACRES OR 55.79 HECTARES LOCATED IN VILLAGES ANJIRA & MAKUNDPUR OF TAHASIL DHARMASALA, DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC

1. This is a proposal for Environmental Clearance of Cluster-1 Mines which is constituted of 15 nos of quarry leases of Anjira and Makundapur hillocks over an total area of 55.79 Ha./ 137.86 Ac. in village - Anjira & Makundpur, Tahasil – Dharmasala, District – Jajpur, Odisha of Tahasildar Dharmasala.

2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8327/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 28.08.2020 at 10.30 AM at Kalyani Mandap, Marjitapur, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land comprising of 15 nos. quarry leases covering a total mineralised area of 55.79 Hectares or 137.86 Acres The cluster 1 mines has been sub divided into Cluster- 1A (Anjira) comprising mineralised area of Anjira hillock over 53.77 Ha, Cluster-1B (Anjira) comprising mineralised area of Anjira hillock over 1.21 Ha and Cluster-1C (Makundapur) comprising mineralised area of Makundapur hillock over 0.81 Ha.. The project site is located in survey of India toposheet no. 73L/1 and bounded between 20°50'13.50"N to 20°50'45.07"N and longitudes 86°01'46.89"E to 86°02'48.44"E. Whereas, Cluster-IA (Anjira) is bounded between the latitudes 20°50'22.48"N to 20°50'45.07"N and longitudes 86°01'46.89"E to 86°02'47.69"E, Cluster-IB (Anjira) is bounded between latitudes 20°50'13.50"N to 20°50'17.94"N and longitudes 86°02'02.49"E to 86°02'08.53"E and Cluster-IC (Makundapur) is bounded between latitudes 20°50'35.61"N to 20°50'38.25"N and longitudes 86°02'44.53"E to 86°02'48.44"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 200m, W & NH 5 at a distance of 11Km, E from the cluster. The area is at a

distance of 2.5 km from Jenapur town. The nearest railway siding is at Jenapur railway station located at a distance of about 1.6 km from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 3.4 Km. Nearest Reserve forest is Nischinta RF - 5 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Anjira village is 1 km.

6. Mining plan approved by Directorate of Geology, Govt. of Odisha vide letter no. 320 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 1,59,27,083 cum over the cluster-1A (Anjira), 2,81,145cum, over the cluster-1B (Anjira) & 1,64,745cum over the cluster-1C (Makundapur). Hence, the total geological reserve over Cluster-1 mineralised area has been estimated as 1, 63, 72,973cum.The mineable reserve (Probable) for building stone/road metal worked out to be 59,52,310 cum over the cluster-1A (Anjira) & 1701cum over the cluster-1B(Anjira) & cluster -1C (Makundapur) which comes under the 200 meters safety zone from existing revenue habitations. Hence, the total mineable reserve over Cluster-1 mineralized area has been estimated as 59, 54,011cum.
8. The Mine proposed to produce total 50, 00,000 cum of building stone/road metal during plan Period (Ten Years).
9. A total of 570 people include skilled workers - 100, Semi-skilled workers - 155 and unskilled workers - 300 nos will be employed during mining operation.
10. In the cluster-1 area, mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
11. For blasting tentatively 2083kg/month of explosive will be required assuming powder factor 2m3 /kg.
12. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
13. Ultimate depth of Mining of Cluster 1A and 1B would be 35m & 21m respectively. Ultimate extent of the quarry is 25.688 hectares in Cluster-1A (Anjira) & 0.046 hectares in Cluster-1B (Anjira).
14. Life of Mines: 12 Years
15. Water Requirement - 40 KLD of water will be required from which 15 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
16. The Cluster-1 area is partly covered with soil mixed rock boulders/pebbles followed by granite gneiss/charnockite/migmatite deposit. The soil to be generated will be stacked in the earmarked temporary soil stack and will be utilised for the plantation purpose to be

undertaken around the respective hill/patch and adjacent to haul roads of the same in Cluster-1.

17. A total of 228065 cu.m top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.
18. In the process, 35440 nos. of saplings will be used for plantation in the quarried out areas of 29.534Ha. within total cluster, avenue plantation along approaching roads will be 5000nos. of saplings in 2.0 Ha. respectively.
19. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
20. During the study period the concentration of PM10 varies from 46.41-78µg/m3 and PM2.5 varies from 21.09-48 µg / m3. The concentration of SO2 varies from 6.42-11.2 µg / m3 and NOx concentrations vary from 12.38-20.36 µg / m3. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.
21. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
22. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
23. The noise level as measured in the core zone is 55.4 dB (A) in day time and 43.2 dB (A) in the night time. In the buffer zone the noise level ranges from 41.6 to 56.4 dBA during day time and 31.6 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
24. The total estimated cost of the project is approximately INR `400 lakhs. and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and ` 20 lakh / year respectively.
25. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 15 quarry leases in cluster.

(iii) Status of complaints/court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(v) Three tier plantation detailed layout plan.

(vi) Year wise production of the cluster in past.

(vii) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(viii) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(ix) Air quality Predictive simulation model study for $PM_{2.5}$ and PM_{10} for next 5, 10, 12 years when cluster will start to operate.

(x) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xi) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xii) Details of Zero discharge proposal.

(xiii) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xiv) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xv) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xvi) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xvii) Copy of modified mining plan incorporating progressive mine closure plan.

(xviii) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xix) Detailed surface runoff management plan.

(xx) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxi) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxii) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xxiii) Details of the CSR activity along with socioeconomic study to be undertaken.

(xxiv) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.

(xxv) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxvi) Mining closure plan including fencing/retaining walls along side the boundary of the mines-details to be submitted.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-2 MINES CONSTITUTED OF ARUHA HILLOCKS OVER AN AREA OF 148.00 ACRES OR 59.89 HECTARES LOCATED IN VILLAGE – ARUHA, TAHASIL – DHARMASALA, DISTRICT-JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC

1. This is a proposal for Environmental Clearance of Cluster-2 Mines which is constituted of 5 nos of quarry leases of Aruha hillocks, over an area of 148.00 Acres or 59.89 Hectares located in village - Aruha of Tahasil Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.

2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8344/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 10.30 AM at Dharmasala Bhawan, Chandikhole, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land comprising of 5 nos. quarry leases covering a total mineralized area of 59.89Ha or 148.00 Acres located in village/Mouza - Aruha of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73L/1 and bounded between the latitudes 20°44'32.54"N to 20°44'12.94"N and Longitudes 86°05'53.25"E to 86°06'43.76"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 0.5km and NH-5 is about 3.5km from the cluster. The area is at a distance of 4 km from Chandikhole town. The nearest railway siding is at Haridashpur railway station located at a distance of about 2km from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 4 Km. Nearest Reserve forest is Mahabinayak RF - 4 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Aruha village.

6. Mining plan approved by Directorate of Geology, Govt. of Odisha vide letter no. 320 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.

7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 2,99,02,694 Cum. the mineable reserve (Probable) for building stone/road metal is worked out to be 2,08, 61,702cum over the Cluster-2.
8. The Mine proposed to produce total 20, 00,000 cum of building stone/road metal during plan Period (Ten Years).
9. A total of 807 people include Skilled workers 100, Semi-skilled workers 200 and Unskilled workers 50nos will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. Assuming 20,00,000 m^3(max) productions per annum of Cluster-2, the monthly production target will be around 1, 66,666m3.
13. To produce 1,66,666m3 of rock mass, tentatively 83,333 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
14. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
15. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
16. Ultimate depth of Mining Cluster 2 mines is 23mRL respectively. Ultimate extent of the quarry is 59.89Ha.
17. Life of Mines: 12 Years
18. A total of 828960 cum of top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. Construction of retaining wall and plantation around proposed dump will be carried out.
19. Water Requirement - 40 KLD of water will be required from which 15 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
20. A total of 228065 cu.m top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry

head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.

21. In the process, 15290 nos. of saplings will be used for plantation in the quarried out areas of 12.74Ha. in the Cluster-2 and 56580 nos. of saplings will be planted in 47.15Ha. at the end of conceptual period respectively.

22. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.

23. During the study period the concentration of PM10 varies from 35.24-72.04µg/m3 and PM2.5 varies from 21.09-42.37 µg / m3. The concentration of SO2 varies from 4-9.39 µg / m3 and NOx concentrations vary from 9.06-18.45 µg / m3. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.

24. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.

25. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

26. The noise level as measured in the core zone is 55.6 dB (A) in day time and 39.4 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 52.3 dBA during day time and 38.2 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

27. The total estimated cost of the project is approximately INR `400 lakhs. and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and ` 20 lakh / year respectively.

28. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there no involvement of forest land in the lease area.

(ii) Details of 05 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc

(iv) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(v) Three tier plantation detailed layout plan.

(vi) Year wise production of the cluster in past.

(vii) Safety measures to be undertaken for nearby by sensitive places.

(viii) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(ix) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(x) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xi) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xii) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xiii) Details of Zero discharge proposal.

(xiv) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xv) Design and cross-section of check dams.

(xvi) Separation of topsoil and subsoil to be done.

(xvii) Agreement copies.

(xviii) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xix) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xx) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxi) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxii) Copy of modified mining plan incorporating progressive mine closure plan.

(xxiii) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxiv) Detailed surface runoff management plan.

(xxv) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxvi) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxvii) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xxviii) Details of the CSR activity along with socioeconomic study to be undertaken.

(xxix) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.

(xxx) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxxi) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-3 MINES CONSTITUTED OF BAJABATI HILLOCKS OVER AN AREA OF 35.66 ACRES OR 14.43 HECTARES LOCATED IN VILLAGES- BAJABATI, TAHASIL- DHARMASALA, DISTRICT- JAJPUR, ODISHA OF TAHASILDAR DHARMASALA - EC

1. This is a proposal for Environmental Clearance of Cluster-3 mines which is constituted of 6 nos of quarry leases of Bajabati hillocks over an area of 35.66 Acres or 14.43 Hectares located in villages- Bajabati of Tahasil Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8318/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 02.30 PM at Dharmasala Bhawan, Chandikhole, Jajpur and the issues raised by the public has been address and an amount of Rs.7,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 6 nos of quarry leases of Bajabati hillocks covering a total mineralized area of 35.66Acres or 14.43Hectares located in village/Mouza - Bajabati of Dharmasala Tahasil of Jajpur District, Odisha. The cluster 3 mines has been further sub divided to three sub-clusters, viz., Cluster- 3A comprising mineralised area over 9.18 Ha, Cluster-3B comprising mineralised area over 4.04 Ha and Cluster-3C comprising mineralised area over 1.21 Ha. The project site is located in survey of India toposheet no. 73 L/2 and bounded between the latitudes from 20°45'46.74"N to 20°46'08.96"N and Longitudes 86°06'04.77"E to 86°06'37.98"E. Whereas, Cluster-3A is bounded between the latitudes 20°45'46.74"N to 20°45'59.49"N and longitudes 86°06'25.03"E to 86°06'37.98"E, Cluster-3B is bounded between latitudes 20°46'02.09"N to 20°46'08.96"N and longitudes 86°06'24.29"E to 86°06'36.77"E and Cluster-3C is bounded between latitudes 20°45'56.62"N to 20°46'00.72"N and longitudes 86°06'04.77"E to 86°06'09.42"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 2Km, SW & NH 5 at a distance of 5Km, E from the cluster. The area is at a distance of 3 km from Jenapur town. The nearest railway siding is at Haridashpur railway station located at a distance of about 4.5 km, SSE from the cluster area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 2.5Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Bajabati village – 1km.

6. The mining plan for Cluster-3 constituted of Bajabati building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no. 314 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 22,63,388 cum over the cluster-3A (Bajabati), 5,65,740cum over the cluster-3B (Bajabati) & 1,26,932cum over the cluster-3C (Bajabati). Hence, the total geological reserve over Cluster-3 mineralised area has been estimated as 29,56,060 cum. The mineable reserve (Probable) for building stone/road metal worked out to be 15,22,433 cum over the cluster-3A (Bajabati), 3,53,415cum over the cluster-3B (Bajabati) & 36,519cum over the cluster-3C (Bajabati). Hence, the total mineable reserve over Cluster-3 mineralised area has been estimated as 19,12,367cum.
8. The Mine proposed to produce total 18, 00,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 130 people include skilled workers 15, Semi-skilled workers 35 and unskilled workers 75 nos. will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 7500kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 3A, 3B and 3C will not be more than 10mRL. Ultimate extent of the quarry will be confined to the area of 7.33 hectares in Cluster-3A (Bajabati), 3.37 hectares in Cluster-3B (Bajabati) & 0.98 hectares in Cluster-3C (Bajabati).
16. Life of Mines: 12 Years
17. Water Requirement - 15 KLD of potable water will be required from which 7.5 KLD of water will be required for drinking & domestic purpose. 5 KLD of water is suggested to be utilized for dust suppression and 2.5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 51,158m3 (43632m3 in Cluster3A + 7526m3 in Cluster3B) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and

pebbles. These are the portions of total excavation which are not suitable for construction purpose due to weathering and softness. It will not be possible to separate the total waste from the suitable building stone/road metal at the quarry head. It is assumed that around 20% of the waste will be transported to the crusher site along with valuable building stone/road metal where these will be sorted out. The remaining 10% of the total waste will be separated at the quarry head and will be stacked in the temporary waste dump of respective quarry lease and will be utilized by the lessee for making of mine road and allied infrastructures.

19. In the process, 1067 nos. of saplings will be used for plantation in the quarried out areas of 1.6481Ha. in the Cluster-3 and 14016 nos. of saplings will be planted in 11.68Ha. at the end of conceptual period respectively.
20. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
21. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
22. During the study period the concentration of PM10 varies from 35.02-80.0µg/m3 and PM2.5 varies from 21.01-43.5µg /m3. The concentration of SO2 varies from 4-10.4µg /m3 and NOx concentrations vary from 9.1-20.4µg /m3. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, Sox and NOx are well within the permissible limits.
23. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
24. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.
25. The noise level as measured in the core zone is 56.8 dB (A) in day time and 46.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 31.2 to 40.2 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.
26. The total cost of the project is Rs. 200 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 20 lakhs and Rs. 10 lakh / year respectively.
27. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 06 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(v) Three tier plantation detailed layout plan.

(vi) Details of mitigation measures to be undertaken during mining, so that water ponds and ground water will not be contaminated or intersected.

(vii) Chemical analysis of waste.

(viii) Distance between one lease to other.

(ix) Safety measures to be undertaken for nearby by sensitive places.

(x) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(xi) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(xii) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xiii) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xiv) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xv) Details of Zero discharge proposal.

(xvi) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xvii) Design and cross-section of check dams.

(xviii) Separation of topsoil and subsoil to be done.

(xix) Agreement copies.

(xx) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxi) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxii) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxiii) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxiv) Copy of modified mining plan incorporating progressive mine closure plan.

(xxv) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxvi) Detailed surface runoff management plan.

(xxvii) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxviii) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxix) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xxxii) Details of the CSR activity along with socioeconomic study to be undertaken.

(xxxiii) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.

(xxxiv) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxvii) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER- 4 MINES CONSTITUTED OF BICHHAKHANDI HILLOCKS OVER AN AREA OF 36.65 HECTARES OR 90.562 ACRES LOCATED IN VILLAGE – BICHHAKHANDI, TAHASIL- DHARMASALA, DISTRICT- JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC

1. This is a proposal for Environmental Clearance of Cluster-4 mines which is constituted of 16 nos of quarry leases of Bichhakhandi hillocks over an area of 36.65 Hectares or 90.562 Acres located in village- Bichhakhandi, Tahasil- Dharmasala, District Jajpur, Odisha of Tahasildar Dharmasala.

2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8321/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 26.08.2020 at 02.30 PM at Kalyani Mandap,Marjitapur, Jajpur and the issues raised by the public has been address and an amount of Rs.12,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land consisting of 16 nos of quarry leases of Bichakhandi hillock covering a total mineralised area of 90.562 Acres or 36.65 Hectares located in village/Mouza Bichakhandi of Dharmasala Tahasil of Jajpur District, Odisha. The Cluster-4 has been further sub divided to five sub-clusters, viz., Cluster- 4A comprising mineralised area of Bichhakhandi hillock over 8.08 Ha, Cluster-4B comprising mineralised area of Bichhakhandi hillock over 10.52 Ha, Cluster-4C comprising mineralized area of over 6.47 Ha, Cluster-4D comprising mineralised area of over 6.29 Ha and Cluster-4E comprising mineralised area of over 5.06 Ha. The project site is located in survey of India Toposheet No. 73H/13 and bounded between the latitudes 20°50'20.43"N to 20°50'57.12"N and Longitudes 85°58'33.60"E to 85°59'29.23"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of about 3Km, E & NH 5 at a distance of 16 Km, SE from the cluster 4. The area is at a distance of 3.5km from Jenapur town. The nearest railway siding is at Jenapur railway station located at a distance of about 4 km, E from the cluster 4 area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 60 km from the project site. Kapilash

wildlife sanctuary is located at a distance of 12Km from the cluster area. Nearest river is Brahmani River- 2Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Bichakhandi village – 1km.

6. The mining plan for Cluster-4 constituted of Bichhakhandi building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.312 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 1588521Cum over the Cluster-4A, 1361415Cum over the Cluster-4B ,1303428Cum over the Cluster-4C,1443765Cum over the Cluster-4D, & 1052167 cum over the Cluster-4E. Hence, the total geological reserve over Cluster-4 mineralized area has been estimated as 6749196 Cum & the mineable reserve (Probable) for building stone/road metal worked out to be estimated as 1115704.8 cum over the Cluster-4A, 991645.2 Cum over the Cluster-4B , 888207.6 Cum over the Cluster-4C 1115310 Cum, over the Cluster-4D & 766920 cum over the Cluster-4E. Hence, the total mineable reserve over Cluster-4 mineralized area has been estimated as 4877787.6 cum.
8. The Mine proposed to produce total 47,50, 000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 325 workers (Skilled-80nos, Semi-skilled-100nos. and Un-skilled-130nos & Mines Manager/Mine Permit Manager-15nos) will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 2083 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 4 would be 20.5m and 20 m. at the end of the conceptual period. This is above the ground water table as the RL of ground water table is around 10 m. Ultimate extent of the quarry:31.97Ha.(Cluster-4A, 4B, 4C, 4D & 4E would be 7.08ha, 9.34ha, 5.865ha, 5.40 ha, and 4.29 ha respectively).
16. Life of Mines: 12 Years

17. Water Requirement - 15 KLD of potable water will be required from which 12 KLD of water will be required for drinking & domestic purpose. 1.5 KLD of water is suggested to be utilized for dust suppression and 1.5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.

18. A total of 252942m3 (63585m3 in Cluster4A + 91962m3 in Cluster4B + 24846m3 in Cluster4C+ 55554m3 in Cluster4D + 16995m3 in Cluster 4E) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.

19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.

20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-4 and as such no soil stack will be there in the Cluster-4 area at the end of plan period of ten (10) years.

21. In the process, 38364 nos. of saplings will be used for plantation in the quarried out areas of 31.97 Ha.in total Cluster respectively.

22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.

23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.

24. During the study period the concentration of PM10 varies from 21.1-48.0µg/m3. The concentration of SO_2 varies from 5.03-10.3µg/m3 and NOx concentrations vary from 12.4-20.4µg/m3. From the ambient air quality monitoring carried out for three months (March-May 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.

25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.

26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 27.0 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 58.43 dB (A) in day time and 48.3dB (A) in the night time. In the buffer zone the noise level ranges from 48.3 to 56.4 dBA during day time and 36.6 to 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area.

28. The total cost of the project is Rs. 400 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 Lakhs and Rs. 14 Lakh / year respectively.

29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 16 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(v) Three tier plantation detailed layout plan.

(vi) Detailed layout of safety belt around individual lease and whole cluster.

(vii) Percentage of chromium and *E coli* in water.

(viii) Distance between one lease to other.

(ix) Safety measures to be undertaken for nearby by sensitive places.

(x) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(xi) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(xii) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xiii) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xiv) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xv) Details of Zero discharge proposal.

(xvi) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xvii) Design and cross-section of check dams.

(xviii) Separation of topsoil and subsoil to be done.

(xix) Agreement copies.

(xx) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxi) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxii) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxiii) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxiv) Copy of modified mining plan incorporating progressive mine closure plan.

(xxv) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxvi) Detailed surface runoff management plan.

(xxvii) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxviii) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxix) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xxxv) Details of the CSR activity along with socioeconomic study to be undertaken.

(xxxvi) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.

(xxxvii) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxviii) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-5 MINES CONSTITUTED OF DANKARI, BARADA & BARAMAN HILLOCKS OVER AN AREA OF 243.19 ACRES OR 98.42 HECTARES LOCATED IN VILLAGES/MOUZA - DANKARI, BARADA & BARAMAN UNDER DHARMASALA TAHASIL OF DISTRICT JAJPUR OF DHARMASALA TAHASIL OF TAHASILDAR DHARMASALA – EC

1. This is a proposal for Environmental Clearance of Cluster-5 mines which is constituted of 24 nos of quarry leases of Dankari, Barada & Baraman hillocks over an area of 243.19 Acres or 98.42 Hectares located in villages/Mouza - Dankari, Barada & Baraman under Dharmasala Tahasil of District Jajpur of Tahasildar Dharmasala.

2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8338/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 25.08.2020 at 02.30 PM at G.P. Office, Mahisara G.P., Jajpur and the issues raised by the public has been address and an amount of Rs.12,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land consisting of 24 nos of quarry leases of Dankari, Barada & Baraman hillock) covering a total mineralized area of 243.19 Acres or 98.42 Hectares located in village/Mouza-Dankari, Barada & Baraman of Dharmasala Tahasil of Jajpur District, Odisha. The Cluster-5 has been further sub divided to six sub-clusters, viz., Cluster-5A (Dankari) comprising mineralized area of Dankari hillock over 32.36 Ha, Cluster-5B (Dankari) comprising mineralized area of Dankari hillock over 20.39 Ha and Cluster-5C (Dankari) comprising mineralized area of Dankari hillock over 19.84 Ha, Cluster-5D

(Dankari) comprising mineralized area of Dankari hillock over 12.97 Ha, Cluster-5E (Barada) comprising mineralized area of Barada hillock over 9.91 Ha and Cluster-5F (Baraman) comprising mineralized area of Baraman hillock over 2.95 Ha. The project site is located in survey of India Toposheet No.73 L/1, 73 L/2, 73 L/13 & 73 L/14 and bounded between the latitudes 20°46'20.37"N to 20°47'22.92"N and longitudes 86°01'35.07"E to 86°03'06.51"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH 200 which is located at a distance of 1 Km from the project site. Madhupur garh road is located at a distance of 0.8 Km from the lease cluster and an all weather road connect to lease area from Madhupur garh road. The area is at a distance of 31km from Jajpur town. The nearest railway siding is at Jenapur railway station located at a distance of about 1.6 km, from the cluster 5 area. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 61 km from the project site. Kapilash wildlife sanctuary is located at a distance of 15Km from the cluster area. Nearest river is Brahmani River- 2.5Km. Nearest Reserve forest is Nischinta RF within the project site. No state or national boundary exists within 10 Km radius of the project.
6. The mining plan for Cluster-5 constituted of Dankari building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no. 409 on dated 07.03.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 8751710 Cum over the Cluster-5A (Dankari), 5940535 cum over the Cluster-5B (Dankari), 8163887 Cum over the Cluster-5C (Dankari), 2927411 cum over the Cluster-5D (Dankari), 1964446 Cum over the Cluster-5E (Barada) & 270852 cum over the Cluster-5F (Baraman). Hence, the total geological reserve over Cluster-5 mineralized area has been estimated as 280, 18,841 Cum.
8. The Mine proposed to produce total 1,43,35, 000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 1624 people include skilled workers 200, Semi-skilled workers 600 and unskilled workers 800 no will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 59730 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.
13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.

15. Ultimate depth of Mining Cluster: 69mRL- Cluster-5A, 45mRL -Cluster-5B, 48mRL-Cluster-5C, 66mRL-Cluster-5D, 30mRL-Cluster-5E & 46mRL-Cluster-5F. Ultimate extent of the quarry: 31.21 ha over Cluster5A, 18.730 ha over the Cluster-5B, 17.280 over the Cluster-5C, 11.520 over the Cluster-5D, 8.470 hectares over the Cluster-5E & 2.55 hectares over the Cluster-5F.
16. Life of Mines: 12 Years
17. Water Requirement - 45 KLD of potable water will be required from which 20 KLD of water will be required for drinking & domestic purpose. 20 KLD of water is suggested to be utilized for dust suppression and 5 KLD for plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 444330m3 (45900m3 in Cluster5A + 153258m3 in Cluster5B + 111612m3 in Cluster5C + 61512m3 in Cluster5D + 57792m3 in Cluster5E + 14256m3 in Cluster5F) top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-5 and as such no soil stack will be there in the Cluster-5 area at the end of plan period of ten (10) years.
21. In the process, 6594 nos. of saplings will be used for plantation in the quarried out areas of 5.496 Ha.in total Cluster and 107712 nos. of saplings will be planted in 89.76Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM10 varies from 35.2-67.2µg/m3. The concentration of SO2 varies from 6.04-10.3µg /m3 and NOx concentrations vary from 9.1-22.2µg /m3. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 27.0 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 51.3 dB (A) in day time and 41.1dB (A) in the night time. In the buffer zone the noise level ranges from 49.3 to 56.4 dBA during day time and 36.6 to 41.9 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

28. The total cost of the project is Rs. 1000 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 50 lakhs and Rs. 20 lakhs / year respectively.

29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 24 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Plantation should be undertaken on both sides of haulage road.

(v) Exact distance of cluster from Nishinta RF as topomap shows its within the reserve forest.

(vi) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(vii) Three tier plantation detailed layout plan.

(viii) Detailed layout of safety belt around individual lease and whole cluster.

(ix) Percentage of chromium and *E coli* in water.

(x) Distance between one lease to other.

(xi) Safety measures to be undertaken for nearby by sensitive places.

(xii) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(xiii) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(xiv) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xv) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xvi) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xvii) Details of Zero discharge proposal.

(xviii) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xix) Design and cross-section of check dams.

(xx) Separation of topsoil and subsoil to be done.

(xxi) Agreement copies.

(xxii) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxiii) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxiv) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxv) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxvi) Copy of modified mining plan incorporating progressive mine closure plan.

(xxvii) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxviii) Detailed surface runoff management plan.

(xxix) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxx) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxxi) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xxxviii) Details of the CSR activity along with socioeconomic study to be undertaken.

(xxxix) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.

(xl) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxix) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-6 MINES CONSTITUTED OF LUNIBAR HILLOCKS OVER AN AREA OF 55.00 ACRES OR 22.26 HECTARES LOCATED IN VILLAGES LUNIBAR OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC

1. This is a proposal for Environmental Clearance of Cluster-6 mines which is constituted of 5 nos of quarry leases of Lunibar hillocks over an area of 55.00 Acres or 22.26 Hectares located in village- Lunibar of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.

2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
3. ToR for this project has been granted by SEIAA vide letter No. 8335/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 27.08.2020 at 02.30 PM at G.P Office, Purunabaulamal G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.5,00,000/- has been earmarked for peripheral developmental activities as per the public demand.
4. The total area is Govt. land consisting of 5 nos of quarry leases of Lunibar hillock covering a total mineralised area of 50 Acres or 22.26 Hectares located in village/Mouza - Lunibar of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73 L/1 and bounded between the latitudes 20°47'55.16"N to 20°48'15.06"N and longitudes 86°02'59.48"E to 86°03'18.90"E as per survey.
5. **Connectivity** - The cluster is well accessible through NH 200 which is only 100m, E from the boundary of the cluster area. NH-5 is located at a distance of 5.9 Km, E from the cluster. Haridashpur railway station is located at a distance of 4.5 Km, E from the cluster. Nearest Airport is Biju Patnaik International Airport is at a distance of approx. 61 km from the project site. Kapilash wildlife sanctuary is located at a distance of 17Km from the cluster area. Nearest river is Brahmani River- 3Km. Nearest Reserve forest is Mahabinayak RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Lunibar village – 0.5km.
6. The mining plan for Cluster-6 constituted of Lunibar building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.318 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.
7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 5584824Cum. The mineable reserve (Probable) for building stone/road metal is worked out to be 4349654cum over the cluster-6.
8. The Mine proposed to produce total 43,40,000 cum of building stone/road metal during Plan Period (Ten Years).
9. A total of 289 workers (Skilled-27nos, Semi-skilled-70nos. and Un-skilled-180nos & Mines Manager/Mine Permit Manager-5nos) will be employed during mining operation.
10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.
11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
12. For blasting tentatively 72334 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.

13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 6 would be 10mRL Ultimate extent of the quarry: 19.345 Ha. in Cluster-6 respectively.
16. Life of Mines: 12 Years
17. Water Requirement - 20KLD of potable water will be required from which 7.5 KLD of water will be required for drinking & domestic purpose. 12.5 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 116376 m3 top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-4 and as such no soil stack will be there in the Cluster-4 area at the end of plan period of ten (10) years.
21. In the process, 3500 nos. of saplings will be used for plantation in the quarried out areas of 2.914 Ha.in total Cluster and 23237 nos. of saplings will be planted in 19.346 Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM10 varies from 35.2-70.0µg/m3. The concentration of SO2 varies from 4.7-12.2µg /m3 and NOx concentrations vary from 9.1-21.5µg /m3. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 55.8 dB (A) in day time and 44.3dB (A) in the night time. In the buffer zone the noise level ranges from 49.3 to 56.4 dBA during day time and 31.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

28. The total cost of the project is Rs. 200 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 20 lakhs and Rs. 10 lakh / year respectively.

29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 05 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Soil testing report to be submitted from agricultural lands nearby.

(v) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(vi) Three tier plantation detailed layout plan.

(vii) Detailed layout of safety belt around individual lease and whole cluster.

(viii) Percentage of chromium and *E coli* in water.

(ix) Distance between one lease to other.

(x) Safety measures to be undertaken for nearby by sensitive places.

(xi) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(xii) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(xiii) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xiv) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xv) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xvi) Details of Zero discharge proposal.

(xvii) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xviii) Design and cross-section of check dams.

(xix) Separation of topsoil and subsoil to be done.

(xx) Agreement copies.

(xxi) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxii) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxiii) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxiv) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxv) Copy of modified mining plan incorporating progressive mine closure plan.

(xxvi) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxvii) Detailed surface runoff management plan.

(xxviii) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxix) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxx) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xli) Details of the CSR activity along with socioeconomic study to be undertaken.

(xlii) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.

(xliii) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxx) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 07

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-7 MINES CONSTITUTED OF RAHADPUR HILLOCKS OVER AN AREA OF 104.77 ACRES OR 42.40 HECTARES LOCATED IN VILLAGE - RAHADPUR OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC

1. This is a proposal for Environmental Clearance of Cluster-7 mines which is constituted of 12 nos of quarry leases of Rahadpur hillocks over an area of 104.77 Acres or 42.40 Hectares located in villages Rahadpur of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8324/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 25.08.2020 at 10.30 AM at G.P Office, Mahisara G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.21,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land consisting of 12 nos of quarry leases of of Rahadpur hillocks covering a total mineralized area of 104.77Acres or 42.40 Hectares located in village/Mouza Rahadpur of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73 L/1 and bounded between the latitudes 20°44'32.54"N to 20°44'12.94"N and Longitudes 86°05'53.25"E to 86°06'43.76"E as per survey.

5. **Connectivity** - The cluster is well accessible through NH-200 at a distance of 5Km from the lease cluster. NH 5 is located at a distance of 4 Km from the lease area. The lease area is well connected to the main road through all weathered road. The mine is approached by internal road which connect the lease to the highway Nearest airport is Bhubaneswar Airport located at a distance of about 60 km Gada Madhupur railway station is located at a distance of 5 km from the lease area. Kapilash wildlife sanctuary is located at a distance of 9Km from the cluster area. Nearest river is Brahmani River- 3Km. Nearest Reserve forest is Nischinta RF wher the cluster lies inside and Mahabinayak & Kapilash RF - 9 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Rahadpur village – 0.5km.

6. The mining plan for Cluster-7 constituted of Rahadpur building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.316 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.

7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 222,86,572 Cum. The mineable reserve (Probable) for building stone/road metal is worked out to be 114,65,933 Cum over the cluster-7.

8. The Mine proposed to produce total 1,10,00,000 cum of building stone/road metal during Plan Period (Ten Years).

9. A total of 733 people include skilled workers 100, Semi-skilled workers 200 and unskilled workers 400 nos will be employed during mining operation.

10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.

11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.

12. For blasting tentatively 45833 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.

13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.

14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.

15. Ultimate depth of Mining Cluster 7 would be 20mRL Ultimate extent of the quarry: 39.77 Ha. in Cluster-7 respectively.

16. Life of Mines: 10 Years

17. Water Requirement - 40KLD of potable water will be required from which 20 KLD of water will be required for drinking & domestic purpose. 25 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.

18. A total of 574464 m3 top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.

19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.

20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-7 and as such no soil stack will be there in the Cluster-7 area at the end of plan period of ten (10) years.

21. In the process, 3156 nos. of saplings will be used for plantation in the quarried out areas of 2.63 Ha.in total Cluster and 47724 nos. of saplings will be planted in 39.77\ Ha. at the end of conceptual period respectively.

22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.

23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.

24. During the study period the concentration of PM10 varies from 35.2-79.2µg/m^3 and $PM_{2.5}$ varies from 21.01-43.5µg /m^3. The concentration of SO_2 varies from 4-11.4µg /m^3 and NOx concentrations vary from 9.1-22.4µg /m^3. From the ambient air quality monitoring carried out for three months (1st March to 7th June 2020) of the study period shows that the critical pollutants like PM_{10}, SOx and NOx are well within the permissible limits.

25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.

26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 55.4 dB (A) in day time and 35.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 30.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

28. The total cost of the project is Rs. 400 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 40 lakhs and Rs. 14 lakh / year respectively.

29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.

(ii) Details of 12 quarry leases in cluster.

(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.

(iv) Soil testing report to be submitted from agricultural lands nearby.

(v) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.

(vi) Three tier plantation detailed layout plan.

(vii) Detailed layout of safety belt around individual lease and whole cluster.

(viii) Percentage of chromium and *E coli* in water.

(ix) Distance between one lease to other.

(x) Safety measures to be undertaken for nearby by sensitive places.

(xi) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).

(xii) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.

(xiii) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.

(xiv) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.

(xv) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.

(xvi) Details of Zero discharge proposal.

(xvii) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.

(xviii) Design and cross-section of check dams.

(xix) Separation of topsoil and subsoil to be done.

(xx) Agreement copies.

(xxi) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxii) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxiii) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxiv) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxv) Copy of modified mining plan incorporating progressive mine closure plan.

(xxvi) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxvii) Detailed surface runoff management plan.

(xxviii) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxix) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxx) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xliv) Details of the CSR activity along with socioeconomic study to be undertaken.

(xlv) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public road and at crusher points.

(xlvi) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxxi) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

ITEM NO. 08

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CLUSTER-8 MINES CONSTITUTED OF SAHANIDIHA HILLOCKS OVER AN AREA OF 49.62 ACRES OR 20.08 HECTARES LOCATED IN VILLAGE - SAHANIDIHA OF TAHASIL DHARMASALA & DISTRICT JAJPUR, ODISHA OF TAHASILDAR DHARMASALA – EC

1. This is a proposal for Environmental Clearance of Cluster-8 mines which is constituted of 12 nos of quarry leases of Sahanidiha hillocks over an area of 49.62 Acres or 20.08 Hectares located in villages Sahanidiha of Tahasil Dharmasala & District Jajpur, Odisha of Tahasildar Dharmasala.
2. The project falls under Category “B1”, as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.

3. ToR for this project has been granted by SEIAA vide letter No. 8341/SEIAA dated 03.06.2020. The public hearing for the said project was conducted on 27.08.2020 at 2.30 PM at G.P Office, Purunabaulamal G.P, Jajpur and the issues raised by the public has been address and an amount of Rs.18,00,000/- has been earmarked for peripheral developmental activities as per the public demand.

4. The total area is Govt. land consisting of 12 nos of quarry leases of Sahanidiha hillocks covering a total mineralized area of 49.62Acres or 20.08 Hectares located in village/Mouza Sahanidiha of Dharmasala Tahasil of Jajpur District, Odisha. The project site is located in survey of India toposheet no. 73L/1 & 73H/13 and bounded between the latitudes 20°47'55.16" N to 20°48'15.06" N and longitudes 86°02'59.48" E to 86°03'17.74" E as per survey.

5. **Connectivity** - The cluster is well accessible through NH-200 at a distance of 2Km from the lease cluster. NH 5 is located at a distance of 10 Km from the lease area. The lease area is well connected to the main road through all weathered road. The mine is approached by internal road which connect the lease to the highway Nearest airport is Bhubaneswar Airport located at a distance of about 65 km Jenapur railway station is located at a distance of 1.5 km from the lease area. Nearest river is Brahmani River- 3.2Km. Nearest Reserve forest is Nischinta RF - 6 Km. No state or national boundary exists within 10 Km radius of the project. Nearest habitation is Sahanidiha village – 0.5km.

6. The mining plan for Cluster-8 constituted of Sahanidiha building stone quarry has been approved by the Deputy Director Mines Jajpur Road Circle, Jajpur Road Odisha vide letter no.309 on dated 19.02.2020. The individual quarry lease of the cluster have either been auctioned or to be auctioned for long term quarry lease of 10 years for building stone/ Road metal by Tahasildar Dharmasala.

7. The geological reserve (Probable & Possible) for building stone/road metal has been estimated as 67,43,982Cum over Cluster-8 mineralized area. The mineable reserve (Probable) for building stone/road metal worked out to be 16,03,476 um over Cluster-8 mineralized area.

8. The Mine proposed to produce total 16,00,000 cum of building stone/road metal during Plan Period (Ten Years).

9. A total of 106 people include skilled workers 20, Semi-skilled workers 30 and unskilled workers 50 nos will be employed during mining operation.

10. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing.

11. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.

12. For blasting tentatively 8000 kg/month of explosive will be required assuming powder factor 2m3 /kg. The excavated rock mass will be loaded in to 10T/20T capacity tippers/trucks by excavators. As the loading, drilling and transportation will be partly achieved through use of machineries, the mines come under semi-mechanised category.

13. The bench heights will be 3 m to 6m (max). The width of the benches will be kept either equal or more than the height. The slope of the individual bench will be maintained at around 80^0 to 85^0 with ultimate pit slope of less than 45^0.
14. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
15. Ultimate depth of Mining Cluster 8 would be 05mRL Ultimate extent of the quarry: 10.00 Ha. in Cluster-8 respectively.
16. Life of Mines: 10 Years
17. Water Requirement - 20KLD of potable water will be required from which 2.5 KLD of water will be required for drinking & domestic purpose. 17.5 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from ground water and rain water harvesting from the existing quarry.
18. A total of 64071 m3 top-soil mixed with boulders and pebbles are envisaged to be generated during the plan period in course of mining. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles. It is proposed to store this top-soil in the earmarked site and will be utilized for nearby avenue plantation purpose after separated out from the mixed rock boulders and pebbles.
19. If required, the portion of soil unsuitable for plantation will be sold out to intending users for construction purpose after obtaining permission from concerned authority and payment of advance Royalty.
20. However, the process as above will be followed as per the respective approved mining plan of the quarry lease of Cluster-8 and as such no soil stack will be there in the Cluster-8 area at the end of plan period of ten (10) years.
21. In the process, 12096 nos. of saplings will be used for plantation in the quarried out areas of 10.08 Ha.in total Cluster and 12000 nos. of saplings will be planted in 10 Ha. at the end of conceptual period respectively.
22. During the conceptual period the abandoned quarry will converted to water reservoir and plantation will developed along the boundary.
23. Baseline data collection was during the period of 1st March to 22nd March 2020 and 1st April to 7th June 2020.
24. During the study period the concentration of PM10 varies from 35.2-79.2µg/m3 and PM2.5 varies from 21.01-43.5µg /m3. The concentration of SO2 varies from 4-11.4µg /m3 and NOx concentrations vary from 9.1-22.4µg /m3. From the ambient air quality monitoring carried out for three months (1st March 2020 to 7th June 2020) of the study period shows that the critical pollutants like PM10, SOx and NOx are well within the permissible limits.
25. The surface water quality results it can be inferred that all the parameters analyzed are under the prescribed limit as per IS 2296:1982; class C and the water does not contain any pollutant which would be hazardous for human, animal or crop health.
26. Analysis of ground water reveals that the pH level of the ground water sample ranges from 6.7-7.7. This indicates that the pH of the ground water in the study area is neutral and as per the drinking water standard, Total hardness ranges from 144-712 mg/l, and total dissolved solid ranges from 270 to 1450mg/l, Alkalinity ranges from 90-469 mg/l.

27. The noise level as measured in the core zone is 55.4 dB (A) in day time and 35.2 dB (A) in the night time. In the buffer zone the noise level ranges from 42.3 to 56.4 dBA during day time and 30.2 to 41.6 dBA during night time. The noise level is below the standard as per the Noise Rule, 2000 for rural area. The lease area and all the sampling points are comes under rural area.

28. The total cost of the project is Rs. 250 Lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 25 lakhs and Rs. 10 lakh / year respectively.

29. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a detailed presentation on EIA/EMP report.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC decided to take decision on the approval of the EIA/EMP report in cluster approach after receipt of the final EIA/EMP report in cluster approach from the proponent incorporating the following information / documents.

(i) Kisam of land and certificate from concerned DFO/Tahasildar that there is no involvement of DLC/forest land in the lease area.
(ii) Details of 12 quarry leases in cluster.
(iii) Status of complaints/ court cases/legal action regarding to leases in cluster along with a detailed write up indicating case no., purpose of the case etc.
(iv) Soil testing report to be submitted from agricultural lands nearby.
(v) Inversion study to be undertaken for atmospheric topography on fugitive emissions and dusts.
(vi) Three tier plantation detailed layout plan.
(vii) Detailed layout of safety belt around individual lease and whole cluster.
(viii) Percentage of chromium and *E coli* in water.
(ix) Distance between one lease to other.
(x) Safety measures to be undertaken for nearby by sensitive places.
(xi) Detailed layout plan showing storage of overburden, plantation, internal roads, common haulage road for 15 leases including OB/mineral waste management with intermediate dynamic inventory holding (Maximum and minimum stock).
(xii) Details of explosives to be used and its storage area and its management including license/permission/authorization or storage and use of explosives and to confirm no use of wagon drilling blasting.
(xiii) Air quality Predictive simulation model study for PM 2.5 and PM 10 for next 5, 10, 12 years when cluster will start to operate.
(xiv) Details of silt management, water logging management and Waste Water Management, besides discharge / disposal management with SOP / mechanism of water accumulated during rainy season in mines pit including silt management/removal ingression to agricultural lands.
(xv) Study report on ground water of that area and mitigation measures taken for non-contamination of ground water due to mining.
(xvi) Details of Zero discharge proposal.
(xvii) Report on ground water table if intersected due to mining, contamination and results and mitigation measures.
(xviii) Design and cross-section of check dams.
(xix) Separation of topsoil and subsoil to be done.
(xx) Agreement copies.
(xxi) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage i.e. complete waste / dump / OB management.

(xxii) Total Plantation should be carried out within 2-3 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone. Monitoring of plantation to be undertaken twice a year.

(xxiii) Sludge disposal from ETP and settling tanks, rain water harvesting and usage /recharge / recycling of it to reduce the use of ground water.

(xxiv) Detailed proposal for Rain water Harvesting and water balance (both monsoon and non-monsoon)

(xxv) Copy of modified mining plan incorporating progressive mine closure plan.

(xxvi) Occupational Health Study report, including identification of occupational health hazards for employees as well as neighboring habitation, remedial measures for it and periodical health checkups, at least once in six months by occupational health expert.

(xxvii) Detailed surface runoff management plan.

(xxviii) Proceedings of public hearing to be submitted and actions proposed to be taken in physical terms for the environmental issues raised.

(xxix) An undertaking that they will not touch the ground water table in next 10 years. In case of intersection with ground water, details of dewatering plan and disaster management to be submitted.

(xxx) Mining activity will affect the bio-diversity of the area. How bio-diversity of the area will be managed during mining activity. Study to be carried out about damage to bio-diversity during mining activity.

(xlvii) Details of the CSR activity along with socioeconomic study to be undertaken.

(xlviii) Traffic density study to be undertaken at exit and entry point of mines, intersecting points of haulage road with NH/SH/Public Road and at crusher points.

(xlix) NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

(xxxii) Mining closure plan including fencing/retaining walls alongside the boundary of the mines-details to be submitted.

Since all the mines in clusters are of varied size and located in one geographically region having similar environmental issues, the SEAC recommended for site visit by Sub-Committee of SEAC to one or two mines selected randomly in cluster within about 6 months from the date of issue of EC to verify the Environmental compliance.

31.05.2021

Secretary, SEAC

Chairman, SEAC