

F.No. 23-153/2018-IA.II(V)
Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)

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Dated: 25th February, 2020

To

M/s Tamil Nadu Minerals Ltd
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Subject: Sivaganga Graphite Mining project of M/s Tamil Nadu Minerals Ltd with enhancement of production capacity from 60,000 TPA to 1,05,000 TPA Graphite ROM in the mine lease area of 236.85 Ha at Survey Nos. 89/1, 32/2&4, 3/14 & Ors. at Villages Pudupatti, Senthudayanathapuram and Kumarapatti, Taluk & District Sivaganga, Tamil Nadu. - Environmental Clearance.

The proposal of M/s Tamil Nadu Minerals Ltd for Sivaganga Graphite Mining project with enhancement of production capacity from 60,000 TPA to 1,05,000 TPA Graphite ROM in the mine lease area of 236.85 Ha at Survey Nos. 89/1, 32/2&4, 3/14 & Ors. at Villages Pudupatti, Senthudayanathapuram and Kumarapatti, Taluk & District Sivaganga, Tamil Nadu. The Mine lease area falls in the survey of India Toposheet no 58 K/5. The mine lease falls between the latitudes and longitudes of East longitude 78°23'40.20" to 78°27'0.36" and North latitude 9°52'30" & 9°54' 0". The mine lease area falls under Seismic zone-II.

2. The project is covered under category 'A' of the item 1(a) mining of Mineral of the EIA schedule to the EIA Notification, 2006 and requires prior EC from the MoEF&CC as the lease area of the project is greater than 100 Ha. Previously, the proposal for grant of Environmental Clearance was considered in the EAC (Non-coal Mining Sector) and Terms of Reference was issued on 30.4.2015, Public Hearing was conducted on 29.7.2016. EAC (Non-coal Mining Sector) in its meeting held on 31.1.2017 referred the proposal to Violation Sector. The Project Proponent (PP) applied for Term of Reference (TOR) on 19 May 2017 and submitted Form-I & Pre-feasibility Report. The proposal of Terms of reference (TOR) was considered by the Expert Appraisal Committee (Violation) in its 9th meeting held during 27-28 June, 2018 wherein the Committee recommended the proposal for prescribing Terms of



Reference (TOR) for undertaking detailed Environmental Impact Assessment (EIA) study and Environmental Management Plan(EMP) as per S.O. 804(E) dated 14.03.2017. The TOR was issued by MoEF&CC, vide Letter No.23-153/2018-IA.III(V) dated 13.11.2018. Project Proponent submitted the EIA/EMP report online to the Ministry for seeking environmental clearance after conducting public hearing.

3. The proposal of EC was earlier considered by the Expert Appraisal Committee in its meeting held during 25-26 February, 2019 wherein the Committee deferred the Proposal sought the information/clarification: (1) Damage assessment as quantified by the PP is hypothetical, some logical, scientific reasoning should have been given while calculating/quantifying the damage for all the environmental attributes. Revised remediation plan as per the damage assessed, revised natural and community resource augmentation plan is to be submitted. (2) Damage assessment is to be calculated by considering the excavation of mineral and over burden. (3) Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to prepared accordingly. (4) The committee advised the EIA consultant to prepare presentation before the committee as per the compliance of specific ToR and standard ToR conditions issued by the Ministry, (5) Impact on surface water due to inward flow of water from catchment area without garland drain/check dam is to be assessed. (6) Justification for the Capital Cost, (7) Based on the revised Capital cost, revised CER budget is to be submitted as per the Ministry OM dated 01.05.2018, (8) NOC from state ground water authority that project does not involve intersection of ground water table, (9) . A detail of Over Burden along with proper reclamation plan is to be submitted.(10) The PP has to submit the proof of credible action taken by the concerned state government/ state pollution control board under the provisions of the section 19 of the Environment Protection Act 1986.

4. PP submitted the information vide letter no RC No 12991/ML1/2014 dated 08.05.2015. The proposal of EC was again appraised before the EAC meeting held during 21-22 May, 2019 wherein the Committee deferred the proposal sought the information/clarification:-(1) Damage assessment needs to be worked out from 93/94 instead of 2000/2001 as submitted by the PP. Though the profit accrued from 2000/2001 as per Hon.ble S.C order dated 02.08.2017 to be submitted. (2). The ROM is transported to beneficiation plant which is located at a distance approx. 550 m from the mining lease boundary. PP is advised to rework the cumulative impacts including the impact on water regime and the rejects handling and disposal to tailing ponds taking into consideration of the beneficiation plant. EAC noted that the beneficiation plant is operated with a throughput capacity of 200 TPD and the recovery is reported to be around 15 % of the input without prior environment clearance. (3) Status of credible action initiated under E(P) Act 1986 for the violation,(4) Reference land use/land cover study,(5) Revise the calculation of damage assessment by considering the OB dumped outside the mining lease area.(6) Mining plan approval for dumping of OB outside the mine lease area. (7) EMP cost (Capital and recurring) with all the activities.(8) Revise the CER cost as

per the Ministry OM dated 01.05.2018 (9) Submit the revised hierarchical system regarding reporting violation of Environmental norms.(10) Submit the revised green belt development plan with cost location and area.

5. Based on the information submitted by PP the proposal again considered in the EAC in its meeting held during 22-24 July, 2019 wherein the EAC(V) deferred the Proposal and sought the following requisite information:- (1) Details of land use/land cover between 1994 to 2017 supported by the satellite imageries with land classification details. (2) Commitment from the PP to setup air quality monitoring stations in the three villages for augmenting the relevant remedial measures. (3) All the revenue expenditure related to periodic health camp for the community shall be revised to relevant capital expenditure in CER. (4) The remediation and the community resource augmentation plan shall be revised from Rs. 65 lakhs to Rs. 100.30 lakhs. (5) In case of ground water extraction as per the recent notification of CGWA, the PP has to give undertaking that they will comply with Notification. (6) Disposal of tillage shall be governed as per the CTO. (7) Production details of the year 1993-94 is to be submitted. (8) Undertaking that beneficiation plant is not under violation is to be submitted. (9) Economic benefit due to mining during violation period certified by auditor.

6. PP submitted the information vide letter no RC No: 12991/ML1/2014 dated 06.09.2019. Based on the information submitted by PP the proposal re considered in the EAC in its meeting held during 30th September-1st October, 2019 wherein the After detailed deliberation EAC recommended a cost Rs. of Rs 100,30,800/- to be invested by PP towards Remediation plan and Natural and Community Resource Augmentation plan. In view of above, EAC recommended the proposal for grant of Environmental Clearance under the provisions of 804(E) dated 14.03.2017subject to the specific conditions in addition to all standard conditions applicable for such projects:

7. PP submitted that the mine lease was granted by Industries Department, Govt. of Tamil Nadu vide G.O. No. 1328 dated 24.12.1986 for 20 years, i.e. till 15.05.2007. PP submitted that the applications for renewal of the mining lease has been submitted vide Lr. No. 25203/MLI/2005 dated 24.04.2006 which is under consideration by Govt. of Tamil Nadu. PP also submitted a letter no 11270/MMA.1/2018 dated 28.09.2018 issued from Additional Chief Secretary to Government, Government of Tamil Nadu wherein inter-alia it has mentioned that the mining was executed on 16.05.1987 and valid till 15.05.2007. The TAMIN has submitted an application for renewal of the above mining lease vide Lr. No. 25203/ML1/2005, dated 24.04.2006 and the same is under process in the office of the Director of Geology and Mining, Tamil Nadu. As per 8 A (5) of Mines & Minerals Development & Regulation Amendment Act, 2015 and rule 3 (1) of the Mineral (Mining by Government Company) Rules, 2015, the mining lease granted on 16.05.1987 is deemed to have been extension of the period of the mining lease. As per Rule 3 (3) of the Mineral (Mining by Government Company) Rules, 2015, the pending renewal application of TAMIN shall be deemed to be application for

extension of the period of the mining lease. As per the Scheme of Mining approved by the Indian Bureau of Mines, the reserve available at the leasehold mining area for the year 2014-2019 is about 3.4 million tones of Graphite. The quality of Graphite mined during the above period is about 2,54,882. Hence, the lease period is needed to be extended for exploitation of the remaining mineral reserve by TAMIN. Finally, the State Government mentioned that *"it is informed that the proposal for extension of validity of mining lease has been submitted by TAMIN to the Government through the Director of Geology and Mining, which is under process. The same will be considered positively on submission of valid Environmental Clearance by TAMIN."*

8. The PP submitted that initially the Mining Plan for Sivaganga Graphite Mine was approved by the Regional Controller of Mines, Indian Bureau of Mines, Chennai vide TN/PMT/MP/GM676, MDS, dated: 11.03.1994 over an extent of 242.46.5Ha. Subsequently, the First Phase of Scheme of Mining was approved by the Controller of Mines, Indian Bureau of Mines, Bangalore vide Ir--TN/SG/GR/MS-75/SZ, dated: 20.07.2000 for the period of 5 years i.e. from 1999-2000 to 2003-2004 over an extent of 242.46.5Ha. Second Phase of Scheme of Mining for the years from 2004-2005 to 2008-2009 was also approved by the Controller of Mines, Indian Bureau of Mines, Bangalore vide TN/SG/GR/MS-260-SZ, dated: 24.12.2004 over an extent of 242.46.5Ha. The Scheme of Mining for Renewal of Lease over an extent of 236.85.0Ha was approved by the Regional Controller of Mines, Indian Bureau of Mines, Chennai-90 vide letter no. TN/59/GR/MS-SZ, dated 20.07.2012 for the years from 2009- 2010 to 2013- 2014 over an extent of 236.85.0Ha. Scheme of Mining including Progressive Mine Closure Plan for 1.05 LTPA graphite ore production approved vide letter No. TN/SGN/GR/MS-1123-MDS dated 03.09.2014, by Regional Controller of Mines, Indian Bureau of Mines, Chennai for the period of 2014-15 to 2018-19. The Review of Mining Plan for period of 2019-20 to 2023-24 has been approved by Regional Controller of Mines, Indian Bureau of Mines, Chennai vide letter.No.TN/SGN/GR/ROMP-1544.MDS; dated 22.03.2019.

9. PP submitted that as per the approved mining plan the mining operations will be done by mechanized opencast mining methodology. PP submitted that a thickness of 1.5 m height of top soil will be dozed out by using dozer or removed by 03 Nos excavator (Tata Hitachi 200 LC) of capacity 1m³ and loaded and transported by using 06 Nos. Tipper Leyland of capacity 6 m³ and 04 Nos. Tipper Tata of capacity 6 m³. PP submitted that 02 No. wagon drill of 110 mm dia and 02 Nos. Jack Hammer of 32 mm dia shall be used. PP submitted that 03 Nos. Screw compressor 600 CFM Khosla NT 495-C 180 of capacity 17 m³/min shall be deployed. PP submitted that 01 Nos. diesel tanker(Tata) of capacity 2000 liters, 01 Nos. Explosivevan (Swaraj Mazda) also will be deployed. PP submitted that total mineable reserves were estimated as 3.407 Million tons. PP submitted that the mining operations so far have been restricted to a depth of 30 m from ground level by exploiting the proved reserves and probable reserves. PP submitted that future mining operations till the end of the mining lease period will also be confined to 30 m depth only. There are four mining pits in the lease area. Besides, there are 5 old

waste dumps and 2 top soil old dumps exist. Old external dumps located outside the lease area in the patta lands owned by the lessee will be stabilized, reclaimed with vegetative cover. Further, external dumping is proposed within the lease area. PP reported that the total geological reserves are 3.853 Million Tonnes, out of which Mineable reserve are 3.211 Million Tonnes and extractable reserve are 3.211 Million Tonnes. The waste generated during entire mining is 11/32 Million m³ out of which 0.781 Million m³ will be generated during ensuing 5-year plan period. PP reported that the Present depth of mining 3 to 25 m. No water seepage observed now. Maximum proposed mine depth – 30 m. Due to less transmissivity, hydraulic discontinuity, occurrence of saturated water table mostly beyond 50m, PP reported that there will be no intersection of ground water table is envisaged. PP also submitted the undertaking letter no nil dated 15.04.2019 stating that the ground water table will not intersect during the course of mining operation. PP submitted that the life of the mine is 32.5 years.

10. PP also reported that there is no forest land involved in the mine lease area. There are no notified wildlife protected areas and eco-sensitive areas/zones within 10 km radius of the mine lease. In support of this PP submitted the vide letter no.C.No.16/2017/D dated 24.01.2017 obtained by the District Forest Officer stating that the said mining lease area does not falls under the forest land. PP also reported that there are 5 reserve forests namely Arasanur RF is located at 5.09 km towards WSW, Melkadu RF is located at 7.65W, Isanikandu RF is located at 2.17Km towards SE, Vellakkal RF is located 5.47Km towards 5.47 and Vellimalai RF is located at 5.79Km towards North are located from the site within 10 km radius. The forests were classified under the forest type of Tropical Dry Evergreen Forest (TDEF). PP also submitted the list of Flora and Fauna authenticated by the District Forest Officer, Sivagangai as per which no Schedule-I Species found.

11. The project proponent submitted that the baseline data on micro-meteorology, ambient air quality, water quality, noise quality, soil and flora & fauna are collected during October, 2015 – December, 2015. The PP submitted that in addition to this additional baseline of one month July 2018 was also collected and compared with baseline data previously collected for the period October, 2015 – December, 2015. The monitoring results of ambient air, surface water, soil, ambient noise and ground water have been reported and the same were compared with respective prescribed ranges viz. NAAQS-2009 (for air monitoring), IS:10500-2012 (for ground water), IS:2296 for surface water and ambient noise limits prescribed by CPCB. The concentrations of PM₁₀ found the Average values of PM₁₀ was found to range from 47.5 to 64.6 µg/m³ in 2015 and in 2018 the values varied from 50.3 to 66.4 µg/m³, which is below NAAQ standards of 100 µg/m. and PM_{2.5} values were found to range from 24.5 to 32.5 µg/m³ in 2015 and 29.5 to 36.0 µg/m³ in 2018. The values were found to be within NAAQ standards respectively. The concentrations of SO₂ values were found to range from 3.9 to 4.6 µg/m³ in 2015 and 5.3 to 8.1 µg/m³ in 2018, which are well within the limits of NAAQ standards and NO_x values were found to range from 9.3 to 11.7 µg/m³ during 2015 and 12.7 to 19.7 µg/m³ in 2018, which are well within the limits of NAAQ



standards respectively. The Committee noted baseline ambient air quality is within the NAAQS limits.

12. Noise levels In 2015 vary from 45.6 dB (A) to 51.0 dB (A) during day time and from 38.6 dB (A) to 42.8 dB (A) during night time across the sampling stations. Noise levels In 2018 vary from 52 dB (A) to 56 dB (A) during day time and from 42 dB (A) to 47 dB (A) during night time across the sampling stations during the study period (July 2018) indicate that the ambient noise levels except few in Residential area noise are within the limit prescribed by MoEF&CC (55 dB (A) Day time & 45 dB (A) Night time. The water analysis show that the average pH ranges from 7.23-7.65, TDS Values were in the range of 290-560 mg/l, Chlorides values ranges from 21.3-158.8 mg/l & remaining all parameters are within the prescribed permissible limits of ISO 10500 Standard in Existing Baseline, in 2018 One month validation studies shows the average pH ranges from 7.34- 7.72. The concentrations of fluoride in all the ground water samples are within the studies of 2015 limit, In the present findings the TDS value varied from 519 mg/l to 771 mg/l for the ground water and for all samples it exceeds the acceptable limits but within permissible limits of IS 10500: 2012. The analysis result of 2015 and 2018 for soil shows that there are no major changes in Soil characteristics in the study area.

13. PP submitted the Past Production details letter no ROC.No.M2/98/2018 dated 28.09.2018 from 1993-94 to 2016-17, based on the production details submitted by the PP and it is noted that PP has increased the base year (1993-94) production without prior Environmental Clearance thus, the EAC(V) confirmed that the present case is covered under the violation of EIA notification, 1994/2006 as amended time to time. PP reported that credible action has been initiated against the TAMIN by the State Pollution Control Board vide Case registration no. CC/386/2019, dated 05.09.2019 at Chief Judicial Magistrate Court, Sivaganga, Sivaganga district Tamil Nadu for violation of environmental law under the provision of section 19 of EP Act, 1986 vide letter No T2/TNPCB/LAW /LAII /F.017158/2019 dated 16.07.2019. PP has submitted an undertaking by an affidavit "to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August, 2017 in Writ Petition (Civil) No.114 of 2014 in the matter of Common Cause versus Union of India and Ors before grant of EC. The undertaking inter-alia includes commitment of the PP not to repeat any such violation in future. In case of any violation of the above the Environmental Clearance shall be liable to be terminated forthwith".

14. PP submitted that the total mine lease area is 236.85ha, out of which 75.96.5 Ha is Patta land and 160.88.5Ha is Poramboke Land. PP also reported that an area of 33.57.0 Ha shall be mined at conceptual stage. 7.94.0 Ha shall be under Dumps, 12.25.0 Ha under mineral storage, 1.59.0 Ha for Storage for Topsoil, 0.72.0 Ha under Mineral separation plan, 5.98.5Ha shall be used for Plantation, 5.20.5Ha under roads & 0.72.0 shall be infrastructure etc. as per the approved mine plan. The Graphite mine is linked to the Graphite beneficiation plant for uninterrupted supply of about 200 tons of Graphite ore for production of 96% fixed



carbon final graphite flakes for supply to various industrial users for manufacture of crucibles, electrodes, pencils, refractory bricks, paints, etc

15. The Public Hearing was conducted on 29.07.2016 at DDC Hall, Collector's Office, Sivaganga district through District. The Public Hearing was presided over by Collector of Sivaganga and District Revenue Officer, Sivaganga district and the District Environmental Engineer was presented. The major issues raised by the local villagers are related to proper implementation of the environmental management measures during mining operations, provision of employment for the locals, construction of local roads, development of local infrastructure like community centre/ educational institutes/ sanitation/ drinking water/ healthcare facilities leading to positive socio economic impact etc. The villagers asked the PP to ensure that not to depletion of ground water and adequate measures should take for ground water recharge. PP submitted that the proposed mining project will benefit the region and for the same purpose, it has made a provision of ₹2.0 Lakhs per year for specified CSR activities under CSR program. The villagers are also requested to have advanced proper control measures for noise and vibrations. The Committee observed that apart from the activities mentioned in ESC special emphasis on Antenatal care, Female Hygiene shall also be included. The Occupational hazard Plan also need to be revamped considering risk based approach and in line with DGMS requirements. The Committee explained to the PP that the expenditure made towards addressing the issues raised in PH shall be covered under Enterprise Social Commitment (ESC) which will be exclusive of CSR budget and contribution made to the District Mineral Fund Project Proponent reported that there is no court case/ litigation pending against the project.

16. PP submitted that total water requirement is 40.0 KLD out of which 20.0 KLD for dust suppression and 3.5 KLD for Domestic use and 16.5 KLD for green belt Development. The total water requirement is met through bore well & mine sump water (rain water storage) within the lease premises. NOC for drawl of ground water obtained from State and surface water resources centre, Public Works Department, Chennai vide letter No OT9/G6/22/2019/NOC/Tirunelveli/2019 dated 28.03.2019.

17. PP submitted that the estimated Capital Cost of the project is Rs.2800 Lakhs. The CSR cost: Rs. 2.0 Lakhs per Annum. The proposal will generate employment direct 70 persons in mine, 98 persons in plant & indirect more than 200 persons.

18. The EAC in its meeting held on 30th September- 1st October, 2019 after detailed deliberation **recommended** the proposal for grant of environmental Clearance as per Notification vide S.O.804 (E) dated 14.03.2017 subject to compliance of the Specific terms and conditions and environmental safeguards mentioned below:

19. The Ministry of Environment, Forest & Climate Change has examined the proposal in accordance with the Environmental Impact Notification, 2006, as per Notification vide S.O. 804(E) dated 14.03.2017 further amendments thereto and as the Project Proponent submitted the bank Guarantee amount Rs 100, 30,800/-

(One crore thirty thousand eight hundred) to the TamilNadu State Pollution Control Board, hereby accords the Environmental Clearance under the provisions thereof to the above mentioned proposal of M/s Tamil Nadu Minerals Ltd for enhancement of production capacity from 60,000 TPA to 1,05,000 TPA Graphite ROM in the mine lease area of 236.85 Ha at Survey Nos. 89/1, 32/2&4, 3/14 & Ors. at Villages Pudupatti, Senthudayanathapuram and Kumarapatti, Taluk & District Sivaganga, Tamil Nadu subject to compliance of the following terms and conditions and environmental safeguards mentioned below:

Specific Conditions:

1. EAC recommended for an amount of Rs 100,30,800/- (Rs One crore thirty thousand eight hundred) towards Remediation plan and Natural and Community Resource Augmentation plan to be spend within a span of three years. The details are given below:

Remediation Cost:

Env. Component	Remediation Measures for Environmental Damage	2020-21	2021-22	2022-23	Total
		Amount in Rupees			
Air Environment	Suppression of Dust by sprinkling of water through water tankers on haul roads, drilling areas and dust deposited areas including neighborhoods areas. Purchase of tipper with storage tank along with Sprinkling arrangements.	6,50,000			6,50,000
	Maintenance charge for tipper.	10,000	10,000	10,000	30,000
	Maintenance of Water tanker & Vehicles (21 Vehicles x Rs.5000)	21,000	42,000	42,000	1,05,000
	Plantation / Provisions of Green Belt development in nearby villages. Planting and maintaining trees along the highway in collaboration with NHA/Forest Department.	75000 (50 Trees) Pudupatti Village	75000 (50 Trees) Senthudayanathapuram Village	150000 (100Trees) Kumarapatti Village	3,00,000

	Monitoring of Ambient Air Quality (3 Samples, twice a year) in nearby villages (Pudupatti, Senthudayanathapuram and Kumarapatti).	20,000 Pudupatti Village	20,000 Senthudayanathapuram Village	20,000 Kumarapatti Village	60,000
	Health camps arrangements in the areas of villages (Pudupatti, Senthudayanathapuram and Kumarapatti).	35000 Pudupatti Village	35000 Senthudayanathapuram Village	35000 Kumarapatti Village	1,05,000
	Regular maintenance nearby village's connectivity roads to reduce air pollution, labourcharges.	50,000 Pudupatti Village	50,000 Senthudayanathapuram Village	50,000 Kumarapatti Village	1,50,000
	Total	8,61,000	2,32,000/-	3,07,000	14,00,000
Water Environment	To Pump out mine pit water for nearby villages agriculture land. Purchase of 10HP Diesel Engine coupled pump with accessories.	65,800 (Mine pit)			65,800
	Maintenance of existing garland near water bodies and diversion to nearby water bodies in 3 villages		50,000 (Mine pit)		50,000
	Rehabilitation of abandoned public wells	20,000 Pudupatti Village	20,000 Senthudayanathapuram Village	20,000 Kumarapatti Village	60,000
	Construction of six Recharges Pits in 3 villages	30,000 Pudupatti Village	30,000 Senthudayanathapuram Village	30,000 Kumarapatti Village	90,000
	Collection of surface water runoff from non mining areas during monsoon – Construction of four Sedimentation tanks	6,00,000 (Mine pit)	6,00,000 (Mine pit)	12,00,000 (Mine pit)	24,00,000
	Total	7,15,800	7,00,000	12,50,000	26,65,800
Land Environment	Developing Green Belt at neighborhoods No. of Trees: 1000 Nos x Rs.1500	4,50,000 (300 trees) Pudupatti Village	4,50,000 (300 trees) Senthudayanathapuram village	6,00,000 (400 trees) Kumarapatti village	15,00,000

	Vehide Checkup camp Twice in a year 2x10000			20,000	20,000
	Supply of Garbage bin trolleys to 3 villages (15000x20 bins (10 Nos for organic waste & 10 Nos for inorganic waste)	90,000 (6 Bin) Pudupatti Village	90,000 (6 Bin) Senthiudayanathapuram village	1,20,000 (8 Bin) Kumarapatti village	3,00,000
	Conducting awareness programs in 3 villages	15,000 Pudupatti Village	15,000 Senthiudayanathapuram	15,000 Kumarapatti village	45,000
	Waste collection bins shall be provided in villages 2 bins for each of the 3 villages	70,000 Pudupatti Village	70,000 Senthiudayanathapuram village	70,000 Kumarapatti village	2,10,000
	Developing the following water bodies Kumarapatti water tank (Northern side of Lease area) Karangipatti water tank (Northern side of Lease area) Komalipatti water tank (Northern & Southern Side of Lease area)	3,00,000 Kumarapatti Village	3,00,000 Karangipatti Village	3,00,000 Komalipatti Village	9,00,000
	Total	9,25,000	9,25,000	11,25,000	29,75,000
Noise Environment	Providing Infrastructure facilities to Primary Health Centers in 3 villages	2,50,000 Pudupatti Village	2,50,000 Senthiudayanathapuram village	2,50,000 Kumarapatti village	7,50,000
	Total	2,50,000	2,50,000	2,50,000	7,50,000
Ecological Environment	Development of green belt along the boundary of water bodies away from the lease boundary Distribution of tree seedling to peripheral villagers preferably native plants	25,000 Pudupatti Village	25,000 Senthiudayanathapuram village	25,000 Kumarapatti village	75,000
	Total	25,000	25,000	25,000	75,000
Socio – Economic Condition	Community based rehabilitation of differently abled persons	30,000 Pudupatti Village	30,000 Senthiudayanathapuram village	40,000 Kumarapatti village	1,00,000
	Solar street lamps installation in 3 villages (Pudupatti, Senthiudayanathapuram and Kumarapatti)	30,000 Pudupatti Village	30,000 Senthiudayanathapuram village	40,000 Kumarapatti village	1,00,000

	Supplying of furniture to Govt.Schools 3 village (Pudupatti, Senthudayanathapuram and Kumarapatti)	35,000 Pudupatti Village	35,000 Senthudayanathapuram village	35,000 Kumarapatti village	1,05,000
	Total	95,000	95,000	1,15,000	3,05,000
Occupational Health and Safety	Health camps for neighborhoods (Pudupatti, Senthudayanathapuram and Kumarapatti)	30,000 Pudupatti Village	30,000 Senthudayanathapuram village	40,000 Kumarapatti village	1,00,000
	First Aid Facilities for nearby villages	20,000 Pudupatti Village	20,000 Senthudayanathapuram village	20,000 Kumarapatti village	60,000
	Sanitation & health training programs to neighborhoods (Once in 3 Years)			1,00,000 Kumarapatti village	1,00,000
	Total	50,000	50,000	1,60,000	2,60,000
	Grand Total				84,30,800

NATURAL RESOURCES AUGUMENTATION PLAN ALONGWITH ACTION PLAN AND BUDGET

Sl. No	Natural Resources Augmentation	2020-21	2021-22	2022-23	Total (Rs)
1	Development of Greenery in the surrounding area and road side plantation	70000	70000	60000	200,000
2	Provision of Drinking water facilities through hand pumps/dug wells/tube wells	100000 Kumarapatti village	100000 Senthudayanathapuram village	100000 Pudupatti Village	300,000
3	Renovation of open wells in nearby villages	50000 Kumarapatti village	50000 Senthudayanathapuram village	50000 Pudupatti Village	150,000
4	Construction of Ground Water Recharge Wells in 3 villages	50000 Kumarapatti village	50000 Senthudayanathapuram village	50000 Pudupatti Village	150,000
	Total	270000	270000	260000	800000

COMMUNITY RESOURCE AUGMENTATION PLAN

Sl. No	Natural Resources Augmentation	2020-21	2021-22	2022-23	Total (Rs)INR
1	Supporting farmers for irrigation	50000 Kumarapatti village	50000 Senthudayanathapuram village	50000 Pudupatti Village	150,000
	Construction of village roads	100000 Kumarapatti village	100000 Senthudayanathapuram village	100000 Pudupatti Village	300,000
2	Construction of Toilets in schools (3 toilets in 3 villages)	50000 Kumarapatti village	50000 Senthudayanathapuram village	50000 Pudupatti Village	150,000
3	Conducting skill development programs to students of farmers / poor people	20000 Kumarapatti village	20000 Senthudayanathapuram village	10000 Pudupatti Village	50,000
4	Providing Scholarships to merit students	50000 Kumarapatti village	50000 Senthudayanathapuram village	50000 Pudupatti Village	150000
Total		270000	270000	260000	800000

SUMMARY

S. No	Description	Estimated cost (Rs. INR)
1	Remediation Plan	84,30,800
2	Natural Resources Augmentation Plan	8,00,000
3	Community Resources Augmentation Plan	8,00,000
Total Budgetary Provision		100,30,800

2. Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 100, 30,800/- (One crore thirty thousand and eight hundred only) .

3. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs 100, 30,800/- (One crore thirty thousand eight hundred) towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.

4. Remediation plan shall be completed in 3 years whereas bank guarantee shall be for 5 years. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
5. Fund allocation for Corporate Environment Responsibility (CER) of Rs. 60.00 lakhs/- to be implemented.
6. Periodical health checkup of workers shall be carried out and also to submit the report to concerned regional office.
7. Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.
8. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
9. Department of mining & Geology, State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
10. Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.
11. Project proponent shall comply with the specific conditions related to main haulage road, top soil preservation, regular water sprinkling, control of noise levels etc., apart from compliance to other standard conditions.
12. The mining lease holder shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.,

Standard EC conditions

I. Statutory compliance

- 1) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- 2) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.



- 3) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 In matter of Common Cause versus Union of India &Ors.
- 4) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.
- 5) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.
- 6) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.
- 7) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- 8) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- 9) The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".
- 10) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.
- 11) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.
- 12) State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
- 13) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which



shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.

14) The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

15) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2, CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

16) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEFCC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

1) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

2) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records



maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

3) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

4) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

5) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.



6) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEFCC annually.

7) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

8) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

9) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

10) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

11) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining plan

12) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse

environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

13) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

14) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.

VI. Land reclamation

15) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

16) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

17) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

18) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

19) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

20) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

21) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

22) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

23) No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

24) The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided



with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

25) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

26) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

27) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

28) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

29) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

30) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in



the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.

31) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

32) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

33) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of

their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having above indications.

34) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

35) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

36) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

37) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

38) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEFCC and its concerned Regional Office.

XI. Miscellaneous

39) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

40) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

41) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

42) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFCC.

43) The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data / information / monitoring reports.

20. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

21. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

22. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Chhattisgarh and any other Court of Law relating to the subject matter.

23. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,

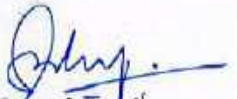

(Sundeep)

Director (S)

Copy to:-

- 1). **The Secretary**, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
- 2). **The Secretary**, Department of Environment, Government of Tamil Nadu, Chennai.
- 3). **The Secretary**, Department of Forests, Government of Government of Tamilnadu, Chennai
- 4). **The Secretary**, Department of Mines and Geology, Government of Tamilnadu, Chennai
- 5). **The Additional Principal Chief Conservator of Forests**, Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), 1st and 2nd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 34

- 6). **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- 7). **The Chairman**, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai- 600 032, Tamil Nadu.
- 8). **The Member Secretary**, Central Ground Water Authority, 18/11, Jam Nagar House, Man Singh Road, New Delhi-110011.
- 9). **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
- 10). **The District Collector, Sivaganga** District, State of Tamil Nadu.
- 11). **Guard File.**
- 12). **MOEFCC Website.**


(Sundeeep)
Director (S)