

**GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(IMPACT ASSESSMENT DIVISION)
NON-COAL MINING SECTOR**

SUMMARY RECORD OF 39th MEETING OF THE RECONSTITUTED COMMITTEE OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF NON-COAL MINING PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.

The 39th meeting of the Reconstituted Expert Appraisal Committee for Environmental Appraisal of Mining Projects (Non-Coal) of the Ministry of Environment, Forest and Climate Change was held on **29th November, 2018**. The list of participants is annexed herewith. After welcoming the Committee Members, discussion on each of the Agenda Items was taken up ad-seriatim.

(1.1) Deliberation & Circulation on the Minutes of the 38th EAC Meeting:

The Minutes of the 38th Meeting of EAC held during **November 15-16, 2018** were circulated to the members of the Committee. The Committee made brief deliberations on the proposals placed in the last meeting and approved the same.

Dated: November 29, 2018 [Thursday]

Consideration of Proposals

- (2.1). Netrabandha Pahar Iron ore Block of M/s Bhushan Power & Steel Limited with peak production capacity of 2.0 Million TPA in mine lease area of 139.223 Ha, located at village Baladihi, Tehsil Koira, District Sundargarh, Odisha J-11015/165/2018-IA.II(M); IA/OR/MIN/70569/2017- Consideration of TOR**

The project proponent vide their email dated 28.11.2018 informed that they cannot attend the meeting. **PP did not attend the meeting**. In view of the above, the Committee deferred the proposal.

- (2.2). Adityana-Naviline-'A' Limestone Mining Project By M/s Tata Chemicals Limited area 9.21 Ha (100000 TPA ha) located at Village Adityana, Tehsil Ranavav, District Porbandar, State Gujarat (File No. J-11015/166/2018-IA.II(M); Proposal No. IA/GJ/MIN/70288/2017)- Consideration of TOR**

The project proponent vide their email dated 28.11.2018 informed that they cannot attend the meeting. **PP did not attend the meeting**. In view of the above, the Committee deferred the proposal.

- (2.3). Limestone Mine (Mudhvay Sub Block D, Applied ML Area - 107.00 ha) with**

Limestone Production Capacity of 1.6 Million TPA, Top Soil – 0.32 Million TPA & Overburden – 0.515 Million TPA near Village – Mudhvay, Taluka – Lakhpat, District – Kachchh, Gujarat by M/s JSW Cement Ltd. J-11015/167/2018-IA.II(M) IA/GJ/MIN/85230/2018- Consideration of TOR

The proposal of M/s JSW Cement Limited is for seeking ToR for conducting EIA for proposed Limestone Mine, (Mudhvay Sub Block D, Applied ML Area - 107.00 ha) with Limestone Production Capacity of 1.6 Million TPA, Top Soil – 0.32 Million TPA & Overburden – 0.515 Million TPA near Village – Mudhvay, Taluka – Lakhpat, District – Kachchh, Gujarat. ML Area falls between Latitude- N23°42'12.1144" to N 23°42'57.7472" and Longitude- E 68°40'07.4650" to E 68°40'59.0367" with Toposheet no. Mine area- 41A/10 and study area- 41A/9, 41A/13, 41A/14.

The project proponent submitted that the ML Area is 107 ha, out of which 75.97 ha is Govt. land, and 31.03 ha is other (santhni/Private) land. The CGM issued a notice vide dated 28.03.2017 inviting tender to commence the auction process for grant of mining lease for various Mudhvay Sub-blocks located in District kachchh of State Gujarat as per the provisions of Mines & Minerals (Development & Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 and invited bids for grant of mining lease of mineral limestone at Mudhvay Sub Block D located near Village- Mudhvay, Taluka – Lakhpat, District – Kachhchh, Gujarat.

The project proponent submitted that M/s JSW Cement Limited, successfully bid for the limestone mining block and was declared as "Preferred Bidder" and Letter of Intent has been granted by Industries & Mines Department, Government of Gujarat over an area of 107.00 ha vide letter No- MCR-102016-2146-CHH dated 21.06.2017. Mining Plan with Progressive Mine Closure Plan has been approved by IBM vide letter No. 684 (4) (1)/MP-165/2018-GNR dated-07.09.2018. The project proponent submitted that there is no forest land involved in the mining lease. Narayan Sarovar Wildlife Sanctuary is present within 10 km study area.

The project proponent submitted that Mining will be done by mechanized opencast method using Continuous Surface Miner (CSM) with combination of excavator/loader and dumpers. Drilling and blasting techniques will be used occasionally for hard formations. The loading is proposed to be carried out by hydraulic excavator for OB handling and pay loader for lifting sized limestone whereas transportation by means of dumpers/tippers. Mineral will be used in the proposed cement plant and for trading purpose. Total water requirement for proposed project will be 100 KLD which will be sourced from proposed desalination plant and mine water, if any. The expected employment generation from the project is for 96 persons. Total cost of the project is 47.58 crores/-. The Capital Cost for Environment Protection is Rs. 1.0 crore/- with recurring cost of Rs. 30 Lakhs per annum/-. The project proponent submitted that no litigation is pending against the project.

The proposal was placed in the EAC meeting held on 29th November, 2018. The Committee after due deliberation **deferred** the proposal asked the PP to submit the following information/clarification:

- a) The mine lease area appears to be close to Narayan Sarovar Sanctuary. The proponent needs to submit a letter from the DFO stating that the mine lease area falls more than 1 km away from the sanctuary boundary and does not fall within the eco-sensitive zone area of the sanctuary.
- b) The committee noted that there is a large nallah flowing in the mine lease area. The proponent needs to submit a detailed plan for building a bridge across the nallah.

- c) The committee noted that there was an overlap with the mining lease area and the adjacent forest area as per the information provided by the project proponent. In view of the above, the project proponent needs to submit a letter from the DFO stating that there was no forest involved in the mine lease area.
- d) The proponent needs to submit the exact number of families present in the mine lease area and the rehabilitation plan.
- e) The committee noted that the LoI and the information submitted by the project proponent differed in the land area classification. The proponent needs to correct the area.
- f) The proponent needs to submit the detailed plan for green belt plantation around the nallah to demarcate and protect it.

(2.4). Production of 1.333 MTPA (ROM) from Maravarperungudi Lime Kankar Quarry Lease-I (Extent 498.87.0 Ha; ROM Production 1.333 MTPA) and Mineral Beneficiation @ 1.333 MTPA located at Suddhamadam Village, Aruppukottai Taluk, Virudhunagar District of Tamil Nadu by M/s The Ramco Cements Ltd. [File No: J-11015/25/2018-IA.II(M); Old File No. J-11015/41/2006-IA.II); Proposal No IA/TN/MIN/82205/2018 - Consideration of Proposal under EIA notification 2006 and Ministry's Notification vide S.O. (E) 1530, dated 06.04.2018

The project proponent vide their email dated 28.11.2018 informed that they cannot attend the meeting. **PP did not attend the meeting.** In view of the above, the Committee deferred the proposal.

(2.5). Production of 18.0 Lakh TPA River Bed Material (Boulder, Gravel and Sand) from Mining lease area of 45.0 ha (Dangri River Bed) located at Village-Shamtoo, District- Panchkula, Haryana by M/s Ganesh Enterprises [File No J-11015/31/2018-IA.II (M); Proposal No: IA/HR/MIN/72297/2018]-Re-Consideration of TOR

The proposal of M/s Ganesh Enterprises is for production of 18.0 Lakh TPA of River Bed Material (Boulder, Gravel and Sand) from Mining lease area of 45.0 ha (Dangri River Bed) located at Village- Shamtoo, District- Panchkula, Haryana. The mining lease area is located on Survey of India Topo-sheet no. H43K14. The area falls between Latitude - 30°37'6.574" N to 30°37'40.71" N Longitude - 76°58'52.34" E to 76°59'29.10" E. The Mining lease area falls in seismic zone IV.

The PP applied online and submitted the Form-1, Pre-feasibility Report, and copy of Letter of Intent (LoI). The Proponent has submitted a cluster certificate issued by Mining Officer, Mines & Geology Department, Panchkula vide memo no 4126 dated 23.08.2018 wherein it has mentioned that there are two mining lease viz. Sukhdarshanpur Block/PKL B-13 & Shamtoo-1 Block/PKL B-11 within 500 meters radius of this mining lease. The Proponent also submitted the District Survey Report wherein the area of the above mining leases was mentioned as 37.38 Ha & 46.50 Ha respectively. Thus, the total area of the cluster is 128.88 Ha. The Ministry has issued S.O. 3977(E) 14.08.2018 as per which the category of the proposal is 'B1' Cluster Situation. The proponent submitted the letter no. 5081 dated 05.03.2018 issued by the Chief Wildlife Warden, Panchkula, Haryana wherein it has mentioned that Khol Hai Raitan Wildlife Sanctuary (protected areas) is around at a

distance of 2.4 Km from this mining project and mining lease is outside the notified Eco-Sensitive zone around Khol Hai Raitan Wildlife Sanctuary. As per S.O. 3977(E) 14.08.2018 the general condition is not applicable for the project or activity of mining of minor minerals of Category 'B1' in case of cluster of mining lease area. Thus, the project should be appraised by SEIAA Haryana but as the proposal was earlier considered in the Ministry and as SEIAA Haryana is not functional the proposal was appraised in the Ministry.

The Proponent submitted that the Letter of Intent (LoI) has been granted vide Memo No. DMG/HY/Cont./Shamtoo-2 Block/PKL B-12/2017/7040 dated 16.11.2017 by the Director, Mines & Geology, Haryana for a period of 10 years. The mining lease is a part of Dangri River Bed falling in Panchkula district Haryana. No diversion of any reserved and protected forest land is involved.

The PP applied online for grant of ToR and the proposal was earlier considered in EAC Meeting held during April 23-24, 2018 wherein the committee after due deliberation deferred the proposal and asked the proponent to submit requisite information. The Ministry vides LR No. J-11015/31/2018-IA-II (M) dated 16th May 2018 asked the PP to submit the requisite information. The PP submitted the information online on 30.06.2018 and the proposal was placed in EAC meeting held on 19-20 July, 2018 wherein the Committee deferred the proposal and sought clarification from the State Government. The Ministry Vide Lr No. J-11015/31/2018-IA-II (M) dated 20.08.2018 sought the clarification from the DMG, Haryana. The PP submitted the letter no issued vide Memo No. DMG/HY/Cont./Shamtoo-1Block/PKL B-11/2018/ 5293 dated 23.10.2018 by DMG, Haryana in reply to Ministry's letter dated 02.08.2018 and the proposal is now placed in EAC meeting held on 29.11.2018.

The Committee observed that the Ministry as per recommendation of the Committee Vide Lr No. J-11015/31/2018-IA-II (M) dated 20.08.2018 asked the DMG, Haryana to clarify (a) Whether the State Government of Haryana followed the provision of the Sustainable Sand Management Guidelines, 2016 and ascertained the replenishment rate of the mineral in these mining locations before granting letter of intent; (b) Whether replenishment of huge quantity of mineral would be possible in these mining locations. If yes, please provide the replenishment study report conducted for the same if any; (c) Whether survey has been carried out for identification of locations where there are aggradations or over deposition of the mineral. Please provide the details of the same along with plan and section, date on which survey was carried out, method and instrument used for surveying, plan & section showing the aggradations or over deposition of the mineral; (d) Please verify the mining lease area as there is a discrepancy in the same as reported by Project Proponent; (e) Whether, District Survey Report has be prepared after following the procedure laid down in Appendix -X of S.O. 141(E) dated 15.01.2016 which inter-alia include "*Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and **calculation of annual rate of replenishment** and allowing time for replenishment after mining in that area.*" and f) submit a plan clearly showing all the sand mining leases located in Panchkula District (irrespective of area) for which mining lease or LoI has been issued. The plan should clearly bring out the position of the mining lease (upstream to downstream) and the quantity that can be extracted from the same.

The Committee observed that the DMG Haryana vide Memo No. DMG/HY/Cont./Shamtoo-2 Block/PKL B-12/20178/ 5295dated 23.10.2018 submitted the following reply to the Ministry:

- 1) The above said case relates to proposal of M/s Ganesh Enterprises for mining of minor minerals from riverbed area of river Dangrij Tangri and its Tributaries. The area for

mining falls under the revenue estate of villages Shamtoo and Rattewali district Panchkula, Haryana. However, there are other mining contracts/ mineral concessions granted in the other parts of river situated on upstream and downstream also. The EAC considering that above mining areas are adjacent to each other took the overall view on the cluster situation.

- 2) In this regard, it is clarified that the above projects areas are otherwise category B-1 / category A projects and not of B2 projects. Hence, the cluster i.e. B2 projects in nearby area (500 meter radius) having total area more than 25 ha is not relevant. However, the concern of the EAC is valid to address the related concerns on the basis of the EIA report submitted for Rattewali Block-10 as per which air quality data even in the control scenario is more than prescribed limits. The EAC apprehended that the mining in other areas will add pollution and air quality may further deteriorate as the cumulative quantity of extraction of three mining leases.
- 3) In this regard, it is stated that the areas in question are situated in such region where there are minimum industrial activities. The data collected by PP of Rattewali project was apparently for the period of crop harvesting and it is well known that at times stubble burning by the farmers despite all related restraint orders deteriorates the air quality. Further, cumulative effect of mining in all blocks is also not likely to have any such alarming impact on the PM₁₀ and PM_{2.5} as the mining shall be over widespread areas and with required precautions of adequate sprinkling of water.
- 4) It may be considered that there are total 07 mining blocks in the nearby areas - the mining contracts in respect of 04 mining blocks namely Rattewali Block/PKL B-10, Shamtoo-1 Block/PKLB-11, Shamtoo-2 Block/PKLB-12, Sukhdarshanpur Block PKL B-13 have already been granted. The area of block namely 'Kot Block/PKL B 8 & 9' falls within another river namely "Krishna". No other area of river under consideration has been granted on contract.
- 5) The EAC in the MoEF&CC, GoI, with regards EC of the mining project/s of upstream side to downstream side of the river area has sought additional information.

Sl. No.	Project Proponent	Name of mining block/Project	Location of mining block-village	Area (Ha)	Production Capacity (TPA)
1	M/s Tirupati Roadways	Rattewali Block/PKL B-10	Rattewali	45.00	19,00,000
2	M/s Starex Minerals	Shamtoo-1 Block/PKL B- 11	Shamtoo and Rattewali	46.50	20,00,000
3	M/s Ganesh Enterprises	Shamtoo-2 Block/PKL B- 12	Shamtoo	45.00	18,00,000
4	M/s Shiv Enterprises	Sukhdarshanpur Block/PKL B- 13	Sukhdarshanpur and Shamtoo	37.38	14,50,000

It is stated that related PPs while seeking EC and other approvals do ask for optimum level production which can only be achieved if all other mines comes to closure or demand goes on extremely high side. The details given in paras below may also be read as part of submissions/ clarification in this regard.

- a) As regard selection of area for mining following may be considered:

- i) The district, Panchkula is situated in the foothills of the Shivalik hills. The formation of the area is such that huge amount of mineral i.e boulder, gravel and sand -construction material are brought along with water during rainy season.
 - ii) The minerals deposited in the riverbed areas are being excavated from the riverbed areas since long/ decades from the various parts and in the past mineral concessions/mining contracts for very large area were being granted through open auctions. Initially the mineral concessions were being granted on revenue estate basis and subsequently for number of villages and unit block and lastly (till 2009) all mines of district as one unit.
 - iii) The mining was being permitted only in the area free from restrictions as applicable for riverbed mining.
 - iv) It is also relevant to point out that due to a protracted litigation created by the vested interests the mining in the area remained closed from 01.03.2010. The State could auction its minor mineral mines in Dec, 2013 for grant of Mining contracts.
 - v) In December, 2013 the mining areas of district Panchkula were auctioned by forming three different units which inter-alia were having number of mining blocks. The contracts were awarded in January, 2014 and they were required to seek EC before mining. However, the mining contracts of these three units got cancelled in January, 2015 through Hon'ble High Court as the highest bidders created confusion regarding the mineable area created litigation.
 - vi) The state government thereafter decided to grant smaller blocks so that even small entrepreneurs could also enter in the mining business and monopoly of few could be broken.
 - vii) The areas available for mining in the riverbed (being free from all exiting applicable restrictions) were selected and 18 mining blocks in district Panchkula were formed and in April, 2015 were notified for auction to be held in May, 2015. The auctions were conducted subject to condition that actual mining will be allowed to be undertaken only after prior EC is obtained.
 - viii) Hence, the blocks including that of the mining blocks under consideration were selected/ formed much before the policy of MoEF& CC GoI, 2016.
- b) As regard replenishment of the mineral, it would be relevant to state here that:
- i) The riverbed areas of this part are situated in the foothills of the Shivalik Hills and enormous quantity of sediments/ minerals in the form of Boulder, Gravel and Sand and/or sand deposits are brought every year during the rainy season.
 - ii) Further, though the river is not perennial and water comes mainly during rainy season. The mineral deposits of bigger size (boulder and gravel) gets settled in the upstream side and finer and finer size of mineral in the form of sand gets deposited in the downstream side. The sand deposits so brought by the fluvial action are found much beyond the area in question on the downstream side.

- iii) It is important to state here that replenishment of mined out area and its study could be possible only after the mining area are used for mining. The areas in question were not being used for mining since March, 2010.
- iv) It may be appreciated that each of the project proponent/s in all cases by and large suggests/ sought for clearances for excavation of mineral based on the maximum mine-able reserves of the area. However, the past practice/ records shows that actual mining remains much less than that of optimum capacity of a mine. The actual production of a mine depends on demand of mineral/constructions material in the area and also operation of other nearby mines.
- v) Notwithstanding the same, it is further clarified that on the basis of restriction of maximum permissible depth of 3 meters the mineral concession holder at any point of time cannot go beyond said limit- i.e. cannot undertake mining below 3 meter of the existing bed level.
- vi) During every rainy season mineral/sediments are brought due to fluvial action and get deposited in the area and as a natural course the mineral so brought at the first instance gets deposited in the low lying mined out area (depression created due to excavation in the riverbed- in case mining had been undertaken). This process takes place in the upstream side mining areas / excavation and then in the pits/ depressions created in downstream side.
- vii) The sediments over and above the same get deposited in the other parts of the river bed - un-mined area also -depending upon the force in water stream.
- viii) The mining in the upstream side of the project in question in no way affects the replenishment of the project under consideration or other projects in the downstream side of the project as huge quantity of sediments are brought during rainy season.
- ix) It may further be explained that in case the mineral excavated during any season (pre-monsoon) in the river results in creation of depression of bed level say of 3 meters i.e. in case the mineral is excavated for full permissible depth of 3 meters and after monsoon season the mined out areas get replenishment.
- x) However, for argument sake if it is considered that it is partly replenished/ filled up [say 2 meters only] in that case in next season (post monsoon) the project proponent will not be able to excavate mineral beyond such replenished depth. The project proponent will be under obligation to take and maintain record of the river bed level after regular intervals to ensure that his mining operations at no point of time go beyond the level of 3 meter from the original/existing level of river bed.
- xi) It is worth pointing out that the process of making records of the riverbed levels by the project proponents may be considered to be stipulated as additional condition under EC as it will also act as regular replenishment study of the area during the contracted period.
- xii) At the cost of repetition, it is again stated that the actual production of any mine/ area are depends on the demand of the mineral. The demand of the mineral dependents on the development works in and around area. The production of any

particular mine also depends on the other mines operating in and around the same.

- c) As regard selection of areas the details given under sub para a) may be considered. However it may also be pointed out that areas selected for mining are free from other restrictions such as area near bridge/s or any other structures or Forest etc. The PP shall be undertaking excavation of mineral out of his lease hold area depending upon replenishment - which would be different in each rainy season- depending upon the fluvial action during said rains. It needs to be elaborated that actual area requires replenishment is the actual area from where mining is carried out in the leased area and not over whole riverbed. It is appealing to state here that in case of areas in question in the upstream side areas falling in the Shivalik Hills no mineral excavation is involved over several thousand square kilometers/ the catchment areas.
- d) As regard certain areas in the riverbed stated to be not filled up for want of sediments deposited during current rainy season - it is clarified that all of the riverbed areas are filled up and it is not correct to state that old mining pits are still not filled up. It may be relevant to point out that the entire river stretch is leveled. The photographs of riverbed area taken in the month of September, 2018 right from Rattewali Block to Sukhdarshanpur Block falling in 'DudgarhWaliNadi' have been taken recently are attached, the visual of same would make it is clear that no stretch of riverbed has remained un-replenished. Hence, the apprehension of the MoEF& CC, Gol with regard to non-replenishment of riverbed area is not correct.
- e) As regard some areas of river already having depth of 3 meters it is clarified that the level difference between outside and inside land of riverbed with reference to level of adjoining areas - in the case of existing areas the natural topography is such that at some places the river flows just on the edge of hilly area. However, the same does not mean that riverbed area has gone down due to any excavation.
- f) With regard to difference in area of various blocks it is submitted that there may be difference in taking DGPS readings. It is clarified that area granted by the department are calculated based on revenue records. The same is authenticated, dependable recorded, and survey undertaken with the help of DGPS by PP can be having small difference due to any human error.
- g) With regard to mention of illegal mining in district Panchkula as stated by the PP before EAC, it is not clear as to on what basis they stated so or made such general remark. However, the EAC may be informed that there is no illegal mining in the district Panchkula. It may also be noted that in general the private persons seeking approvals tries to convince the authorities to give them clearance raising such issues- and tries to impress upon as if clearance is not given quickly the illegal mining and/ or proposed operations may happen. The same needs to be taken on records only on the basis of facts and not surmises. It is submitted that District Level Task Forces under the Chairmanship of Deputy Commissioner concerned have been constituted in each district wherein senior functionaries of the departments of Police, Transport, Forest, Pollution Control Board and Sales Tax and Mines and Geology are members. The officials of the department of Mines and Geology jointly and severally inspect the areas round the clock to check illegal mining. Apart from some stray incidents of theft of mineral, there is no illegal mining in the area.

- h) In district Panchkula, presently 53 stone crushers are in place (out of which only 36 are operational. All crushers in operation have valid approvals crusher License and CTO of the "SPCB. The crushers are procuring mineral from the mines operating in district Panchkula and in the past were procuring material from adjoining operational mines in other parts of the state as well as from the Himachal Pradesh and Punjab. It is again stated that the crushers are also operating at sub optimal capacity. As per information collected the total installed crushing capacity of these 36 operational stone crushers is about 11,000 MT per day. However, these crushers do not operate at optimum capacity/mainly for want of raw material as well as demand of construction material.
- i) In view of above, the MoEF&CC, Gol is requested to consider deciding the applications for grant of EC in related cases on merit.

Based on the information submitted by the PP and DMG, Haryana the Committee has the following observations:

- a) The Committee after perusal of the reply submitted by the State Government was of the view that information submitted by the DMG shows that the **State Government has not followed the Sustainable Sand Mining Guidelines 2016 & S.O. 141(E) dated 15.01.2016 while selecting the area for mining as the mining lease blocks were formed in April 2015 and were notified for auctioned in May 2015 i.e. before the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** But in the letter of intent issued to the project proponent it has mentioned that e-auction held on 11-12 October, 2017 i.e. after **the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** Further, **DSR** was prepared based on the total quantity of the reserves available in the mining lease area considering the depth of mining as 3 meters maximum. Further the specific gravity of the material is not clearly mentioned in the DSR. The Committee was thus of the view that a Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site in this region for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof after a) identification of the areas of aggradations or deposition where mining can be allowed b) verify the mining lease boundary, c) verify the area of the mining lease, d) suggest the route for transportation of the mineral so that cause minimum impact on the nearby habitation, e) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited, f) identify the safety zone/restricted area and the area that can be consider for mining after as per recommendation of EAC and after consider other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent and District Survey Report, g) finalize the specific gravity of the material to be mined by the mining lease holders , h) proposed location for the installation weigh bridge, i) verification of the initial level of the mining lease already collected by the PP, j) verification baseline air quantity data collected by the and any other point to be considered for the protection environment and health of the nearby habitation.
- b) The Committee observed that the proponent initially submitted that total available geological reserve is 27, 00,000 MT out of which 7, 95,000 MT is blocked reserved which cannot be mined as a part of sustainable sand mining. The total available reserve of the mineral is 19, 05,000 MT, of which 18, 00,000 MT per annum has been

proposed for mining. The mining will be done by opencast semi-mechanized method utilizing Heavy Earth Moving Equipment (HEMM). The Project Proponent in EAC meeting held on 19-20 July, 2018 submitted that the mining zone has been determined after survey of restricted area and agricultural land within mining lease. Available area for mining was calculated 193591.183 square meters. Density of mineral was considered for river bed matrix comprising of boulder, gravel and sand mineral as 2 g/cc (2ton/cum). The depth of mining has been considered 3m from ground surface of river bed. PP also submitted the calculation of reserve which results a) 2700000 MT -total geological reserve b) 19.3591 Ha -Net mining area, c) 1160000 MT- Mineable reserve (d) 11,60,000 MT - Targeted production (with 100% replenishment /year). PP submitted that after 3m of mining from existing river bed profile, in subsequent years the mining will be done for replenished river bed material. The Committee observed that as per reply submitted by the DMG Haryana it appears that no replenishment study has been carried out previously for the rivers in this region and without a scientific study it is just an apprehension of the State Government that excavated pits will be replenished completely in the rainy season. Further, Committee observed that as per reply submitted by DMG the demand of the mineral as per past records shows that the actual mining remains much less than that of optimum capacity of a mine and the river in question is not perennial river and water flows only during the rainy season. The Committee was thus of the view that there is a requirement of replenishment study for the rivers in this area by an authorized agency before grant of EC and also after grant of EC. The replenishment of material depends on many factors and replenishment of the material will vary from year to year thus it is necessary to restrict the excavation up to a depth of 1 meter only in place of three meters proposed by the PP and production capacity to 25% of what is proposed by the PP. The Committee observed that mining area proposed by the PP is 193591.183 m² and considering the depth of mining as 1 meter and specific gravity as 2 Ton/m³ the production quantity comes out to be 3.87 Lakh TPA and considering 25% of production proposed by the PP the production rate comes out to be 2.9 Lakh TPA (25% of 11.60 Lakh TPA). The Committee was thus of the view that the production capacity for this mine should be restricted to **3.87 Lakh TPA** as PP has already excluded the other non-mining areas as suggested by the EAC. Regarding use of machinery the Committee was of the view that PP shall use only Scrapers for mining to ensure that the mining depth be maintained as 1.0 meters. No other heavy machinery like bucket excavators, back-how, shovel, JCB machines etc. shall not be used for excavation/digging which may adversely impact the aquatic biota. The PP shall have to ensure that during the course of mining, a leveled cross section is made (to the extent possible) so that replenishment studies in future are carried out with ease and transparency and depth of deposited material is measured. The DMG, Haryana shall ensure that leveled cross section is made by the PP before the onset of next rainfall season and the same be communicated to MoEFCC.

- c) The Committee observed that Project proponent submitted that the baseline study of different environmental attributes has already been carried out during December 2017 to February 2018 before grant of ToR. The Committee agreed with the same in pursuant to Ministry O.M No. J-11013/41/2006-IA-11 (I) (Part) dated 29.08.2017, wherein, it was mentioned that *"The baseline data used for the preparation of EIA/EMP reports may be collected at any stage, irrespective of the request for ToR or the issue thereof. However, such a baseline data and the public consultation should not be older than 3 years, at the time of submission of the proposal, for grant of Environmental Clearance, as per ToRs prescribed."*

- d) The Committee observed that the PP has submitted that estimated water requirement of the project is 25 KLD (Drinking purpose 1 KLD, Domestic purpose 5 KLD, Dust suppression 15 KLD and 4 KLD will be used for Plantation). No liquid waste is anticipated to be generated due to the proposed project. Only domestic waste water will be generated from mine offices which will be disposed of in septic tank via soaking pits. Further, the mining shall be carried out only in daytime and total no of working days will be 300 days in a year. The proponent submitted that the estimated project cost shall be Rs 450 Lakh and employment generation will be approximately 78 persons.
- e) The Committee observed that the PP in the EAC meeting held on 19-20 July, 2018 submitted that the Kml file has been verified for mine lease area and working mine area excluding agricultural and restricted area. PP also submitted the revised kml file of mine lease as per khasra details and clear section separately. The PP submitted that the total mine lease area as per DGPS survey is 47.8 Ha and area considered for mining is 19.4 Ha. The Committee observed that as per LOI mining lease area is 45 Ha as per DGPS survey is 47.8 Ha there is increase of 2.8 Ha. The Committee was of the view that area granted under auction is 45.0 Ha. Thus, the Sub-Divisional Committee proposed above should verify the mining lease boundary and area of the mining lease.
- f) The Committee observed that although the LoI for the Boulder, Gravel and Sand but it is evident from the photographs submitted by the DMG, Haryana and sheave analysis submitted by another mining lease in the cluster that in this area boulder is not available. Thus, the Committee was of the view that River Bed Material that can be considered for mining from this mining lease is Sand & Gravel.
- g) The Committee also observed that Hon'ble NGT recently in its order dated 4.09.2018 inter-alia directed that *"One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain. In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate."* Thus, in the instant case also DM, Panchkula should nominate the Committee to be associated with third party audit team for the environmental audit of these mining leases. The Committee is of the view that as the environmental audit to be conducted annually and report of the same needs to be placed in public domain. Thus, it is necessary that the excavation from this mining lease should be monitored closely and precisely. For the monitoring of the excavation it is necessary that mine needs to be surveyed quarterly and the excavation quantities needs to be reconcile with amount dispatched. The survey on regular interval not only provides the quantity excavated but also form the basis of future replenishment study. The Committee is of the view as the mining depth is restricted to 1 meter it is necessary that PP should maintain level surface before surveying.

The Committee after detailed discussion **recommended** the proposal for grant of Standard Term of Reference (ToR) as per Annexure-1 for production of 3.87 Lakh TPA of River Bed Material (gravel and sand) from the mining lease area 45.00 Ha (in Dangri River Bed) located at Village Shamtoo and Rattewali, Tehsil & District Panchkula, Haryana by M/s Ganesh Enterprises. The Committee also prescribed the following specific term of reference.

- 1) A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer , revenue department shall visit the site and make recommendation on suitability of site for mining or prohibition thereof after (a) identification of the areas of aggradations or deposition where mining can be allowed; (b) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited; (c) verify the mining lease boundary; (d) verify the area of the mining lease; (e) suggest the route for transportation of the mineral so that to cause minimum impact on the nearby habitation& agricultural fields; (f) identify the safety zone/restricted area and the area that can be consider for mining after excluding the area as per recommendation of EAC , after considering the other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent & District Survey Report; (g) finalize the specific gravity of the material to be mined by the mining lease holders; (h) proposed location for the installation weigh bridge; (i) verification of the initial level of the mining lease already collected by the PP; (j) verification of the baseline air quantity data collected by the PP and any other point to be considered for the protection environment and health of the nearby habitation. Recommendation of the Committee needs to be annexed with EIA/EMP Report.
- 2) EIA/EMP report should be prepared for the entire cluster.
- 3) The Replenishment Study needs to be conducted by an authorized agency and report of the same needs to be submitted.
- 4) High Powered Committee was constituted under the orders of Hon'ble NGT, headed by Secretary, MOEF&CC, which has given its report dated September, 2016. The PP needs to submit the details that how the PP will comply with the recommendation of the Committee.
- 5) The Proponent should collect the baseline data in respect of initial level of the mining lease. For this permanent bench marks (BM) needs to be established at prominent location preferably close to mining leases in question and should have precisely known relationship to the level datum of the area, typically mean sea level. The entire mining lease should be divided suitably in the grids of 25 Meter x 25 Meters with the help of sections across the width of river and along the direction of flow of the river. The levels (MSL & RL) of the corner point of each grid need to be recorded. Each Grid should be suitably numbered for identification. PP should identity grids which will we worked out and grids which will come under no mining zone i.e. safety barriers from the river bank, safety barrier at lease boundary, restrictions as per condition of LoI/Mining Lease deed, restriction as Mineral Concession Rule of the Concerned State, restrictions as per sustainable sand mining management guidelines 2016, restriction as per DSR etc. The PP should ascertain the level of the river bed with the help of sections drawn across the width of the rivers and along the direction of flow of the river and based on this define the depth of mining of each grid. The PP should provide in tabular format the details of the grid viz. wise material availability, dimension of grid, location of grid (latitude, longitude, MSL and level from outside ground level of the corner points), average level of grid (AMSL and RL), depth of mining in each grid, area,volume,grids under mining zone and those left under no mining zone etc.The PP should submit surveyed data so collected in the excel or CSV file so that the same can be readily used for verification in CAD or Datamine Software. In addition to this soft & hard copy of all the plan& section needs to be submitted.

- 6) PP should suitably name each section line. Section Plan for both sections drawn across the river and along the direction of the river needs to be submitted. Each Section should have level on vertical axis and distance from the bank of river on horizontal axis. For the section along the direction of the river the levels to be shown on vertical axis and distance from upstream to downstream should be shown on horizontal axis.
- 7) The PP should prepare the Mining Plan based on the above survey. The information sought above needs to be a part of the mining plan. In the mining plan year wise production plan should be prepared in three plates for each year. Plat-1 show the mine working for the pre-monsoon period (1st APR- 30th June), Plate-2 should for the period (1st July-15th Sep) as the mining lease area needs to be left for the replenishment of the river bed mineral and no mining should be proposed in thus period and plat-3 show the mine working after replenishment of the river bed i.e. post monsoon period (16th Sep-31st March). The period of monsoon may also be defined in consultation with State Government.
- 8) PP should specifically mention in the mining plan that in the subsequent scheme of mining/review of mining plan, the year wise data pertaining to replenishment study (all five years) shall be provided which include the level (AMSL & RL) of river bed recorded before and after the monsoon, year wise replenishment quantity, all plan & sections of the replenishment study for the past five years.
- 9) PP should also submit an undertaking to the effect that each year after the replenishment study the plan & section shall be submitted to concerned Department of Mining & Geology of the State for verification and official record.
- 10) PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- 11) PP should include in EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- 12) The PP should submit the revenue plan, revenue plan superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land.
- 13) The PP should clearly bring out the protective and mitigative measures to be taken for the nearby habitation and religious structures in line with the Ministry's O.M. No. Z-11013/57/2014- IA. II (M) dated 29.10.2014.
- 14) The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years.

- 15) The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- 16) The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP).
- 17) The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted.
- 18) PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral.
- 19) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 20) PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned.
- 21) PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- 22) PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

(2.6). Production of 12.50 Lakh TPA River Bed Material (Boulder, Gravel and Sand) from Mining lease area of 31.59 ha (Krishna River Bed) located at Village- Kot and Dabkori V, District- Panchkula, Haryana by M/s Ganesh Enterprises [File No J-11015/32/2018-IA.II (M); Proposal No: IA/HR/MIN/72516/2018]-Reconsideration of ToR Regarding

The proposal of M/s Krishna Enterprises is for production of 12.5 Lakh TPA of Boulder, Gravel and Sand minor mineral from Krishna River Bedhaving mining lease area of 31.59 Ha located at Village Kot&Dabkori, District – Panchkula, Haryana. The mining lease area is located on Survey of India Topo-sheet no. H43K14. The area falls between Latitude -

30038'14.61" N to 30039'11.14" N Longitude - 76057'16.64" E to 76057'48.78" E. The Mining lease area falls in seismic zone IV.

The PP applied online for grant of ToR and submitted the Form-1, Pre-feasibility Report, and copy of Letter of Intent (LoI). The Proponent has submitted a cluster certificate issued by Mining Officer, Mines & Geology Department, Panchkula vide memo no 4125 dated 23.08.2018 wherein it has mentioned that there are no mining leases within 500 meters radius of this mining lease. The ministry has issued S.O. 3977(E) 14.08.2018 as per which the category of the proposal is 'B1' without Cluster Situation. The proponent submitted the letter no. 5081 dated 05.03.2018 issued by the Chief Wildlife Warden, Panchkula, Haryana wherein it has mentioned that Khol Hai Raitan Wildlife Sanctuary (protected areas) is around at a distance of 2.4 Km from this mining project and mining lease is outside the notified Eco-Sensitive zone around Khol Hai Raitan Wildlife Sanctuary. Further, as per EIA notification, 2006, "Any project or activity specified in Category 'B' is treated as Category 'A', if located in whole or in part within 5 km from the boundary of (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries". In the instant case the Khol Hai Raitan Wildlife Sanctuary is within 2.5 km North from the mine lease boundary and thus the project is considered as Category 'A' project.

The Proponent submitted that the Letter of Intent (LoI) for the mining lease area of 31.59 Ha has been granted vide Memo No. DMG/HY/Cont./Kot Block/PKL B-8&9/2017/7038 dated 16.11.2017 by the Director, Mines & Geology, Haryana for a period of 10 years. The mining lease is a part of Dangri River Bed falling in Panchkula District, Haryana. The total mine lease area is a Gram Panchayat River Bed. No diversion of any reserved and protected forest land is involved.

The PP applied online for grant of ToR and the proposal was considered in EAC Meeting held during April 23-24, 2018. The committee after due deliberation deferred the proposal for want of requisite information. The Ministry vide LR No. J-11015/32/2018-IA-II (M) dated 16th May 2018 asked the PP to submit the requisite information. The PP submitted the information online on 30.06.2018 and the proposal was placed in EAC meeting held on 19-20 July, 2018 wherein the Committee deferred the proposal and sought clarification from the State Government. The Ministry Vide Lr No. J-11015/32/2018-IA-II (M) dated 20.08.2018 sought the clarification from the DMG, Haryana. The PP submitted the letter no issued vide Memo No. DMG/HY/Cont./KotBlock/PKL B-8 & 9/2017/ 5291 dated 23.10.2018 by DMG, Haryana in reply to Ministry's letter dated 02.08.2018 and the proposal is now placed in EAC meeting held on 29.11.2018.

The Committee observed that the Ministry as per recommendation of the Committee Vide Lr No. J-11015/32/2018-IA-II (M) dated 20.08.2018 asked the DMG, Haryana to clarify a) Whether the State Government of Haryana followed the provision of the Sustainable Sand Management Guidelines, 2016 and ascertained the replenishment rate of the mineral in these mining locations before granting letter of intent, b) Whether replenishment of huge quantity of mineral would be possible in these mining locations. If yes, please provide the replenishment study report conducted for the same if any, c) Whether survey has been carried out for identification of locations where there are aggradations or over deposition of the mineral. Please provide the details of the same along with plan and section, date on which survey was carried out, method and instrument used for surveying, plan & section showing the aggradations or over deposition of the mineral, d) Please verify the mining lease area as there is a discrepancy in the same as reported by Project Proponent, e) Whether, District Survey Report has be prepared after following the procedure laid down in Appendix –

X of S.O. 141(E) dated 15.01.2016 which inter-alia include "Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and **calculation of annual rate of replenishment** and allowing time for replenishment after mining in that area." and f) submit a plan clearly showing all the sand mining leases located in Panchkula District (irrespective of area) for which mining lease or LoI has been issued. The plan should clearly bring out the position of the mining lease (upstream to downstream) and the quantity that can be extracted from the same.

The Committee observed that the DMG Haryana vide Memo No. DMG/HY/Cont./Kot Block/PKL B-8 & 9/2017/ 5291 dated 23.10.2018 submitted the following reply to the Ministry:

- 1) The above said case relates to grant of EC to M/s Krishna Enterprises for mining of minor minerals from riverbed area of river DangijTangri and its Tributaries. The area for mining falls under the revenue estate of villages Shamtoo and Rattewali district Panchkula, Haryana. However, there are other mining contracts/ mineral concessions granted in the other parts of river situated on upstream and downstream also. The EAC considering that above mining areas are adjacent to each other took the overall view on the cluster situation.
- 2) In this regard, it is clarified that the above projects areas are otherwise category B-1 / category A projects and not of B2 projects. Hence, the cluster i.e. B2 projects in nearby area (500 meter radius) having total area more than 25 ha is not relevant. However, the concern of the EAC is valid to address the related concerns on the basis of the EIA report submitted for Rattewali Block-10 as per which air quality data even in the control scenario is more than prescribed limits. The EAC apprehended that the mining in other areas will add pollution and air quality may further deteriorate as the cumulative quantity of extraction of three mining leases.
- 3) In this regard, it is stated that the areas in question are situated in such region where there are minimum industrial activities. The data collected by PP of Rattewali project was apparently for the period of crop harvesting and it is well known that at times stubble burning by the farmers despite all related restraint orders deteriorates the air quality. Further, cumulative effect of mining in all blocks is also not likely to have any such alarming impact on the PM₁₀ and PM_{2.5} as the mining shall be over widespread areas and with required precautions of adequate sprinkling of water.
- 4) It may be considered that there are total 07 mining blocks in the nearby areas - the mining contracts in respect of 04 mining blocks namely Rattewali Block/PKL B-10, Shamtoo-1 Block/PKLB-11, Shamtoo-2 Block/PKLB-12, Sukhdarshanpur Block PKL B-13 have already been granted. **The area of block namely 'Kot Block/PKL B 8 & 9' falls within another river namely "Krishna"**. No other area of river under consideration has been granted on contract.
- 5) The EAC in the MoEF& CC, GoI, with regards EC of the mining project/s of upstream side to downstream side of the river area has sought additional information.

Sr No.	Project Proponent	Name of mining block/Project	Location of mining block-village	Area (Ha)	Production Capacity (TPA)
1	M/s Tirupati Roadways	Rattewali Block/PKL B-10	Rattewali	45.00	19,00,000

2	M/s Starex Minerals	Shamtoo-I Block/PKL B- 11	Shamtoo and Rattewali	46.50	20,00,000
3	M/s Ganesh Enterprises	Shamtoo-2 Block/PKL B- 12	Shamtoo	45.00	18,00,000
4	M/s Shiv Enterprises	Sukhdarshanpur Block/PKL B- 13	Sukhdarshanpur and Shamtoo	37.38	14,50,000

The above projects are not a part of river for which contracts of 'Kot and Dabkori' villages have been granted. The Riverbed of the Dangri Rivers is entirely different from that of river 'Krishna'

It is stated that related PPs while seeking EC and other approvals do ask for optimum level production which can only be achieved if all other mines come to closure or demand goes on extremely high side. The details given in paras below may also be read as part of submissions/ clarification in this regard.

- a) As regard selection of area for mining following may be considered:
- i) The district, Panchkula is situated in the foothills of the Shivalik hills. The formation of the area is such that huge amount of mineral i.e boulder, gravel and sand -construction material are brought along with water during rainy season.
 - ii) The minerals deposited in the riverbed areas are being excavated from the riverbed areas since long/ decades from the various parts and in the past mineral concessions/mining contracts for very large area were being granted through open auctions. Initially the mineral concessions were being granted on revenue estate basis and subsequently for number of villages and unit block and lastly (till 2009) all mines of district as one unit.
 - iii) The mining was being permitted only in the area free from restrictions as applicable for riverbed mining.
 - iv) It is also relevant to point out that due to a protracted litigation created by the vested interests the mining in the area remained closed from 01.03.2010. The State could auction its minor mineral mines in Dec,2013 for grant of Mining contracts.
 - v) In December, 2013 the mining areas of district Panchkula were auctioned by forming three different units which inter-alia were having number of mining blocks. The contracts were awarded in January, 2014 and they were required to seek EC before mining. However, the mining contracts of these three units got cancelled in January, 2015 through Hon'ble High Court as the highest bidders created confusion regarding the mineable area created litigation.
 - vi) The state government thereafter decided to grant smaller blocks so that even small entrepreneurs could also enter in the mining business and monopoly of few could be broken.
 - vii) The areas available for mining in the riverbed (being free from all exiting applicable restrictions) were selected and 18 mining blocks in district Panchkula were formed and in April, 2015 were notified for auction to be held in May, 2015.

The auctions were conducted subject to condition that actual mining will be allowed to be undertaken only after prior EC is obtained.

- viii) Hence, the blocks including that of the mining blocks under consideration were selected/ formed much before the policy of MoEF& CC GoI, 2016.

b) As regard replenishment of the mineral, it would be relevant to state here that:

- i) The riverbed areas of this part are situated in the foothills of the Shivalik Hills and enormous quantity of sediments/ minerals in the form of Boulder, Gravel and Sand and/or sand deposits are brought every year during the rainy season.
- ii) Further, though the river is not perennial and water comes mainly during rainy season. The mineral deposits of bigger size (boulder and gravel) gets settled in the upstream side and finer and finer size of mineral in the form of sand gets deposited in the downstream side. The sand deposits so brought by the fluvial action are found much beyond the area in question on the downstream side.
- iii) It is important to state here that replenishment of mined out area and its study could be possible only after the mining area are used for mining. The areas in question were not being used for mining since March, 2010.
- iv) It may be appreciated that each of the project proponent/s in all cases by and large suggests/ sought for clearances for excavation of mineral based on the maximum mine-able reserves of the area. However, the past practice/ records shows that actual mining remains much less than that of optimum capacity of a mine. The actual production of a mine depends on demand of mineral/constructions material in the area and also operation of other nearby mines.
- v) Notwithstanding the same, it is further clarified that on the basis of restriction of maximum permissible depth of 3 meters the mineral concession holder at any point of time cannot go beyond said limit- i.e. cannot undertake mining below 3 meter of the existing bed level.
- vi) During every rainy season mineral/sediments are brought due to fluvial action and get deposited in the area and as a natural course the mineral so brought at the first instance gets deposited in the low lying mined out area (depression created due to excavation in the riverbed- in case mining had been undertaken). This process takes place in the upstream side mining areas / excavation and then in the pits/ depressions created in downstream side.
- vii) The sediments over and above the same get deposited in the other parts of the river bed - un-mined area also -depending upon the force in water stream.
- viii) The mining in the upstream side of the project in question in no way affects the replenishment of the project under consideration or other projects in the downstream side of the project as huge quantity of sediments are brought during rainy season.
- ix) It may further be explained that in case the mineral excavated during any season (pre-monsoon) in the river results in creation of depression of bed level say of 3

meters i.e. in case the mineral is excavated for full permissible depth of 3 meters and after monsoon season the mined out areas get replenishment.

- x) However, for argument sake if it is considered that it is partly replenished/ filled up [say 2 meters only] in that case in next season (post monsoon) the project proponent will not be able to excavate mineral beyond such replenished depth. The project proponent will be under obligation to take and maintain record of the river bed level after regular intervals to ensure that his mining operations at no point of time go beyond the level of 3 meter from the original/existing level of river bed.
 - xi) It is worth pointing out that the process of making records of the riverbed levels by the project proponents may be considered to be stipulated as additional condition under EC as it will also act as regular replenishment study of the area during the contracted period.
 - xii) At the cost of repetition, it is again stated that the actual production of any mine/ area are depends on the demand of the mineral. The demand of the mineral dependents on the development works in and around area. The production of any particular mine also depends on the other mines operating in and around the same.
- c) As regard selection of areas the details given under sub para a) may be considered. However it may also be pointed out that areas selected for mining are free from other restrictions such as area near bridge/s or any other structures or Forest etc. The PP shall be undertaking excavation of mineral out of his lease hold area depending upon replenishment - which would be different in each rainy season- depending upon the fluvial action during said rains. It needs to be elaborated that actual area requires replenishment is the actual area from where mining is carried out in the leased area and not over whole riverbed. It is appealing to state here that in case of areas in question in the upstream side areas falling in the Shivalik Hills no mineral excavation is involved over several thousand square kilometers/ the catchment areas.
- d) As regard certain areas in the riverbed stated to be not filled up for want of sediments deposited during current rainy season - it is clarified that all of the riverbed areas are filled up and it is not correct to state that old mining pits are still not filled up. It may be relevant to point out that the entire river stretch is leveled. The photographs of riverbed area taken in the month of September, 2018 right from Rattewali Block to Sukhdarshanpur Block falling in 'DudgarhWaliNadi' have been taken recently are attached, the visual of same would make it is clear that no stretch of riverbed has remained un-replenished. Hence, the apprehension of the MoEF& CC, Gol with regard to non-replenishment of riverbed area is not correct.
- e) As regard some areas of river already having depth of 3 meters it is clarified that the level difference between outside and inside land of riverbed with reference to level of adjoining areas - in the case of existing areas the natural topography is such that at some places the river flows just on the edge of hilly area. However, the same does not mean that riverbed area has gone down due to any excavation.
- f) With regard to difference in area of various blocks it is submitted that there may be difference in taking DGPS readings. It is clarified that area granted by the department are calculated based on revenue records. The same is authenticated, dependable

recorded, and survey undertaken with the help of DGPS by PP can be having small difference due to any human error.

- g) With regard to mention of illegal mining in district Panchkula as stated by the PP before EAC, it is not clear as to on what basis they stated so or made such general remark. However, the EAC may be informed that there is no illegal mining in the district Panchkula. It may also be noted that in general the private persons seeking approvals tries to convince the authorities to give them clearance raising such issues- and tries to impress upon as if clearance is not given quickly the illegal mining and/ or proposed operations may happen. The same needs to be taken on records only on the basis of facts and not surmises. It is submitted that District Level Task Forces under the Chairmanship of Deputy Commissioner concerned have been constituted in each district wherein senior functionaries of the departments of Police, Transport, Forest, Pollution Control Board and SalesTax and Mines and Geology are members. The officials of the department of Mines and Geology jointly and severally inspect the areas round the clock to check illegal mining. Apart from some stray incidents of theft of mineral, there is no illegal mining in the area.
- h) In district Panchkula, presently 53 stone crushers are in place (out of which only 36 are operational. All crushers in operation have valid approvals crusher License and CTO of the "SPCB. The crushers are procuring mineral from the mines operating in district Panchkula and in the past were procuring material from adjoining operational mines in other parts of the state as well as from the Himachal Pradesh and Punjab. It is again stated that the crushers are also operating at sub optimal capacity. As per information collected the total installed crushing capacity of these 36 operational stone crushers is about 11,000 MT per day. However, these crushers do not operate at optimum capacity/mainly for want of raw material as well as demand of construction material.
- i) In view of above, the MoEF&CC, Gol is requested to consider deciding the applications for grant of EC in related cases on merit.

Based on the information submitted by the PP and DMG, Haryana the Committee has the following observations:

- a) The Committee after perusal of the reply submitted by the State Government was of the view that information submitted by the DMG shows that the **State Government has not followed the Sustainable Sand Mining Guidelines 2016 & S.O. 141(E) dated 15.01.2016 while selecting the area for mining as the mining lease was auctioned in May 2015 i.e. before the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** But in the letter of intent issued to the project proponent it has mentioned that e-auction held on 11-12 October, 2017 i.e. after **the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** Further, **DSR** was prepared based on the total quantity of the reserves available in the mining lease area considering the depth of mining as 3 meters maximum. Further the specific gravity of the material is not clearly mentioned in the DSR. The Committee was thus of the view that a Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site in this region for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof after a) identification of the areas of aggradations or deposition where mining can be allowed b) verify the mining lease boundary, c) verify the area of the mining lease, d)

suggest the route for transportation of the mineral so that cause minimum impact on the nearby habitation, e) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited, f) identify the safety zone/restricted area and the area that can be consider for mining after as per recommendation of EAC and after consider other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent and District Survey Report, g) finalize the specific gravity of the material to be mined by the mining lease holders , h) proposed location for the installation weigh bridge, i) verification of the initial level of the mining lease already collected by the PP, j) verification baseline air quantity data collected by the and any other point to be considered for the protection environment and health of the nearby habitation.

- b) The Committee observed that the river bed mentioned by the PP in the documents submitted to the Ministry is Dangri River Bed but the DMG Haryana in its letter clearly mentioned that this mining lease is falling on river bed of river Krishna.
- c) The Committee observed that the proponent initially submitted that that total available geological reserve is 18, 95,400 MT out of which 5, 61,000 MT is blocked reserved which cannot be mined as a part of sustainable sand mining. Thus the total available mineable reserve is 13, 34,400 MT, of which 12, 50,000 MT per annum has been proposed for mining. The mining will be done by opencast semi-mechanized method utilizing Heavy Earth Moving Equipment (HEMM).The Project Proponent in EAC meeting held on 19-20 July, 2018 submitted that the mining zone has been determined after survey of restricted area, sand availability and agricultural land within mining lease. Available area for mining was calculated including all segments 113640.408 m² for PKLB-8 and 34861.454 m² for PKLB-9. Total available area of mining is 148501.862 m² or 14.85 Ha. Density of mineral was considered for river bed matrix comprising of boulder, gravel and sand mineral as 2 Tonne/m³ . The depth of mining has been considered 3 m from ground surface of river bed. The PP also submitted the map to show location of all segments within mining lease. The PP submitted that Total geological reserves are 1895400 MT (31.59 × 10,000 × 3 × 2), The net minable area is 148501.862 m² and section wise reserves calculation are as follows:

Sr No.	Block Name	Segment Name	Area of Segment (sq. meter)	Density of Mineral (g/cc)	Depth of Mining (m)	Estimated Mineral Quantity (MT)
1	PKL B-8	PKL B-8(1)	14208	2	3	85249
2	PKL B-8	PKL B-8(2)	19642	2	3	117854
3	PKL B-8	PKL B-8(3)	1394	2	3	8366
4	PKL B-8	PKL B-8(4)	502	2	3	3014
5	PKL B-8	PKL B-8(5)	1209	2	3	7257
6	PKL B-8	PKL B-8(6)	8719	2	3	52316
7	PKL B-8	PKL B-8(7)	3114	2	3	18684
8	PKL B-8	PKL B-8(8)	64850	2	3	389101
9	PKL B-9	PKL B-9(1)	4832	2	3	28993
10	PKL B-9	PKL B-9(2)	13595	2	3	81572
11	PKL B-9	PKL B-9(3)	6770	2	3	40618
12	PKL B-9	PKL B-9(4)	217	2	3	1304
13	PKL B-9	PKL B-9(5)	9447	2	3	56681
		Total	148499	2	3	891009

The Committee observed that there is some calculation error in the details submitted by the PP and the total mineable production comes out to be **890994** MT as per above calculation. The Committee observed that as per reply submitted by the DMG Haryana it appears that no replenishment study has been carried out previously for the rivers in this region and without a scientific study it is just an apprehension of the State Government that excavated pits will be replenished completely in the rainy season. Further, Committee observed that as per reply submitted by DMG the demand of the mineral as per past records shows that the actual mining remains much less than that of optimum capacity of a mine and the river in question is not perennial river and water flows only during the rainy season. The Committee was thus of the view that there is a requirement of replenishment study for the rivers in this area by an authorized agency before grant of EC and also after grant of EC. The replenishment of material depends on many factors and replenishment of the material will vary from year to year thus it is necessary to restrict the excavation up to a depth of 1 meter only in place of three meters proposed by the PP and production capacity to 25% of what is proposed by the PP. The Committee observed that considering the depth of mining as 1 meter the segment wise production is as follows:

Sl. No.	Block Name	Segment Name	Area of Segment (sq. meter)	Density of Mineral (g/cc)	Depth of Mining (m)	Estimated Mineral Quantity (MT)
1	PKL B-8	PKL B-8(1)	14208	2	1	28416
2	PKL B-8	PKL B-8(2)	19642	2	1	39284
3	PKL B-8	PKL B-8(3)	1394	2	1	2788
4	PKL B-8	PKL B-8(4)	502	2	1	1004
5	PKL B-8	PKL B-8(5)	1209	2	1	2418
6	PKL B-8	PKL B-8(6)	8719	2	1	17438
7	PKL B-8	PKL B-8(7)	3114	2	1	6228
8	PKL B-8	PKL B-8(8)	64850	2	1	129700
9	PKL B-9	PKL B-9(1)	4832	2	1	9664
10	PKL B-9	PKL B-9(2)	13595	2	1	27190
11	PKL B-9	PKL B-9(3)	6770	2	1	13540
12	PKL B-9	PKL B-9(4)	217	2	1	434
13	PKL B-9	PKL B-9(5)	9447	2	1	18894
14	Total		148499	2	1	296998

Further considering 25% of production proposed by the PP the production rate comes out to be 2.22 Lakh TPA (25% of 8.90 Lakh TPA). The Committee was thus of the view that the production capacity for this mine should be restricted to **2.96 Lakh TPA** as PP has already excluded the other non-mining areas as suggested by the EAC. During the meeting the Committee asked the PP about the width of river in question. The PP submitted that the width of river is 30 meter. The Committee was thus of the view that according to the MOEF&CC, for regulating the sand mining the river bed mining be allowed in dry stretches of sand aggradations manual in rivers with width up to 100 meters and the same was recorded by Hon'ble NGT in its order dated 05.04.2018. Thus, the Committee was of the view that no heavy machineries like bucket excavators, back-hoe, shovel, JCB machines etc. shall not be used for excavation/digging/loading for this mining lease and the mining should be carried out manually. Further, the PP shall have to ensure that during the course of mining, a

leveled cross section is made (to the extent possible) so that replenishment studies in future are carried out with ease and transparency and depth of deposited material is measured. The DMG, Haryana shall ensure that leveled cross section is made by the PP before the onset of next rainfall season and the same be communicated to MoEFCC.

- d) The Committee observed that Project proponent submitted that the baseline study of different environmental attributes has already been started from 1.12.2017 i.e. before grant of ToR. The Committee agreed with the same in pursuant to Ministry O.M No. J-11013/41/2006-IA-11 (I) (Part) dated 29.08.2017, wherein, it was mentioned that *"The baseline data used for the preparation of EIA/EMP reports may be collected at any stage, irrespective of the request for ToR or the issue thereof. However, such a baseline data and the public consultation should not be older than 3 years, at the time of submission of the proposal, for grant of Environmental Clearance, as per ToRs prescribed."*
- e) The Committee observed that the PP has submitted that estimated water requirement of the project is 20 KLD (Drinking purpose 2 KLD, Domestic purpose 4 KLD, Dust suppression 10 KLD and 4 KLD will be used for Plantation). No liquid waste is anticipated to be generated due to the proposed project. Only domestic waste water will be generated from mine offices which will be disposed of in septic tank via soaking pits. Further, the mining shall be carried out only in daytime and total no of working days will be 300 days in a year. The proponent submitted that the estimated project cost shall be Rs 375 Lakh and employment generation will be approximately 110 persons.
- f) The Committee observed that the PP in the EAC meeting held on 19-20 July, 2018 submitted that the KML file has been verified and excluded restricted area, agricultural field and trees. Sand availability areas where replenishment is possible considered for mining zone and total 13 segments were identified for mining for both blocks PKLB – 8&9. Details of all segments with their area and mineral quantity have also been submitted. The mining lease area as per LoI is 31.59 Ha but as per DGPS Survey is 37.6 Ha there is increase of 6.01 Ha. The Committee was of the view that area granted under auction is 31.59 Ha. Thus, the Sub-Divisional Committee proposed above should verify the mining lease boundary, mining lease boundary pillars and area of the mining lease.
- g) The Committee observed that although the LoI for the Boulder, Gravel and Sand but it is evident from the photographs submitted by the DMG, Haryana and sheave analysis submitted by another mining lease in the cluster that in this area boulder is not available. Thus, the Committee was of the view that River Bed Material that can be considered for mining from this mining lease is Sand & Gravel.
- h) The Committee also observed that Hon'ble NGT recently in its order dated 4.09.2018 inter-alia directed that *"One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain. In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate."* Thus, in the instant case also DM, Panchkula should nominate the Committee to be associated with third party audit team for the environmental audit of these mining leases. The Committee is of the view that as the

environmental audit to be conducted annually and report of the same needs to be placed in public domain. Thus, it is necessary that the excavation from this mining lease should be monitored closely and precisely. For the monitoring of the excavation it is necessary that mine needs to be surveyed quarterly and the excavation quantities needs to be reconcile with amount dispatched. The survey on regular interval not only provides the quantity excavated but also form the basis of future replenishment study. The Committee is of the view as the mining depth is restricted to 1 meter it is necessary that PP should maintain level surface before surveying.

The Committee after detailed discussion **recommended** the proposal for grant of Standard Term of Reference (ToR) as per Annexure-1 for production of **2.96 Lakh TPA** of River Bed Material (gravel and sand) by **manual mining method** from the mining lease area **31.59 Ha (mineable area 14.84 Ha)** (in **Krishna River Bed**) located at Village **Kot and Dabkori**, Tehsil & District Panchkula, Haryana by M/s Krishna Enterprises. The Committee also prescribed the following specific term of reference.

- 1) A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer , revenue department shall visit the site and make recommendation on suitability of site for mining or prohibition thereof after a) identification of the areas of aggradations or deposition where mining can be allowed, b) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited c) verify the mining lease boundary, d) verify the area of the mining lease, e) suggest the route for transportation of the mineral so that to cause minimum impact on the nearby habitation & agricultural fields , f) identify the safety zone/restricted area and the area that can be consider for mining after excluding the area as per recommendation of EAC , after considering the other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent & District Survey Report, g) finalize the specific gravity of the material to be mined by the mining lease holders , h) proposed location for the installation weigh bridge, i) verification of the initial level of the mining lease already collected by the PP, j) verification of the baseline air quantity data collected by the PP and any other point to be considered for the protection environment and health of the nearby habitation. Recommendation of the Committee needs to be annexed with EIA/EMP Report.
- 2) The Replenishment Study needs to be conducted by an authorized agency and report of the same needs to be submitted.
- 3) High Powered Committee was constituted under the orders of Hon'ble NGT, headed by Secretary, MOEF&CC, which has given its report dated September, 2016. The PP needs to submit the details that how the PP will comply with the recommendation of the Committee.
- 4) The Proponent should collect the baseline data in respect of initial level of the mining lease. For this permanent bench marks (BM) needs to be established at prominent location preferably close to mining leases in question and should have precisely known relationship to the level datum of the area, typically mean sea level. The entire mining lease should be divided suitably in the grids of 25 Meter x 25 Meters with the help of sections across the width of river and along the direction of flow of the river. The levels (MSL & RL) of the corner point of each grid need to be recorded. Each Grid should be suitably numbered for identification. PP should identity grids which will we worked out

and grids which will come under no mining zone i.e. safety barriers from the river bank, safety barrier at lease boundary, restrictions as per condition of LoI/Mining Lease deed, restriction as Mineral Concession Rule of the Concerned State, restrictions as per sustainable sand mining management guidelines 2016, restriction as per DSR etc. The PP should ascertain the level of the river bed with the help of sections drawn across the width of the rivers and along the direction of flow of the river and based on this define the depth of mining of each grid. The PP should provide in tabular format the details of the grid viz. wise material availability, dimension of grid, location of grid (latitude, longitude, MSL and level from outside ground level of the corner points), average level of grid (AMSL and RL), depth of mining in each grid, area, volume, grids under mining zone and those left under no mining zone etc. The PP should submit surveyed data so collected in the excel or CSV file so that the same can be readily used for verification in CAD or Datamine Software. In addition to this soft & hard copy of all the plan & section needs to be submitted.

- 5) PP should suitably name each section line. Section Plan for both sections drawn across the river and along the direction of the river needs to be submitted. Each Section should have level on vertical axis and distance from the bank of river on horizontal axis. For the section along the direction of the river the levels to be shown on vertical axis and distance from upstream to downstream should be shown on horizontal axis.
- 6) The PP should prepare the Mining Plan based on the above survey. The information sought above needs to be a part of the mining plan. In the mining plan year wise production plan should be prepared in three plates for each year. Plat-1 show the mine working for the pre-monsoon period (1st APR- 30th June), Plate-2 should for the period (1st July-15th Sep) as the mining lease area needs to be left for the replenishment of the river bed mineral and no mining should be proposed in thus period and plat-3 show the mine working after replenishment of the river bed i.e. post monsoon period (16th Sep-31st March). The period of monsoon may also be defined in consultation with State Government.
- 7) PP should specifically mention in the mining plan that in the subsequent scheme of mining/review of mining plan, the year wise data pertaining to replenishment study (all five years) shall be provided which include the level (AMSL & RL) of river bed recorded before and after the monsoon, year wise replenishment quantity, all plan & sections of the replenishment study for the past five years.
- 8) PP should also submit an undertaking to the effect that each year after the replenishment study the plan & section shall be submitted to concerned Department of Mining & Geology of the State for verification and official record.
- 9) PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- 10) PP should include in EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

- 11) The PP should submit the revenue plan, revenue plan superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land.
- 12) The PP should clearly bring out the protective and mitigative measures to be taken for the nearby habitation and religious structures in line with the Ministry's O.M. No. Z-11013/57/2014- IA. II (M) dated 29.10.2014 if applicable.
- 13) The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years.
- 14) The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- 15) The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP).
- 16) The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted.
- 17) PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral.
- 18) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- 19) PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned.
- 20) PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

(2.7). Production of 20.0 Lakh TPA River Bed Material (Boulder, Gravel and Sand) from Mining lease area of 46.50 ha (Dangri River Bed) located at Village-Shamtoo, District- Panchkula, Haryana by M/s Starex Minerals [File No J-11015/33/2018-IA.II (M); Proposal No: IA/HR/MIN/73803/2018;)-ToR Regarding

The proposal of **M/s Starex Minerals** is for production of 20.0 Lakh TPA of Boulder, Gravel and Sand minor mineral from **Dangri River Bed** having mining lease area of **46.50 Ha** located at Village **Shamtoo and Rattewali**, District – Panchkula, Haryana. The mining lease area is located on Survey of India Topo-Sheet no. H43K14. The area falls between Latitude - 30°37'42.26" N to 30°38'33.59" N Longitude - 76°59'13.61" E to 76°59'18.54" E. The Mining lease area falls in seismic zone IV.

The PP applied online for grant of ToR and submitted the Form-1, Pre-feasibility Report, and copy of Letter of Intent (LoI). The PP submitted the LR No 818 dated 24.01.2018 issued by Mining officer Panchkula wherein it has mentioned that Shamtoo-Block-2/PKLB and Rattewali/PKLB-10 mining contract/lease are in the radius of 500 meter of this mining lease. The Proponent also submitted the District Survey Report wherein the area of the above mining leases was mentioned as 45.0 Ha & 45.0 Ha respectively. Thus, the total area of the cluster is 136.5 Ha. The ministry has issued S.O. 3977(E) 14.08.2018 as per which the category of the proposal is 'B1' Cluster Situation. The proponent submitted the letter No 91 dated 10.04.2018 issued by Chief Wildlife Warden, Haryana wherein it has mentioned that the project is located at a distance of 3.10 KM from the Khol Hi Raitan Wildlife Sanctuary (protected areas). The mining lease is outside the notified Eco-Sensitive zone around Khol Hai Raitan Wildlife Sanctuary. As per S.O. 3977(E) 14.08.2018 the general condition is not applicable for the project or activity of mining of minor minerals of Category 'B1' in case of cluster of mining lease area. Thus, the project should be appraised by SEIAA Haryana but as the proposal was earlier considered in the Ministry and as SEIAA Haryana is not functional the proposal was appraised in the Ministry.

The Proponent submitted that the Letter of Intent (LoI) for the mining lease area of 45 ha has been granted vide Memo No. DMG/HY/Cont./Shamtoo-2 Block/PKL B-11/2018/904 dated 23.02.2018 by the Director, Mines & Geology, Haryana for a period of 9 years. The mining lease is a part of Dangri River Bed falling in Panchkula district Haryana. No diversion of any reserved and protected forest land is involved.

The PP applied online for grant of ToR on 29.03.2018 and the proposal was considered in EAC Meeting held during April 23-24, 2018. The committee after due deliberation deferred the proposal for want of requisite information. The Ministry vide LR No. J-11015/33/2018-IA-II (M) dated 17th May 2018 asked the PP to submit the requisite information. The PP submitted the information online on 10.07.2018 and the proposal was placed in EAC meeting held on 19-20 July, 2018 wherein the Committee deferred the proposal and sought clarification from the State Government. The Ministry Vide Lr No. J-11015/31/2018-IA-II (M) dated 20.08.2018 sought the clarification from the DMG, Haryana. The PP submitted the letter no issued vide Memo No. DMG/HY/Cont./Shamtoo-1Block/PKL B-11/2018/ 5293 dated 23.10.2018 by DMG, Haryana in reply to Ministry's letter dated 02.08.2018 and the proposal is now placed in EAC meeting held on 29.11.2018.

The Committee observed that the Ministry as per recommendation of the Committee Vide Lr dated 20.08.2018 asked the DMG, Haryana to clarify a) Whether the State Government of Haryana followed the provision of the Sustainable Sand Management Guidelines, 2016 and ascertained the replenishment rate of the mineral in these mining locations before granting letter of intent, b) Whether replenishment of huge quantity of

mineral would be possible in these mining locations. If yes, please provide the replenishment study report conducted for the same if any, c) Whether survey has been carried out for identification of locations where there are aggradations or over deposition of the mineral. Please provide the details of the same along with plan and section, date on which survey was carried out, method and instrument used for surveying, plan & section showing the aggradations or over deposition of the mineral, d) Please verify the mining lease area as there is a discrepancy in the same as reported by Project Proponent, e) Whether, District Survey Report has been prepared after following the procedure laid down in Appendix -X of S.O. 141(E) dated 15.01.2016 which inter-alia include "*Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and **calculation of annual rate of replenishment** and allowing time for replenishment after mining in that area.*" and f) submit a plan clearly showing all the sand mining leases located in Panchkula District (irrespective of area) for which mining lease or LoI has been issued. The plan should clearly bring out the position of the mining lease (upstream to downstream) and the quantity that can be extracted from the same.

The Committee observed that the DMG Haryana vide Memo No. DMG/HY/Cont./Shamtoo-2 Block/PKL B-12/20178/ 5295 dated 23.10.2018 submitted the following reply to the Ministry:

- 1) The above said case relates to grant of EC to M/s Starex Minerals for mining of minor minerals from riverbed area of river DangijTangri and its Tributaries. The area for mining falls under the revenue estate of villages Shamtoo and Rattewali district Panchkula, Haryana. However, there are other mining contracts/ mineral concessions granted in the other parts of river situated on upstream and downstream also. The EAC considering that above mining areas are adjacent to each other took the overall view on the cluster situation.
- 2) In this regard, it is clarified that the above projects areas are otherwise category B-1 / category A projects and not of B2 projects. Hence, the cluster i.e. B2 projects in nearby area (500 meter radius) having total area more than 25 ha is not relevant. However, the concern of the EAC is valid to address the related concerns on the basis of the EIA report submitted for Rattewali Block-10 as per which air quality data even in the control scenario is more than prescribed limits. The EAC apprehended that the mining in other areas will add pollution and air quality may further deteriorate as the cumulative quantity of extraction of three mining leases.
- 3) In this regard, it is stated that the areas in question are situated in such region where there are minimum industrial activities. The data collected by PP of Rattewali project was apparently for the period of crop harvesting and it is well known that at times stubble burning by the farmers despite all related restraint orders deteriorates the air quality. Further, cumulative effect of mining in all blocks is also not likely to have any such alarming impact on the PM₁₀ and PM_{2.5} as the mining shall be over widespread areas and with required precautions of adequate sprinkling of water.
- 4) It may be considered that there are total 07 mining blocks in the nearby areas - the mining contracts in respect of 04 mining blocks namely Rattewali Block/PKL B-10, Shamtoo-1 Block/PKLB-11, Shamtoo-2 Block/PKLB-12, Sukhdarshanpur Block PKL B-13 have already been granted. The area of block namely 'Kot Block/PKL B 8 & 9' falls within another river namely "Krishna". No other area of river under consideration has been granted on contract.

- 5) The EAC in the MoEF& CC, GoI, with regards EC of the mining project/s of upstream side to downstream side of the river area has sought additional information.

Sr No.	Project Proponent	Name of mining block/Project	Location of mining block-village	Area (Ha)	Production Capacity (TPA)
1	M/s Tirupati Roadways	Rattewali Block/PKL B-10	Rattewali	45.00	19,00,000
2	M/s Starex Minerals	Shamtoo-I Block/PKL B- 11	Shamtoo and Rattewali	46.50	20,00,000
3	M/s Ganesh Enterprises	Shamtoo-2 Block/PKL B- 12	Shamtoo	45.00	18,00,000
4	M/s Shiv Enterprises	Sukhdarshanpur Block/PKL B- 13	Sukhdarshanpur and Shamtoo	37.38	14,50,000

It is stated that related PPs while seeking EC and other approvals do ask for optimum level production which can only be achieved if all other mines comes to closure or demand goes on extremely high side. The details given in paras below may also be read as part of submissions/ clarification in this regard.

- a) As regard selection of area for mining following may be considered:
- i) The district, Panchkula is situated in the foothills of the Shivalik hills. The formation of the area is such that huge amount of mineral i.e. boulder, gravel and sand -construction material are brought along with water during rainy season.
 - ii) The minerals deposited in the riverbed areas are being excavated from the riverbed areas since long/ decades from the various parts and in the past mineral concessions/mining contracts for very large area were being granted through open auctions. Initially the mineral concessions were being granted on revenue estate basis and subsequently for number of villages and unit block and lastly (till 2009) all mines of district as one unit.
 - iii) The mining was being permitted only in the area free from restrictions as applicable for riverbed mining.
 - iv) It is also relevant to point out that due to a protracted litigation created by the vested interests the mining in the area remained closed from 01.03.2010. The State could auction its minor mineral mines in Dec, 2013 for grant of Mining contracts.
 - v) In December, 2013 the mining areas of district Panchkula were auctioned by forming three different units which inter-alia were having number of mining blocks. The contracts were awarded in January, 2014 and they were required to seek EC before mining. However, the mining contracts of these three units got cancelled in January, 2015 through Hon'ble High Court as the highest bidders created confusion regarding the mineable area created litigation.
 - vi) The state government thereafter decided to grant smaller blocks so that even small entrepreneurs could also enter in the mining business and monopoly of few could be broken.

- vii) The areas available for mining in the riverbed (being free from all exiting applicable restrictions) were selected and 18 mining blocks in district Panchkula were formed and in April, 2015 were notified for auction to be held in May, 2015. The auctions were conducted subject to condition that actual mining will be allowed to be undertaken only after prior EC is obtained.
 - viii) Hence, the blocks including that of the mining blocks under consideration were selected/ formed much before the policy of MoEF& CC GoI, 2016.
- b) As regard replenishment of the mineral, it would be relevant to state here that:
- i) The riverbed areas of this part are situated in the foothills of the Shivalik Hills and enormous quantity of sediments/ minerals in the form of Boulder, Gravel and Sand and/or sand deposits are brought every year during the rainy season.
 - ii) Further, though the river is not perennial and water comes mainly during rainy season. The mineral deposits of bigger size (boulder and gravel) gets settled in the upstream side and finer and finer size of mineral in the form of sand gets deposited in the downstream side. The sand deposits so brought by the fluvial action are found much beyond the area in question on the downstream side.
 - iii) It is important to state here that replenishment of mined out area and its study could be possible only after the mining area are used for mining. The area in question were not being used for mining since March, 2010.
 - iv) It may be appreciated that each of the project proponent/s in all cases by and large suggests/ sought for clearances for excavation of mineral based on the maximum mine-able reserves of the area. However, the past practice/ records shows that actual mining remains much less than that of optimum capacity of a mine. The actual production of a mine depends on demand of mineral/constructions material in the area and also operation of other nearby mines.
 - v) Notwithstanding the same, it is further clarified that on the basis of restriction of maximum permissible depth of 3 meters the mineral concession holder at any point of time cannot go beyond said limit- i.e. cannot undertake mining below 3 meter of the existing bed level.
 - vi) During every rainy season mineral/sediments are brought due to fluvial action and get deposited in the area and as a natural course the mineral so brought at the first instance gets deposited in the low lying mined out area (depression created due to excavation in the riverbed- in case mining had been undertaken). This process takes place in the upstream side mining areas / excavation and then in the pits/ depressions created in downstream side.
 - vii) The sediments over and above the same get deposited in the other parts of the river bed - un-mined area also -depending upon the force in water stream.
 - viii) The mining in the upstream side of the project in question in no way affects the replenishment of the project under consideration or other projects in the downstream side of the project as huge quantity of sediments are brought during rainy season.

- ix) It may further be explained that in case the mineral excavated during any season (pre-monsoon) in the river results in creation of depression of bed level say of 3 meters i.e in case the mineral is excavated for full permissible depth of 3 meters and after monsoon season the mined out areas get replenishment.
 - x) However, for argument sake if it is considered that it is partly replenished/ filled up [say 2 meters only] in that case in next season (post monsoon) the project proponent will not be able to excavate mineral beyond such replenished depth. The project proponent will be under obligation to take and maintain record of the river bed level after regular intervals to ensure that his mining operations at no point of time go beyond the level of 3 meter from the original/existing level of river bed.
 - xi) It is worth pointing out that the process of making records of the riverbed levels by the project proponents may be considered to be stipulated as additional condition under EC as it will also act as regular replenishment study of the area during the contracted period.
 - xii) At the cost of repetition, it is again stated that the actual production of any mine/ area are depends on the demand of the mineral. The demand of the mineral dependents on the development works in and around area. The production of any particular mine also depends on the other mines operating in and around the same.
- c) As regard selection of areas the details given under sub para a) may be considered. However it may also be pointed out that areas selected for mining are free from other restrictions such as area near bridge/s or any other structures or Forest etc. The PP shall be undertaking excavation of mineral out of his lease hold area depending upon replenishment - which would be different in each rainy season- depending upon the fluvial action during said rains. It needs to be elaborated that actual area requires replenishment is the actual area from where mining is carried out in the leased area and not over whole riverbed. It is appealing to state here that in case of areas in question in the upstream side areas falling in the Shivalik Hills no mineral excavation is involved over several thousand square kilometers/ the catchment areas.
- d) As regard certain areas in the riverbed stated to be not filled up for want of sediments deposited during current rainy season - it is clarified that all of the riverbed areas are filled up and it is not correct to state that old mining pits are still not filled up. It may be relevant to point out that the entire river stretch is leveled. The photographs of riverbed area taken in the month of September, 2018 right from Rattewali Block to Sukhdarshanpur Block falling in 'Dudgarh Wali Nadi' have been taken recently are attached, the visual of same would make it is clear that no stretch of riverbed has remained un-replenished. Hence, the apprehension of the MoEF& CC, Gol with regard to non-replenishment of riverbed area is not correct.
- e) As regard some areas of river already having depth of 3 meters it is clarified that the level difference between outside and inside land of riverbed with reference to level of adjoining areas - in the case of existing areas the natural topography is such that at some places the river flows just on the edge of hilly area. However, the same does not mean that riverbed area has gone down due to any excavation.

- f) With regard to difference in area of various blocks it is submitted that there may be difference in taking DGPS readings. It is clarified that area granted by the department are calculated based on revenue records. The same is authenticated, dependable recorded, and survey undertaken with the help of DGPS by PP can be having small difference due to any human error.
- g) With regard to mention of illegal mining in district Panchkula as stated by the PP before EAC, it is not clear as to on what basis they stated so or made such general remark. However, the EAC may be informed that there is no illegal mining in the district Panchkula. It may also be noted that in general the private persons seeking approvals tries to convince the authorities to give them clearance raising such issues- and tries to impress upon as if clearance is not given quickly the illegal mining and/ or proposed operations may happen. The same needs to be taken on records only on the basis of facts and not surmises. It is submitted that District Level Task Forces under the Chairmanship of Deputy Commissioner concerned have been constituted in each district wherein senior functionaries of the departments of Police, Transport, Forest, Pollution Control Board and Sales Tax and Mines and Geology are members. The officials of the department of Mines and Geology jointly and severally inspect the areas round the clock to check illegal mining. Apart from some stray incidents of theft of mineral, there is no illegal mining in the area.
- h) In district Panchkula, presently 53 stone crushers are in place (out of which only 36 are operational. All crushers in operation have valid approvals crusher License and CTO of the "SPCB. The crushers are procuring mineral from the mines operating in district Panchkula and in the past were procuring material from adjoining operational mines in other parts of the state as well as from the Himachal Pradesh and Punjab. It is again stated that the crushers are also operating at sub optimal capacity. As per information collected the total installed crushing capacity of these 36 operational stone crushers is about 11,000 MT per day. However, these crushers do not operate at optimum capacity/mainly for want of raw material as well as demand of construction material.
- i) In view of above, the MoEF&CC, Gol is requested to consider deciding the applications for grant of EC in related cases on merit.

Based on the information submitted by the PP and the State Government through DMG, Haryana the Committee has following observations:

- a) The Committee after perusal of the reply submitted by the State Government was of the view that information submitted by the DMG shows that the **State Government has not followed the Sustainable Sand Mining Guidelines 2016 & S.O. 141(E) dated 15.01.2016 while selecting the area for mining as the mining lease was auctioned in May 2015 i.e. before the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** But in the letter of intent issued to the project proponent it has mentioned that e-auction held on 11-12 October, 2017 i.e. after **the publication of Sand Management Guidelines 2016 and S.O. 141(E) dated 15.01.2016.** Further, **DSR** was prepared based on the total quantity of the reserves available in the mining lease area considering the depth of mining as 3 meters maximum. Further the specific gravity of the material is not clearly mentioned in the DSR. The Committee was thus of the view that a Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site in this region for which environmental clearance has been applied

for and make recommendation on suitability of site for mining or prohibition thereof after a) identification of the areas of aggradations or deposition where mining can be allowed b) verify the mining lease boundary, c) verify the area of the mining lease, d) suggest the route for transportation of the mineral so that cause minimum impact on the nearby habitation, e) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited, f) identify the safety zone/restricted area and the area that can be consider for mining after as per recommendation of EAC and after consider other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent and District Survey Report, g) finalize the specific gravity of the material to be mined by the mining lease holders , h) proposed location for the installation weigh bridge, i) verification of the initial level of the mining lease already collected by the PP, j) verification baseline air quantity data collected by the and any other point to be considered for the protection environment and health of the nearby habitation.

- b) The Committee observed that the proponent initially submitted that the proponent submitted that total available geological reserve is 27, 90,000 MT and minable reserves is 20, 55,000 MT, of which 20, 00,000 MT per annum has been proposed for mining. The method of mining is open cast by semi- mechanized means. Boulder, gravel, and sand will be excavated in layers up to a depth of 3.0 m in a riverbed and 9 m in agricultural field. Mining will be done by deploying earthmovers like excavators, /poclain, loaders for excavation and loading and transportation of mineral will be through trucks. The mining will be limited to only 75% of width of river. The mining area is divided into two blocks (upstream and downstream). The proposed machinery will be JCB/excavator, dumper, water tanker, light weight vehicle, maintenance van. Total no of working days will be 268 days in a year. The Project Proponent in EAC meeting held on 19-20 July, 2018 submitted that the calculation after determining the mining zone production quantity as total area is 46.50 HA out of which 3.56 Ha area is under agriculture. Thus area available for the mining is 42.940 Ha. The Geological reserve is 2110109.29 MT, and Mineable Reserve is 1899098 (considering 90% recovery). The PP also submitted that now they have proposed to reduce the capacity 16.0 LTPA by deducting the reserves located in setback area safety zone.) The Committee observed that previously in the Form-1 the PP has submitted that the restricted area will be 12.25 Ha and the Mineable area is 34.25 Ha and Mineable Reserves are 2055000 MT. But the now the PP has submitted that the Mineable area is 42.940 Ha and the Minalable reserves is 1899098. This is contradicting and seems that PP has not calculated the reserves and area of mining properly. Further, the specific gravity is considered in 1.82 Tonne/m³ and in the same river bed other mine owners considered the specific gravity 2.0 Tonne/m³. The Committee observed that in DSR submitted by the PP for the mining leases in the area does not provide the specific gravity of the mineral. The Committee observed that as per reply submitted by the DMG Haryana it appears that no replenishment study has been carried out previously for the rivers in this region and without a scientific study it is just an apprehension of the State Government that excavated pits will be replenished completely in the rainy season. Further, Committee observed that as per reply submitted by DMG the demand of the mineral as per past records shows that the actual mining remains much less than that of optimum capacity of a mine and the river in question is not perennial river and water flows only during the rainy season. The Committee was thus of the view that there is a requirement of replenishment study for the rivers in this area by an authorized agency before grant of EC and also after grant of EC. The replenishment of material depends on many factors and replenishment of the material will vary from year to year thus it is necessary to restrict the excavation up to a depth of 1 meter

only in place of three meters proposed by the PP and production capacity to 25% of what is proposed by the PP. The Committee observed that mining area proposed by the PP initially was 34.25 Ha and considering the depth of mining as 1 meter and specific gravity as 2.0 Ton/m³ the production quantity comes out to be 6.85 Lakh TPA, further considering the mining area as 42.940 Ha the production quantity comes out to be 7.81 and considering 25% of production proposed by the PP the production rate comes out to be 4.0 Lakh TPA (25% of 16.0 Lakh TPA). The Committee was thus of the view that the production capacity for this mine should be restricted to **4.0 Lakh TPA** as there are variation in the restricted area calculated by the PP & PP did not provide any comments on the verification of KML file. Regarding use of machinery the Committee was of the view that PP shall use only Scrapers for mining to ensure that the mining depth be maintained as 1.0 meters. No other heavy machinery like bucket excavators, back-ho, shovel, JCB machines etc. shall not be used for excavation/digging which may adversely impact the aquatic biota. The PP shall have to ensure that during the course of mining, a leveled cross section is made (to the extent possible) so that replenishment studies in future are carried out with ease and transparency and depth of deposited material is measured. The DMG, Haryana shall ensure that leveled cross section is made by the PP before the onset of next rainfall season and the same be communicated to MoEFCC.

- i) The Committee also observed that Hon'ble NGT recently in its order dated 4.09.2018 inter-alia directed that "*One of the conditions of every lease of mine or minerals would be that there will be independent environmental audit atleast once in a year by reputed third party entity and report of such audit be placed in public domain. In the course of such environmental audit, a three member committee of the local inhabitants will also be associated. Composition of three members committee may preferably include ex-servicemen, former teacher and former civil servant. The Committee will be nominated by the District Magistrate.*" Thus, in the instant case also DM, Panchkula should nominate the Committee to be associated with third party audit team for the environmental audit of these mining leases. The Committee is of the view that as the environmental audit to be conducted annually and report of the same needs to be placed in public domain. Thus, it is necessary that the excavation from this mining lease should be monitored closely and precisely. For the monitoring of the excavation it is necessary that mine needs to be surveyed quarterly and the excavation quantities needs to be reconcile with amount dispatched. The survey on regular interval not only provides the quantity excavated but also form the basis of future replenishment study. The Committee is of the view as the mining depth is restricted to 1 meter it is necessary that PP should maintain level surface before surveying.
- c) The Committee observed that the PP has submitted that the proponent has submitted that in this mine the nature of waste rock obtained will be weathered into low grade weathered mineral which is exposed with top soil/alumina. Waste will be generated during mine development work. Estimated water requirement of the project is 15 KLD (Drinking purpose, Domestic purpose, Dust suppression and for Plantation). No liquid waste is anticipated to be generated due to the proposed project. The total no of working days will be 268 days in a year. The proponent submitted that the estimated project cost shall be Rs 100 Lakh and employment generation will be approximately 74 persons.
- d) The Committee observed that although the LoI for the Boulder, Gravel and Sand but it is evident from the photographs submitted by the DMG, Haryana and sheave analysis submitted by the PP that in this area boulder is not available. Thus, the Committee was

of the view that River Bed Material that can be considered for mining from this mining lease is Sand & Gravel.

- e) The KML file was analyzed on Google and DSS. As per DSS the distance of **Khol Hi Raitan Wildlife Sanctuary** is at a distance of 3.13 KM., accordingly PP also needs to submit the application for NBWL clearance.

The Committee after detailed discussion **recommended** the proposal for grant of Standard Term of Reference (ToR) as per Annexure-1 for production of **4.0 Lakh TPA of River Bed Material (Sand & Gravel)** from the mining lease area **46.50 Ha** (in Dangri River Bed) located at Village Shamtoo and Rattewali, Tehsil & District Panchkula, Haryana by **M/s Starex Minerals**. The Committee also prescribed the following specific term of references.

- (i). A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer, revenue department shall visit the site and make recommendation on suitability of site for mining or prohibition thereof after (a) identification of the areas of aggradations or deposition where mining can be allowed, (b) identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited, (c) verify the mining lease boundary, (d) verify the area of the mining lease, e) suggest the route for transportation of the mineral so that to cause minimum impact on the nearby habitation & agricultural fields, (f) identify the safety zone/restricted area and the area that can be consider for mining after excluding the area as per recommendation of EAC, after considering the other restrictions mentioned in the Sustainable Sand Mining Management Guidelines 2016, S.O. 141(E) dated 15.01.2016, Letter of Intent & District Survey Report, (g) finalize the specific gravity of the material to be mined by the mining lease holders, (h) proposed location for the installation weigh bridge, (i) verification of the initial level of the mining lease already collected by the PP, (j) verification of the baseline air quantity data collected by the PP and any other point to be considered for the protection environment and health of the nearby habitation. Recommendation of the Committee needs to be annexed with EIA/EMP Report.
- (ii). EIA/EMP report should be prepared for the entire cluster.
- (iii). The Replenishment Study needs to be conducted by an authorized agency and report of the same needs to be submitted.
- (iv). High Powered Committee was constituted under the orders of Hon'ble NGT, headed by Secretary, MOEF&CC, which has given its report dated September, 2016. The PP needs to submit the details that how the PP will comply with the recommendation of the Committee.
- (v). The Proponent should collect the baseline data in respect of initial level of the mining lease. For this permanent bench marks (BM) needs to be established at prominent location preferably close to mining leases in question and should have precisely known relationship to the level datum of the area, typically mean sea level. The entire mining lease should be divided suitably in the grids of 25 Meter x 25 Meters with the help of sections across the width of river and along the direction of flow of the river. The levels (MSL & RL) of the corner point of each grid need to be recorded. Each Grid should be suitably numbered for identification. PP should identity grids which will we worked out and grids which will come under no mining zone i.e. safety barriers from the river bank, safety barrier at lease boundary, restrictions as per

condition of LoI/Mining Lease deed, restriction as Mineral Concession Rule of the Concerned State, restrictions as per sustainable sand mining management guidelines 2016, restriction as per DSR etc. The PP should ascertain the level of the river bed with the help of sections drawn across the width of the rivers and along the direction of flow of the river and based on this define the depth of mining of each grid. The PP should provide in tabular format the details of the grid viz. wise material availability, dimension of grid, location of grid (latitude, longitude, MSL and level from outside ground level of the corner points), average level of grid (AMSL and RL), depth of mining in each grid, area, volume, grids under mining zone and those left under no mining zone etc. The PP should submit surveyed data so collected in the excel or CSV file so that the same can be readily used for verification in CAD or Datamine Software. In addition to this soft & hard copy of all the plan & section needs to be submitted.

- (vi). PP should suitably name each section line. Section Plan for both sections drawn across the river and along the direction of the river needs to be submitted. Each Section should have level on vertical axis and distance from the bank of river on horizontal axis. For the section along the direction of the river the levels to be shown on vertical axis and distance from upstream to downstream should be shown on horizontal axis.
- (vii). The PP should prepare the Mining Plan based on the above survey. The information sought above needs to be a part of the mining plan. In the mining plan year wise production plan should be prepared in three plates for each year. Plat-1 show the mine working for the pre-monsoon period (1st APR- 30th June), Plate-2 should for the period (1st July-15th Sep) as the mining lease area needs to be left for the replenishment of the river bed mineral and no mining should be proposed in this period and plat-3 show the mine working after replenishment of the river bed i.e. post monsoon period (16th Sep-31st March). The period of monsoon may also be defined in consultation with State Government.
- (viii). PP should specifically mention in the mining plan that in the subsequent scheme of mining/review of mining plan, the year wise data pertaining to replenishment study (all five years) shall be provided which include the level (AMSL & RL) of river bed recorded before and after the monsoon, year wise replenishment quantity, all plan & sections of the replenishment study for the past five years.
- (ix). PP should also submit an undertaking to the effect that each year after the replenishment study the plan & section shall be submitted to concerned Department of Mining & Geology of the State for verification and official record.
- (x). PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- (xi). PP should include in EIA Report details of all the statutory clearances, permissions, No objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- (xii). The PP should submit the revenue plan, revenue plan superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land.

- (xiii). The PP should clearly bring out the protective and mitigative measures to be taken for the nearby habitation and religious structures in line with the Ministry's O.M. No. Z-11013/57/2014- IA. II (M) dated 29.10.2014.
- (xiv). The PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The PP should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5 year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years.
- (xv). The PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (xvi). The PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP).
- (xvii). The PP should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility needs to be submitted.
- (xviii). PP should submit the measures to be adopted for prevention of illegal mining and pilferage of mineral.
- (xix). PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- (xx). PP should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modeling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned.
- (xxi). PP should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- (xxii). PP should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineers/diploma holders, mining engineers/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

(2.8). Karigatta Limestone Mine khasra No. 489, lease area 119.64 ha. Located at Village Sedam, Tehsil Sedam, District Gulbarga, Karnataka by M/s Cement Corporation of India Ltd. (File No. J-11015/112/2018-IA.II(M); Proposal No. IA/KA/MIN/77229/2018)- Re-Consideration of ToR Proposals.

The proposal was earlier considered in the EAC meeting held during 23-24 October 2018. The Committee did not consider the proposal of M/s Cement Corporation of India Ltd. as project proponent was only represented by a mines manager and an associate. The Committee was displeased that no senior person or the EIA coordinator had not come to present the proposal before the Committee.

The proposal was once again considered in the EAC meeting held during 29th November 2018. The project proponent was represented by the Director of the company. However, the consultant and the proponent were not conversant in the proposal and the Director also informed that he had not gone through the presentation. The Committee was displeased and took serious note of the casual approach of the project proponent and the consultant. The committee after due deliberation **deferred** the proposal as the application was incomplete and informed the project proponent to submit the following information before the proposal can be reconsidered.

- (i). Information as per Annexure-III of agenda
- (ii). Past production details of the mine from the inception of the mine till date duly authenticated by the State Mines and Geology Department.
- (iii). PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- (iv). Valid executed copy of mining lease document.

(2.9). Karigatta Limestone Mine by M/s Cement Corporation of India Ltd. Of an area of 68.91 ha located in Villages Sedam & Madkal, Tehsil Sedam, District Gulbarga, Karnataka (File No. J-11015/113/2018-IA.II(M); Proposal No. IA/KA/MIN/77548/2018)- Re-Consideration of ToR Proposals

The proposal was earlier considered in the EAC meeting held during 23-24 October 2018. The Committee did not consider the proposal of M/s Cement Corporation of India Ltd. as project proponent was only represented by a mines manager and an associate. The Committee was displeased that no senior person or the EIA coordinator had not come to present the proposal before the Committee.

The proposal was once again considered in the EAC meeting held during 29th November 2018. The project proponent was represented by the Director of the company. However, the consultant and the proponent were not conversant in the proposal and the Director also informed that he had not gone through the presentation. The Committee was displeased and took serious note of the casual approach of the project proponent and the consultant. The committee after due deliberation **deferred** the proposal as the application was incomplete and informed the project proponent to submit the following before the proposal can be reconsidered.

- (i). Information as per Annexure-III of agenda
- (ii). Past production details of the mine from the inception of the mine till date duly authenticated by the State Mines and Geology Department.

- (iii). PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- (iv). Valid executed copy of mining lease document.

(2.10). Karigatta Limestone Mine Khasra nos. 65, 66, 485, 486, 487, 488, 500 Lease Area 52.81 Ha located in Villages Sedam & Injepall, Tehsil Sedam, District Gulbaraga, Karnataka by M/s Cement Corporation of India Ltd. (F. No. J-11015/114/2018-IA.II(M); Proposal No. IA/KA/MIN/77258/2018)-Re-Consideration of ToR Proposals.

The proposal was earlier considered in the EAC meeting held during 23-24 October 2018. The Committee did not consider the proposal of M/s Cement Corporation of India Ltd. as project proponent was only represented by a mines manager and an associate. The Committee was displeased that no senior person or the EIA coordinator had not come to present the proposal before the Committee.

The proposal was once again considered in the EAC meeting held during 29th November 2018. The project proponent was represented by the Director of the company. However, the consultant and the proponent were not conversant in the proposal and the Director also informed that he had not gone through the presentation. The Committee was displeased and took serious note of the casual approach of the project proponent and the consultant. The committee after due deliberation **deferred** the proposal as the application was incomplete and informed the project proponent to submit the following before the proposal can be reconsidered.

- (i). Information as per Annexure-III of agenda
- (ii). Past production details of the mine from the inception of the mine till date duly authenticated by the State Mines and Geology Department.
- (iii). PP should submit an undertaking by way of affidavit as required as per Ministry's O.M No 3-50/2017 -IA. II(M) dated 30.05.2018 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.
- (iv). Valid executed copy of mining lease document.

The meeting ended with thanks to the Chair.

Standard Terms of Reference (TOR) for Mining Project

- 1) The TOR 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..
- 2) Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, 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.
- 3) Year-wise production details since 1993-94 should be given, clearly stating the highest production achieved in any one year prior to 1993-94. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994. The production details need to submit since inception of mine duly authenticated by Department of Mines & Geology, State Government.
- 4) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 5) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 6) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 7) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 8) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 9) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.
- 10) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 11) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 12) Land use of the study area delineating forest area, agricultural land, grazing land,

- wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 13) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
 - 14) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
 - 15) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
 - 16) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
 - 17) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
 - 18) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
 - 19) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
 - 20) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
 - 21) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
 - 22) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone

- Management Authority).
- 23) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
 - 24) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.
 - 25) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
 - 26) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
 - 27) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
 - 28) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
 - 29) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
 - 30) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
 - 31) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
 - 32) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
 - 33) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame)

- and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- 34) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
 - 35) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
 - 36) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
 - 37) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
 - 38) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
 - 39) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
 - 40) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
 - 41) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
 - 42) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
 - 43) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
 - 44) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.
 - 45) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
 - 46) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
 - 47) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
 - 48) Compliance of the Ministry's Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the 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 needs to be submitted and included in the EIA/EMP Report.

- 49) Besides the above, the below mentioned general points are also to be followed: -
- a) All documents to be properly referenced with index and continuous page numbering.
 - b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
 - d) Where the documents provided are in a language other than English, an English translation should be provided.
 - e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
 - f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
 - g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
 - h) As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
 - i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

LIST OF EXPERT APPRAISAL COMMITTEE (MINING - Non Coal Mining Sector)

Sl. No.	Name and address	Designation	Date: 15/11/2018
1.	Dr. Ajai Kumar B-1302, BestechParkView Spa, Sector-47, Gurgaon, Haryana	Chairman	29 [Signature]
2.	Shri B Ramesh Kumar H-No. 6-1-134/6, Balram Compound, Padmarao Nagar, Secundrabad- 500025, Andhra Pradesh	Member	[Signature] 29/11/18
3.	Prof. Dr. K.S. Rana Maharana Manzil, 18, Dholpur House, (D.M. Compound), M.G. Road, Agra-1, Uttar Pradesh - 282001	Member	[Signature]
4.	Prof. A. K. Bhatnagar, JA/4B, Ashok Vihar-I, Delhi - 110052	Member	
5.	Dr. N. C. Karmakar Department of Mining Engineering, Indian Institute of Technology (BHU), Varanasi - 221 005, Uttar Pradesh	Member	
6.	Dr. Hemant S. Sahasrabudhe "Utkarsha", LB-53, Housing Board Colony, Laxminagar, Nagpur-440022	Member	[Signature] 29.11.18
7.	Prof. S. Ramakrishna Rao 50-120-9/1, Tulasi Mani Regency North Extension, Seethammadhara, Visakhapatnam - 530013 Andhra Pradesh.	Member	[Signature] 29/11/18
8.	Dr. Himanshu Pathak, Professor, Center for Environment Science and Climate Resilient Agriculture, Indian Agricultural Research Institute, New Delhi 110 012	Member	
9.	Dr AL. Ramanathan Professor, School of Environmental Sciences, Jawaharlal Nehru University. New Mehrauli Road, New Delhi- 110067	Member	
10.	Dr. Tushar Kant Joshi, Laxmikant Niwas, Salan Gaon, Bhagwantpur, Dehradun- 248009, Uttarakhand.	Member	[Signature]
11.	Shri Santosh Gupta, Flat No. 405, Block -B, Gaur Green Vista, Nyay Khand - 1, Indrapuram, Ghaziabad-201014	Member	[Signature]
12.	Representative of Ministry of Mines Shri. Pushpender Gaur, Dy. Controller of Mines, Ministry of Mines, Shastri Bhawan New Delhi-110001.	Member	[Signature] 29-11-18
13.	Representative of Indian Meteorological Mr. V.K. Soni, Scientist "E", (Meteorology/Air Pollution), 609, SatMet Building, Mausam Bhawan, Indian Meteorological Department, Lodhi Road, New Delhi-110003	Member	
14.	Representative of Wildlife Institute of India, Wildlife Institute of India, Chandrabani, Dehradun- 248001	Member	
15.	Dr. R.B. Lal, Additional Director IA-Division (Non Coal Mining) Vayu-305, Indira Paryavaran Bhawan, Ministry of Environment, Forest & CC, Jorbagh Road, Lodhi Road, New Delhi-110003	Member Secretary	