

**BEFORE THE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI**

**Original Application No. 581 OF 2022**

**IN THE MATTER OF**

VIKAS KUMAR

...Applicant

VERSUS

STATE OF HARYANA & ORS.

...Respondents

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Dated: 18/12/2024

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FORM MC-1

(See rule 22 (3) and 26(1))

(Model Form for execution of mining contract)

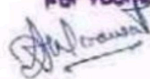
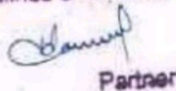
This indenture made on this 07<sup>th</sup> day of October 2015 between the Governor of Haryana acting through **Sh. Arun Kumar Gupta, IAS, Director General, Mines and Geology, Haryana** (hereinafter referred to as the "State Government" which expression shall where the context so admits, include the successors and assigns) of the one part;

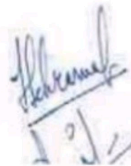
And

Sh. Pardeep Ahlawat S/o Sh. Anand Singh, Village and Post Office Dighal, District Jhajjar, Haryana-124107 and Sh. Sandeep Shokeen S/o Sh. Jagbir Singh, R/o H. No. 943, V & PO Dichaon Kalan, Najafgarh, New Delhi-110043 all carrying on business in partnership under the firm name and style of **M/s Yodha Mines & Minerals**, registered under Indian partnership Act, 1932 and having their registered office at **19-P, Sector-8, Jind, Haryana -126102** acting through Sh. Pardeep Ahlawat S/o Sh. Anand Singh, Village and Post Office Dighal, District Jhajjar, Haryana-124107 (hereinafter referred to as the "Contractor" which expression shall where the context so admits include all partner of the said firm, their representatives, heirs, executors/ Administrators and permitted assigns).

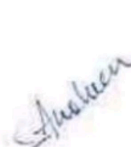
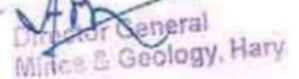
Whereas the "Contractor" has offered the highest bid of Rs. **08,70,00,000/-** (Rupees Eight Crore seventy Lakh only) in the bid/auction held on dated 23.02.2015 for obtaining a mining contract for "**Jainpur-2 Sand Unit**" in respect of the lands hereinafter described in clause 2 and such bid had been accepted by the State Government or

For Yodha Mines &amp; Minerals


  
Partner



Rimla Devi


  
Director General  
Mines & Geology, Hary

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any officer authorized by it in this behalf and the contractor has deposited with the Government, a sum of **Rs. 87,00,000/-** (Rs Eighty seven lakhs only) as initial bid security (10% of the annual bid amount) and

1. **Smt. Bimla Devi W/o Sh. Sukhbir Singh** resident of H. No. 385/34, Janta Colony, Rohtak, District Rohtak, Haryana.
2. **Sh. Jai, Amit S/o Sh. Rajpal S/o Sh. Mir Singh, Smt. Anita D/o Sh. Rajpal S/o Sh. Mir Singh**, resident of H. No. RZF-1, Mahabir Enclave, Main Palam, Dabri Road, New Delhi (referred to as the 'surety' which expression shall where the context so admits, include his heirs, executors, administrators, representatives) has been offered as solvent surety for the aforesaid amount, and whereas the contractor is in possession of a Income Tax Clearance Certificate.

Now, therefore, this deed witnesses and the parties hereby agree as follows:—

**Liberties and privileges to be exercised and enjoyed by the Contractor.**

The following liberties, powers and privileges may be exercised and enjoyed by the contractor subject to the other provisions of contract:—

(1) In consideration of the contract money, covenants and agreements hereinafter contained and on the part of the Contractor to be paid, observed and performed the Government hereby grants and demises unto the contractor all those mines/beds/veins/seams of 'Sand' (hereinafter referred to as the said minor minerals,) situated, lying and being in or under the lands which are referred to in clause (b)

together with the liberties, powers and privileges to be executed or enjoyed in connection herewith which are hereinafter mentioned in Part-I subject to the restrictions and conditions as to exercise and enjoyment of such liberties, and privileges which are hereinafter mentioned in Part-II and subject to other provisions of this contract.

(2) (i) All the tract of land situated at villages **Jainpur-2 River bed block** in District Sonapat bearing Khasra Nos. 214/5, 214/6, 214/7, 214/8, 214/9, 214/10, 214/11, 214/12. 40//6, 7, 8, 9, 10min, 11min, 12, 13, 14, 15, 16, 17, 18, 19min, 22min, 23, 24, 25. 41//9, 10, 11, 12, 19, 20, 21, 22. 43//1, 2, 3, 8, 9, 10, 11, 12, 13/1, 18/1, 19, 20, 21, 22, 23. 44//2min, 3, 4, 5, 6, 7, 8min, 13min, 14, 15, 16, 17min, 18min, 24min, 25. 72//4min, 5, 6min, 15min, 16min, 25min. 73//1, 2, 3, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22, 23. 75//1min, 2, 3, 8, 9, 10min, 12min, 13 containing **34.40 hect** and **Jainpur-2 outside river bed Block** bearing Khasra Nos. 62//8, 9/1, 9/2, 12/1, 12/2, 13, 17, 18/1, 18/2, 19, 20, 21, 22, 23/1, 23/2, 24. 86//1, 2, 3/1, 3/2, 4, 7, 8, 9, 10/1, 10/2, 11, 12, 13, 14, 18, 19, 20 containing 10.00 hect and containing total an area **44.40 hect.** or thereabouts delineated on the plan hereto annexed as annexed and bounded as follows:

On the North by - **Jainpur-1 Mine area**  
 On the South by - **Asadpur Mine area**  
 On the East by - **Uttar Pradesh Border**  
 On the West by - **Jainpur village** and (hereinafter referred to as the 'said lands' or the 'Contracted area')

(3) The period of contractor shall be **09 (Nine) years** which shall be reckoned from the date of grant of environmental clearance by the Competent Authority as required under EIA notification dated 14.09.2006 as amended time to time by the MoEF, Gol or on expiry of a

period of 12 month from the date of acceptance of highest bid/issuance of Letter of Intent (LoI) issued vide memo No. DMG/ HY/Cont/ Jainpur-2/2015/855 dated 09.03.2015 whichever is earlier."

#### **Part-I**

#### **Liberties and privileges to be exercised and enjoyed by the Contractor**

The following liberties and privileges may be exercised and enjoyed by the contractor subject to the other provision of contract: -

**1. To enter upon land and search for win, work :**

Liberty at all times during the term hereby demised to enter upon the said lands and to search for mineral, bore, dig, drill for win, work, dress, process, convert, carry away and dispose of the said minor mineral(s).

**2. To sink, drive and make pit, shafts and inclines :**

Liberty to sink, drive, make, maintain and use in the said land and pits, shafts, inclines, drifts, levels, waterways, airways and other works and to use, maintain, deepen or extend any existing works of the like nature in the said lands.

**3. To bring and use machinery, equipment:**

Liberty to erect, construct, maintain and use on or under the said lands any engine, machinery, plan, dressing floors, furnaces, coke ovens, brick kilns, workshop, store houses, bungalows, godowns, shed and other buildings and other works and conveniences of the like nature on or under the said lands.

**4. To use water from streams :**

Liberty but subject to the rights of any existing or future contractor and with the written permission of the Collector concerned to appropriate and use water from any streams, water course, springs or other source in or upon the said lands and to divert, step up or dam any such stream or water-course and collect or impound any such water and to make, construct and maintain any watercourse, cultivated land, village buildings or watering places for livestock of a reasonable supply of water as before accustomed nor in any way to foul or pollute any streams or springs : provided that the contractor/contractors shall not interfere with navigation in any navigable stream nor shall divert such stream without the previous written permission of the Government.

**5. To fell undergrowth and utilize timber and trees :**

Liberty to clear undergrowth and brush wood. Contractor shall not fell any trees or timber standing or found on the said lands without obtaining prior permission in writing from the collector of the District or the Chief Conservator of Forests in case of Forest areas as the case may be. In case such permission is granted, he shall pay in advance, the price of the trees/timber to be felled to the said Officer at the rates, fixed by him.

**6. To get building and roads material :**

Liberty to quarry and get stones, gravel and other building and road materials and ordinary clay and to use and employ the same and to manufacture such clay into bricks or tiles and to use such bricks, tiles but not to sell any such material, bricks, tiles.

**7. To use land for stacking purpose :**

Liberty to use a sufficient part of the surface of the said lands for the purpose of stocking, storing or depositing therein any produce of the mines including over burden/waste material and works carried on and tools, equipment and other materials needed for mining operations.

**8. To install fuel pumps or stations for Diesel or Petrol for self use:**

Liberty to use a sufficient part of the land for installing fuel pumps or stations for diesel or petrol for self use /consumption required for mining operations in the contract area, subject to permission of the competent authority.

**9. To construct magazine for explosive and storage sheds:**

Liberty to construct magazine for storage of explosive and storage sheds for explosive related substances with permission from licensing authority.

**10. Liberty to seek permission for diversion of public roads, overhead electric lines:**

Liberty to request to the competent authority for diversion of public road over head electric lines passing through the concession area at the expenses of lessee to ensure scientific and systematic mining.

**Part-II**

**Restrictions as to the Exercise of the Liberties by the contractor**

The liberties and privileges granted under Part- I are subject to the following restrictions and subject to other provisions of this contract :-

**1. No mining operations within the limit of public works:**

The contractor shall not carry on, or allow to be carried on any mining operations:-

- (i) within a distance of 50 metres from the outer periphery of the defined limits of any village *abadi*, National Highway, State Highway, major District Roads (MDR) and Other District Roads (ODRs) where such excavation does not require use of explosives, unless specifically relaxed and permitted by the competent authority; or
- (ii) within a distance of 250 metres from the outer periphery of the defined limits of any village *abadi*, National Highway, State Highway, major District Roads (MDR) and Other District Roads (ODRs) where use of explosives is required, unless specifically relaxed and permitted by the competent authority or any specific dispensation is obtained from the Director, Mines Safety; or
- (vi) within a distance of at least 10 metres from any other public roads; or
- (v) within a distance of 75 metres from any railway line or bridge except under and in accordance with the written permission of the railway administration concerned. The Railway Administration or the Government may in granting such permission, impose such conditions as it may deem fit.

**Explanation :** - For the purpose of this clause the expression Railway Administration shall have the same

meanings as it is defined by sub section (4) of section 3 of the Indian Railway Act, 1890:

Provided that where the continuance of any mining operations in any area, in the opinion of the Government is likely to endanger the safety of any National or State Highway, road, bridge, drainage, reservoir, tank, canal or other public works, or public or private buildings or in the public interest or in the interest of environment/ ecology of the area, the Government may determine the contract after giving 60 days notice to the contractor in this behalf and the contract shall stand terminated on the date mentioned in the notice.

**2. Working in Sand Zones:**

That the contractor in respect of sand zones, shall restrict the quarrying operations to maximum four villages of the zone at any point of time during the subsistence of the contract. The contractor shall have a right to change the site at any time during the subsistence of the contract on settlement of compensation with the land owners of new site of the zone from where he intend to extract sand but ceiling of maximum four villages shall be adhered to strictly and such change of site shall be intimated to the Director or any officer authorised by him in this behalf.

**3. Special conditions for river bed mining:**

In case of river bed mining / excavation of minor mineral(s) , in order to ensure safety of riverbeds, structures and the adjoining areas, the following special conditions shall be abide by the contractor:-

- (a) no mining would be permissible in a river-bed up to a distance of five times of the span of a bridge on up-stream side and ten

times the span of such bridge on down-stream side, subject to a minimum of 250 metres on the up-stream side and 500 metres on the downstream side;

- (b) there shall be maintained an un-mined block of 50 metres width after every block of 1000 metres over which mining is undertaken or at such distance as may be directed by the Director or any officer authorised by him;
- (c) the maximum depth of mining in the river-bed shall not exceed three metres measured from the un-mined bed level at any point in time with proper bench formation;
- (d) mining shall be restricted within the central 3/4th width of the river/rivulet.
- (e) no mining shall be permissible in an area up to a width of 500 metres from the active edges of embankments in case of rivers Yamuna, 250 metres in case of Tangri, Markanda and Ghaggar and 100 metres on either side of all other rivers/ rivulets;
- (f) any other condition(s), as may be required by the Irrigation Department of the State from time to time for river-bed mining in consultation with the Mines & Geology Department, may be made applicable to the mining operations in river-beds.

4. **Notice for surface operation in land not already in use :**

Before using for surface operations any land which has not already been used for such operation, the contractor shall give notice in advance to the Collector of the district, the Director and the Officer-in-Charge **District Sonipat** in writing along with copy of permission to undertake mining specifying the situation and the extend of the land proposed to be so used and the purpose for which the same is required

and the said land shall not be so used, if objection is issued by the Collector.

**5. Not to use the land for other purposes:**

The contractor shall not cultivate or use the land for any other purpose other than those specified in the contract-deed

**6. Disposal of mineral(s) only on issuance of Mineral Transit Pass to the vehicles having Mineral Transit Permit:**

The holder of mining contract shall not sell/disposed off any mineral or mineral products from the concession area without a Mineral Transit Pass and shall sell/disposed of the mineral to such vehicle which holds Mineral Transit Permit issued under the provision of the Rules.

**7. Stacking of mineral(s) inside contract hold area:**

The contractor shall not stock the mineral(s) excavated inside the contract hold area at the designated site more than twice the quantity of the average monthly production as per approved mining plan/ scheme.

**8. Stacking of mineral(s) outside contract hold area:**

The contractor shall not stock any minor mineral(s) granted under the contract, outside the contract hold area without obtaining Mineral Dealer licence as per provisions of the Rules.

**9. Stacking and storage of incidentally extracted major minerals:**

In case contractor, while extracting minor mineral given on contract, incidentally extracts any major mineral not given on contract, the same shall be the property of the Government and contractor shall be under an obligation to stack and store it and maintain its proper

record in accordance with the direction of the Director or any officer authorised by him who shall also be competent to prescribe the procedure for its disposal.

**10. Penalties in case of non-compliance of clause (9) :**

In case it is detected that contractor has disposed off incidentally extracted major mineral referred to in clause 9 above or in sub rule (20) of rule 56, in whole or part there of or failed to maintain the record of stored mineral, he shall be liable to penalties under the Act and also premature determination of mining contract in terms of sub rule (1) of Rule 59 of the said rules.

**11. Restrictions of mining operations above Ground Water Table:**

A safety margin of two meters shall be maintained above the ground water table while undertaking mining and no mining operations shall be permissible below this level unless a specific permission is obtained from the competent authority in this behalf.

**12. Restrictions of surface operations:**

No mining operations shall be undertaken in any area prohibited by any authority or by the orders of any Court.

**13. No mining operations without requisite clearance:**

The contractor shall not undertake any mining operations in the area granted on mining contract without obtaining requisite clearance from the competent authority as required for undertaking mining operations.

Part - III

**Covenants of the contract**

The contractor hereby covenant with the Government as follows:-

**1. Surface rent:**

The contractor shall pay for the surface area occupied by him, surface rent at the rate as per the **provisions contains in Chapter 9** of The Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012.

**2. Security deposit :**

**(a) In case of mining contract granted through competitive bid/ auction under rule 22 :—**

25% of the annual bid amount / rate of contract money.

The security amount to be deposited as per following :—

(i) 10% as initial bid security at the time of auction; and

(ii) 15% of the annual bid amount before commencement of mining operations or before the expiry of period allowed, which shall not be more than 12 months, whichever is earlier :

Provided on enhancement of the contract money after expiry of every three year period of contract the contractor shall deposit the balance amount of security so as to up-scale the security amount equal to 25% of the revised annual contract money as applicable for one year with respect to next block of three years

3. **Mode of payment of contract money and surface rent :**

- (a) The contractor shall deposit one advance installment of contract money before commencement of mining operations or before the expiry of period allowed, which shall not be more than 12 months, whichever is earlier along with 15% of the balance security amount as per clause 2 above.
- (b) The contractor, during the subsistence of the contract, shall pay in advance to the Government the installments of the contract money in respect of the said land given to him on mining contract as per following schedule:-

| Serial number | Value of Annual contract money                 | Periodicity of payment  |
|---------------|--|---|
| 1             | 2  | 3   |
| (i)           | Up to Rs. 10.00 lakhs.                         | Lump-sum in advance after adjustment of the amount Deposited along with the security amount.                                  |
| (ii)          | Above Rs.10.00 lakhs and upto Rs. 50.00 lakhs. | In four quarterly installments in advance on the 1st of April, 1st of June, 1st of September and 1st of December of the year. |
| (iii)         | Above Rs. 50.00 lakhs.                         | In monthly installments in advance.   |

**Note:** The amount of one advance installment deposited at the time of commencement of the mining operations or within time allowed for the same shall be adjusted in a manner that the subsequent installments are payable for a full calendar month/quarter/year, as the case may be.

**4. Amount to be deposited on account of Fund**

Where the contractor is operating the area, he shall also pay an additional amount, equal to 10% of the due contract money, whichever is more along with amount of installments on account of dead rent or royalty, towards the Fund.

**5. Interest on delayed payments.**

In case of any default in payment of the installments of contract money/ contribution to the Fund on the due date(s), the amount would be payable along with interest at the following rates:

| Serial Number | Period of delay  | Rate of Interest applicable  |
|---------------|--|--|
| (i)           | If paid within a period of 7 days from the due date      | A grace period of up to 7 days is allowed without any interest   |
| (ii)          | If paid after 7 days but up to 30 days of the due date   | 15% on the amount of default for the period of default including the grace period;   |
| (iii)         | If paid after 30 days but within 60 days of the due date | 18% on the amount of default for the period of default including the grace period;   |
| (iv)          | Delay beyond 60 days of the due date                     | It would amount to a 'breach', invite action for termination of the contract and the entire outstanding amount would be recoverable along with interest calculated @ 21% for the entire period of default. |

**6. Working of newly discovered minerals :**

If any minor mineral, not specified in the contract, is discovered in the contracted area, the contractor shall report the discovery without

delay to the Government and shall not win or dispose of such minor mineral without obtaining a separate mineral concession therefore. If he fails to apply for such a mineral concession within 6 months from the discovery of the minor mineral, the Government or the authorised officer may give the mineral concession in respect of such mineral, to any other person :

Provided that the Director or an officer authorized in this behalf, on being satisfied that the availability of such minor mineral(s) is not of sufficient quantity and quality and no separate long term mineral concession is required for the newly discovered minor minerals(s), may allow the contractor by issuing separate permit in Form 'PIM2' for the disposal of specific quantity of such newly discovered minor mineral(s) on payment of advance royalty at the rates prescribed in the First Schedule and other amounts as specified under sub rule (2) of Rule 35 of the said rules, for the period not exceeding thirty days at one time. The royalty payable on the newly discovered minor mineral(s) shall be in addition to the contract money for the mineral already granted on contract :

Provided further that in case contractor further apply for disposal of such mineral(s), and the Director or any other officer authorized by him is satisfied that such minor mineral(s) is still available in the area, he may further grant subsequent permission(s) :

Provided further that the grant of such permit may be refused for reasons to be recorded in writing.

**7. To commence mining operations within 180 days and carry them on properly:**

Unless the Government for sufficient cause allows otherwise, the contractor shall commence mining operations 180 days from the date of execution of the contract and shall thereafter conduct such operations in a proper, skilful and workman like manner.

**Explanation:-** For the purpose of this clause, mining operations shall include the erection of machinery laying of a tramway or construction of a road in connection with the working of the mine.

**8. To erect and maintain boundary pillars :**

The contractor shall at his own expenses, erect and at all times maintain and keep in good repairs boundary marks and pillars according to the plan annexed to the contract. Each of the pillars should be numbered and every pillar shall have GPS reading.

**9. Accounts:**

The contractor shall keep correct accounts showing the quantity and other particulars of all minerals obtained from the mines and the number of persons employed therein and a complete plan of the mine and shall allow any officer authorised by the Government or the Central Government in that behalf to examine at any time any accounts and records maintained by him, and shall furnish to the Government or the Central Government with such information and returns as it may require.

**10. To allow facilities to other lessees etc. :**

The lessee shall allow existing and future contractor of any land which is comprised in or adjoins or is reached by the land, held by the lessee, reasonable facilities for access thereto.

**11. To allow entry to officers :**

The contractor shall allow any officer authorised by the Government and the Central Government to enter upon any building, excavation or land comprised in the contract for the purpose of inspecting the mines.

**12. Returns :—The contractor shall :—**

(a) submit a return in form 'MMP1' by the 7th of every month to the Director and also to other officer (s) specified in that form giving the total quantity of minor mineral(s) raised and dispatched from the contracted area in the preceding calendar month and its value ;

(b) also furnish a statement giving information in Form 'MMP2' by the 15th April every year to the Director and to other Officer(s), specified in that form regarding quantity and value of minor mineral obtained during last financial year, average number of regular labourers employed (men and women separately) number of accidents, compensation paid and number of days worked separately.

**13. To strengthen and support the mines:**

The contractor shall strengthen and support to the satisfaction of the Railway Administration or the State Government, as the case may be any part of the mine which in its opinion requires such, strengthening or support for the safety of any railway, bridge, national highway, reservoirs, canal, road or any other public work or building.

**14. Notice for use of explosives, etc :**

The contractor shall immediately give notice in writing in Form 'IMSE1' to the following:

1. The Controller General, Indian Bureau of Mines, Government of India, Nagpur;
2. The Chief Inspector to Mines, Govt. of India, Dhanbad;
3. The Director, Mines Safety, Govt. of India, Gaziabad;
4. The Regional Controller of Mines, Indian Bureau of Mines, Dehradun;
5. The Director; Mines and Geology, Haryana
6. The District Magistrate of the District concerned; and
7. The Assistant Mining Engineer/Mining Officer of the District concerned as soon as:
  - (a) The working in the mines extends below superjacent ground; or
  - (b) The depth of any open cast excavation measured from its highest to the lowest point reaches six metres; or
  - (c) The number of persons employed on any day is more than 50; or
  - (d) Any explosives are used.

**15. Maintenance of Sanitary conditions:**

The Contractor shall maintain sanitary conditions in the area held by him under the contract.

**16. To pay compensation for damage and indemnify the Government:**

The contractor shall make and pay such reasonable satisfaction and compensation for all damage, injury or disturbance which may be done by him in exercise of the powers granted by the contract and shall indemnify the Government against all claims which may be made by third parties in respect of such damage, injury or disturbance.

**17. Application of all Acts, Rules and Regulations to this contract :**

The contractor shall abide by the provisions of Mines Act, 1952, Inter-state Migrant Workmen (Regulation and Employment and conditions of service) Act, 1979 and the rules and regulations framed there under and also the provisions of other labour laws both Central and State as are applicable to the workmen engaged in the mines and quarries relating to the provisions of drinking water, rest shelters, dwelling houses, latrines and first-aid and medical facilities in particular and other safety and welfare provisions in general, to the satisfaction of the competent authorities under the aforesaid Acts, Rules and Regulations and also to the satisfaction of the District Magistrate concerned. In case of non compliance of any of the provisions of the enactments as aforesaid, the Director may terminate the mining contract by giving one month's notice with forfeiture of security deposited or :

Provided that the contractor shall carry out mining operations in accordance with all other provisions as applicable for undertaking mining including the provisions of Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986 and the rules made there under.

**18. To report accident :**

The contractor shall without delay report to the Deputy Commissioner of the district concerned and the Director or any other officer authorised by him, any accident which may occur at or in the contract area.

**19. Delivery of possession of land and mines on the surrender or sooner determination of the contract :**

At the end or sooner determination or surrender of the contract, the contractor shall deliver up the said lands and all mines (if any dug there) in a proper and workable State, save in respect of any working as to which the Government might have sanctioned abandonment.

**20. To provide electronic weighing machine:**

The contractor shall provide and at all times keep at or near the pit-head at which the said mineral shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or caused to be weighed thereon all the said minor minerals from time to time brought to bank, sold, exported and converted products, and shall at the close of each day cause the total weights, ascertained by such means of the said minor minerals, ores, products, raised, sold, exported and converted during the previous twenty four hours to be entered in the aforesaid books of accounts. The contractor shall permit the Government at all times during the said term to employ any persons to

be present at the weighing of the said minor minerals, as aforesaid and to keep accounts thereof and to check the accounts kept by him. The contractor shall give 15 days previous notice in writing to the Officer-in-Charge **District Sonipat** of every such measuring or weighing in order that he or some officer on his behalf may be present thereat.

**21. To secure pits shafts not fill them up :**

The contractor shall well and properly secure pits and shafts and will not without permission in writing, will fully close, fill up or close any mine or shaft.

**22. Not to enter upon or to commence operations in the reserved or protected Forest:**

The contractor shall not enter upon or commence any mining operations in any reserved or protected forest comprised in the contracted area except after previously obtaining permission in writing of the Chief Conservator of Forests, Haryana.

**23. To respect water rights and not injure adjoining property :**

The contractor shall not injure or cause to deteriorate any source of water, power or water supply and shall not in any other way render any spring or stream or water unfit to be used or to do anything to injure adjoining land, villages or houses.

**24. Stocks lying at the end of the contract: -**

(a) The contractor on expiry of the contract period (successful completion of the contract) shall remove already extracted all of the mineral from the premises of the quarry within a period of seven days. In case any quantity of the already extracted mineral, in the said land is left undisposed off and is not removed within seven days from the date

of expiry of the period of contract the same shall be deemed to be the property of the Government who may dispose it off in any manner it may like without pay anything thereof to the contractor.

(b) The contractor on the termination or sooner determination of the contract shall not remove extracted mineral from the premises of the contracted areas. All extracted minerals in the said lands left over un-disposed after the termination or determination of contract shall be deemed to be property of the Government who may dispose it off in any manner it may like without pay anything thereof to the contractor.

**25. Payment of taxes:**

The contractor shall duly and regularly pay to the appropriate authority all taxes, cesses and local dues in respect of the contracted area, said minor minerals or the working of the mines.

**26. Payment of additional amount for reclamation/ restoration:**

wherever mineral concession are granted for any newly discovered mineral, the contractor shall also deposit / pay additional amount equal to 10% of the amount of royalty/contract money/permit money as the case may be, along with the payment of royalty or permit fee for such mineral, whichever is more, by the 7th of every month, in a joint account to be operated with the officer incharge concerned to ensure the compliance of the Reclamation & Restoration works. This additional amount shall be refunded after satisfactory Reclamation/ Restoration of the area after mining in accordance with the Mine Closure Plan :

Provided that in case the contractor fails to reclaim/ restore the area as per mining plan to the satisfactions of the Government, the

amount deposited in the joint account shall be forfeited and used for the restoration of the area by the department :

Provided further that in case no rehabilitation position of the mine comes during the tenure of the mining contract, the amount so deposited shall be kept by the Government in the mining area development fund for future use as and when the mine reaches to a stage requiring restoration and rehabilitation.

**27. Assign sublet or transfers of the contract:**

The contractor shall not assign, sublet or transfer the contract to any person without obtaining prior permission in writing from the Government.

**28. Fencing of working place:**

If a working place is found to be unsafe all persons shall be withdrawn by the contractor immediately from the dangerous area and all access to such working place except for the purpose of removing the danger or saving life shall be prevented by securely fencing the full width of all entrances to the place, at his own cost.

**29. Fencing of excavation after termination or sooner determination of the contract:**

The contractor on termination or sooner determination of the contract shall at his own cost, suitably fence the excavations for safety as instructed by the Director or the Assistant Mining Engineer/ Assistant Geologist/ Mining Office concerned.

**30. Felling of trees:**

The contractor shall not fell or cut any tree, standing on the land wherein the quarry is located without obtaining prior permission in

writing from the Collector of the District concerned or Chief Conservator of Forests, Haryana, in respect of Forest areas, as the case may be and paying its price fixed by him.

**31. Security deposit shall carry no interest:**

The security deposited by the contractor shall not carry any interest.

**32. Government not responsible for loss to contractor:**

The Government shall not be responsible for any kind of loss to the contractor.

**Part-IV**

**Rights of the State Government**

**1. The Government may Suspend/terminate/Cancel the contract:**

The Government shall have the right to prematurely terminate the contract

- (a) If the contract money or royalty or surface rent or any other amount due to the Government are not paid;
- (b) if any of the terms and conditions of the contract agreement or conditions of grant or permission to undertake mining by any other statutory authority/Competent authority is violated;
- (c) if any of the provisions of these rules and other laws both Central and State as are applicable to mines and minerals, are not complied with:

Provided that no orders of suspension/termination of the contract shall be passed by the Director or an officer authorised by him without giving reasonable opportunity to show cause and following the procedure prescribed in the Rules :

Provided that in case of default in payment of Government dues such as contract money/royalty, dead rent or any other dues payable under these presents, the contract may be terminated by the Director or any officer authorised by him without affording hearing to the contractor after serving upon a notice to make good the payment within thirty days :

Provided further that the authorised officer may also at any time after issuance of the notice for default on account of nonpayment of dues, enter upon the said premises and detain all or any of the mineral or movable property therein and may carry away, detain or order the sale of the property so detained, or so much of it as will suffice for the satisfaction of the contract money or rent or royalty or both dues and all costs and expenses occasioned by the non-payment thereof.

**2. Determination of contract in public interest:**

The Government may by giving six months' prior notice in writing determine the contract if the Government consider that the minor mineral under the contract is required for establishing an Industry beneficial to the public:

Provided that in the State of National Emergency or war, the contract may be determined without giving such notice.

**3. Right of pre-emption :**

The Government shall from time to time and at all times during the terms of contract have the right (to be exercised by notice in writing to the contractor) of pre-emption of the said mineral(s) and all products thereof lying in or upon the said lands hereby demised or elsewhere under the control of the contractor and the contractor shall deliver all minerals or products thereof to the Government at current market rates in such quantities and in the manner at the place specified in the notice exercising the said right.

**4. Penalty for not allowing entry to officers :**

If the contractor or his transferee or assignee does not allow any entry or inspection under clause 9 of part-III, the Government may cancel the contract and forfeit in whole or in part the security deposit paid by the contractor under sub rule (2) of Rule 22, as the case may be of the Rules.

**5. Compensation and acquisition of land of third parties thereof :**

In case the occupier(s) or owner(s) of the said land refuses his/ their consent to the exercise of the rights and powers reserved to the Government and demised to the contractor under these presents, the contractor shall report the matter to the Assistant Mining Engineer/ Assistant Geologist/ Mining Officer who shall request the Collector of the district concerned to direct the occupier(s) or owner(s) to allow the contractor to enter the said lands and to carry out such operations as may be necessary for working the mine, on payment in advance of such compensation to the occupier or owner by the contractor, as may be fixed by the Collector under the Land Acquisition Act, 1894.

**6. Suspension of mining operations:**

The Director may order to suspend the mining operations after serving a notice to the contractor, in case, the following violations are noticed:-

- (a) unsafe and unscientific mining;
- (b) non operations of weighbridge;
- (c) non providing of safety appliances to the workers;
- (d) non payment of compensation to the surface owners;
- (e) non submissions of monthly returns;

In case of violations of the aforesaid conditions and also any other terms and conditions of the agreement deed and the provisions of the rules, the Director may give a notice to the contractor to remedy the violations within a period of 15 days from the date of issue of the notice. In case, the violations pointed out through notice, are not remedied within the stipulated period of 15 days, the Director may after affording an opportunity of being heard to the contractor, order the suspension of the mining operations till such time, the defaults/ defected are removed by the lessee within the time frame (within a maximum period of six months) granted by the Director. During the period of suspension of mining operations, the contractor will be allowed only to undertake rectification work for removal of the defects and shall not dispose off the mineral. During the suspension period, the contractor shall be under the obligation to deposit the amount of the dead rent on the due dates.

On satisfactory removal of the defects, the Director may revoke the suspension orders with or without any modification. Non removal of the defects/ defaults during the suspension period and within the

time allowed by the Director, shall lead to premature termination of contractor.

#### **Part-V**

#### **General**

**1. Cancellation:**

The contract shall be liable to be cancelled by the Director if the contractor cease to work the mine for a continued period of 180 days without obtaining written sanction of the Government.

**2. Notices:**

Every notice by these presents required to be given to the contractor shall be given in writing to such person resident on the said lands as the contractor may appoint for the purpose of receiving such notices and if there shall have been no such appointment then every such notice shall be sent to the contractor by registered post addressed to the contractor at the address recorded in this contract or at such other address in India as the contractor may from time to time in writing to the Government designate for the receipt of notices and every such service shall be deemed to be proper and valid service upon the contractor and shall not be questioned or challenged by him.

**3. Recovery of Government dues as arrears of land revenue:**

Without prejudice to any other mode of recovery authorised by any provision of this contract or by any law, all amounts, falling due hereunder against the contractor may be recovered as arrears of land revenue under the law in force for such recovery.

**4. Forfeiture of property left more than three months after expiry or determination of contract :**

The contractor should remove his property lying on the said lands within three months after the expiry or sooner determination of the contract or after the date from which any surrender by the contractor of the said lands under rule 25 of the rules becomes effective, as the case may be, the property left after the aforesaid period of three months shall become the property of the Government and may be sold or disposed of in such manner as the Government shall deem fit without liability to pay any compensation therefore, to the contractor.

**5. Security and forfeiture thereof :**

(a) the Director may forfeit the whole or any part of the amount deposited as security under this contract, in case the contractor commits a breach of any covenants to be performed by the contractor under the contract.

(b) Whenever the said security deposit or any part thereof or any further sum hereafter deposited with the Government in replenishment thereof is forfeited under sub clause (a) or applied by the Government under the contract (which the Government is hereby authorised to do) the contractor shall immediately deposit the deficient amount thereof to bring the amount in deposit with the Government up to the requisite amount of security at that point of time of contract.

(c) The rights conferred to the Director by clause (a) shall be without prejudice to the rights conferred on the Government by any other provision of this contract or by any law.

(d) On such date as the Director may decide within twelve calendar months after the determination of this contract or refusal of any renewal thereof, the amount of security deposit paid in respect of this contract in case is the same is otherwise not forfeited or is not required to be detained for any other purposes mentioned in this contract shall be refunded to the contractor. No interest shall run on the security deposit.

**6. Survey and demarcation of the area :**

When a mining contract is granted by the Government arrangement shall be made, if necessary, at the expense of the contractor, for the survey and demarcation of the area granted under the contract. The contractor shall have to bear actual expenses of the staff deputed for the work. Actual expenses will include travelling allowances, daily allowances and salary of staff plus 10 percent as instrument charges.

**7. Surrender of a mining contract by the contractor :**

The Government may accept the request of the contractor for surrender of a contract or part thereof in cases where it is established that it has not been found feasible to operate the contract grant for whatsoever reasons subject to the condition that the contractor :

- (i) has been regular in furnishing the production returns as required in terms of the contract agreement;
- (ii) has been taking the requisite steps for the progressive mine closure plan as per the conditions of the contract grant;
- (iii) is not in default of payment of any dues of the Government as on the date of making such application

and undertakes to pay all such dues till the date of expiry of the notice period either in cash in advance or by way of adjustment of the security or both :

Provided that in case the contractor makes an application for surrender of part area of the contract, it shall not result in any prorated reduction of the contract money and the rate of contract money payable and applicable for the entire area at the time of such application shall remain intact.

**8. Penalty for repeated breaches:**

In case of repeated breaches of covenants and agreements by the contractor for which notice has been given by the Director or officer authorised in this behalf in accordance with sub-rule (1) of rule 73 and /or sub rule(1) of rule 74 on earlier occasions, the Government without giving any further notice, may impose such penalty not exceeding twice the amount of security deposited.

**9. Obtaining Sale Tax number:**

The contractor shall get himself registered with the commercial Taxes Department of Haryana State and shall obtain the Sales Tax number.

10. Overriding effect:

Unless otherwise specifically provided, it is agreed that this deed shall be governed by the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) and the rules made thereunder. The provisions of the Act and the rules shall prevail over the terms and conditions of the agreement.

For Yodha Mines & Minerals  
*[Signature]*  
Partner

*[Signature]*  
Director General  
Mines & Geology, Haryana

Signature of the Contractor:-  
(M/s Yodha Mines & Minerals)  
(Auth Signatory)

For and on behalf of the Governor of  
Haryana.

Witness :-

1. *[Signature]*  
2. *[Signature]*

Witness :-

1. *[Signature]*  
2. *[Signature]*  
MUKESH CHAND, (M.A.)  
D.O. DG M & G Hary.

Signature of surety:-

1. *[Signature]*  
3. *[Signature]*

2. *[Signature]*  
4. *[Signature]*

Witness :-

1. \_\_\_\_\_

2. \_\_\_\_\_

All the papers of Surety/Sureties have  
been checked and found Surety/Sureties are  
satisfactory.

*[Signature]*

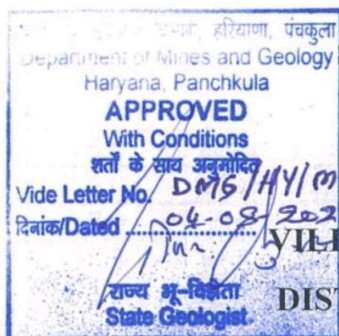
Asstt Mining Engineer

Cat. A Mech. O/C

# MINING PLAN INCLUDING PROGRESSIVE MINE CLOSURE PLAN

(Submitted Under Rule 70 (1) & 77(2) of Haryana Minor Mineral Concession,  
Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012)

FOR



SAND MINE (MINOR MINERAL)

OF

JAINPUR (BLOCK-2)

VILLAGE-JAINPUR, TEHSIL -SONIPAT

DISTRICT-SONIPAT, STATE-HARYANA

TOTAL LEASE AREA-44.40Hect.(NON-FOREST)

PRODUCTION CAPACITY – 1440000T/ANNUM

LEASE PERIOD – 9 YEARS (28/1/2016 to 27/1/2025)

PERIOD OF MINING SCHEME –BALANCE4 YEARS

APPLICANT

**M/S YODHA MINES & MINERALS**

PROPRIETOR SHRI PRADEEPAHLAWAT S/O ANAND SINGH

19-P Sector 8, Jind Haryana 126102,

Prepared By

Govind Singh Mining Engineer, EX RQP, IBM(RQP/AJM/345/2013/B)

Phone 94140 71070, [naruka.consultancy@gmail.com](mailto:naruka.consultancy@gmail.com)

M/S Yodha Mines and Minerals  
Jainpur -2 sand mine  
ML Area 44.40 ha.  
Mining plan Period 2021-2025

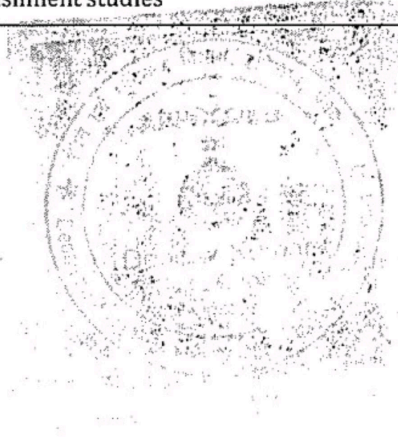
| S.No    | TABLE OF CONTENTS  |                    |
|---------|--|--------------------|
|         | Introductory notes   |                    |
| 1.0     | General Information  |                    |
| 2.0     | Location and accessibility   |                    |
|         | Details of approved mining plan/scheme                               | Vide Letter No.    |
|         | Review of earlier approved proposal                                  | दिनांक/Dated ..... |
| PART -A | Geology and Exploration  |                    |
| 2.0     | Mining   |                    |
|         | Underground Mining   |                    |
| 3.0     | Mine Drainage  |                    |
| 4.0     | Stacking Of Mineral Reject /Sub Grade Material and Disposal Of Waste |                    |
| 5.0     | Use of Mineral And Mineral Reject                                    |                    |
| 6.0     | Processing of Mineral Rejects  |                    |
| 7.0     | Site services  |                    |
| 8.0     | Progressive Mine Closure Plan  |                    |

| S.No. | LIST OF PLATES                                       | Scale        | Plate no. |
|-------|--|--------------|-----------|
| 1     | Location Plan  | Not to scale | 1         |
| 2     | Key Plan   | 1:50000      | 2         |
| 3     | Replenished Surface Plan                             | 1:2000       | 3         |
| 4     | Surface Geological Plan and Sections                 | 1:2000       | 4         |
| 5     | Year wise Development Plans and Sections (2021-2022) | 1:2000       | 5A        |
| 6     | Year wise Development Plans and Sections (2022-2023) | 1:2000       | 5B        |
| 7     | Year wise Development Plans and Sections (2023-2024) | 1:2000       | 5C        |
| 8     | Year wise Development Plans and Sections (2024-2025) | 1:2000       | 5D        |
| 9     | Conceptual Plan and Section                          | 1:2000       | 6         |
| 10    | Environment Plan                                     | 1:5000       | 7         |

M/S Yodha Mines and Minerals  
 Jainpur -2 sand mine  
 ML Area 44.40 ha.  
 Mining plan Period 2021-2025

### LIST OF ANNEXURES

| S.No. | Particulars   | Annexure No. |
|-------|---|--------------|
| 1.    | Consent & undertaking by the owner  |              |
| 2.    | Letter of Authorization by owner for preparation of mining plan to Qualified person |              |
| 3.    | Copy of Aadhar card and Pan card of owner /authorized signatory                     |              |
| 4.    | Copy of LOI, Mining Lease Deed with map   |              |
| 5.    | Copy of approval letter of first Mining plan  |              |
| 6.    | Copy of Air & Water Consent Given By State Govt.                                    |              |
| 7.    | Copy of Environment Clearance   |              |
| 8.    | Air Quality Monitoring Report   |              |
| 9.    | Water Quality Monitoring Report   |              |
| 10.   | Noise Monitoring Report   |              |
| 11.   | Soil Monitoring Report  |              |
| 12.   | Mine Water Balance Chart  |              |
| 13.   | Copy of Qualification and experience of qualified person                            |              |
| 14.   | Copy of Replenishment studies   |              |



### INTRODUCTORY NOTES

M/S Yodha Mines and Minerals company is having office at 319-P Sector 8, Jind Haryana 126102, registered with state department and since than been engaged in contract mining mainly for sand ,stone and various other minerals involving operations like removal of overburden, mining ,logistics etc. YMM is one of Haryana state's leading sand mining company in private sector with annual turnover of apprx. INR 15 Cr. the year ended 2019. The promoters of are engaged trading of sand, aggregates in Haryana, Uttar Pradesh and Delhi.

Govt. of Haryana, Department of Mines and Geology conducted auction of Boulder, Gravel and Sand minor mineral mine of "Jainpur-2 area . M/S Yodha Mines and Minerals company was considered as highest bidder by paying 8.70 crores rupees. for the Jainpur -2block , accordingly LOI was issued for tentative area 44.40 Hectares for 9 years. M/S Yodha Mines and Minerals company is one of the leading company in sand mining in the state of Haryana having vast experience in operating sand mines ,Road - Building Construction and Marketing of building material in sonipat and nearby district and other parts of the state. The company is experienced having technical staffs and resources to work in mining.

Subsequent to auction process by Department of Mines & Geology, Govt. of Haryana, issued the letter of intent for LOI grant **(Annexure-4)** vide letter no. DMG/HY/Cont./Jainpur -2/2015/855 dated, 09.03.2015 in favor of M/S Yodha Mines and Minerals Company.

M/S Yodha Mines and Minerals  
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The period of lease shall be 09 years & the same shall commence with effect from the date of grant of Environment Clearance by Competent Authority or on expiry of a period of 12 months from the date of communication of acceptance of highest bid /issuance of "**Letter of Intent** "whichever is earlier.

The first Mining Plan including Progressive Mine Closure Plan was approved by the competent authority DMG, Haryana vide letter no. DMG/HY/MPSNP/Jainpur-2/2015 /7079 dated 20.7.2015

After obtaining requisite Environmental Clearance (EC) from the SEIAA, Haryana vide letter no MOEFCC/J-11015/112/2015-IA-II(M) dated 28.01.2016, for production of 1600000 TPA (**Annexure-7**) the lessee has started the sand, gravel mining operations with effect from 25.1.2017. After obtaining EC, Consent for Air , water and Hazardous substances from the state Pollution Control Board (**Annexure-6**) and finally the applicant started the mining work from August 2017 after executing Mining lease agreement and registration.

Initially the lessee started working in fresh and replenished area for which no history /record is available on account of yearly replenishment. The lease started working from a block measuring size 34.40 ha area. The present Lease holder commenced mining of boulder, gravel and sand to produce 1600,000 TPA from this area w.e.f. 25.1.2017. by deploying heavy earth moving machineries. The mineral produced was sent to the construction sites operating nearby lease area .

"The present document is submitted for mining scheme for next four year (2021-2025) along with review of past Mining plan and PMCP under Rule 17(2)of MCR, 2016" for existing capacity of 16,00,000 TPA under compliance of Haryana Minor Mineral Concession, Stocking and Transporting of Minerals and Prevention of Illegal Mining Rules- 2012 without changing in mining technology .There is no change in capacity and methodology .

M/S Yodha Mines and Minerals  
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 ML Area 44.40 ha.  
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**GENERAL INFORMATION**

|     |  |  |
|-----|--|--|
| a.) | <b>Name of the Lessee<br/>i) Nominated Owner</b>                   | M/S Yodha Mines and Minerals<br>C/O Pradeep Ahlawat s/o Anand Singh<br>19P Sector 8 Jind ,Haryana 126102<br>e-mail:<br>Phone : 8199899991  |
|     | <b>iii) Head Office</b>  | M/S Yodha Mines and Minerals<br>C/O Pradeep Ahlawat s/o Anand Singh<br>19-P Sector 8 Jind ,Haryana 126102<br>e-mail:<br>Phone : 8199899991                                       |
|     | <b>iv) Site address</b>  | M/S Yodha Mines and Minerals<br>C/O Pradeep Ahlawat s/o Anand Singh<br>19P Sector 8 Jind ,Haryana 126102<br><br>Village -Jainpur Block<br>Tehsil - Rai<br>Distt. Sonipat Haryana |
|     | Rule 45 IBM<br>Registration Number                                 | -NA-   |
|     | Mining Lease code  | NA   |
| b.) | <b>Status of the<br/>Applicant</b>                                 | It is a private Company having experience in sand Min<br>,transportation and marketing of minerals and products  |
|     | <b>Name of the Directors<br/>/partners</b>                         | Name, address and Photo indentify of owners /partn<br>are placed as<br>Sandeep Singh Ahlawat<br>19-P Sector 8 Jind ,Haryana 126102   |
| c.) | <b>Minerals which are<br/>included in the PL</b>                   | It is an auctioned block from Department of Mines a<br>Geology Department , Govt. of Haryana   |
| d.) | <b>Mineral (s) which<br/>is/are included in the<br/>Lease Deed</b> | Sand as minor minerals   |

M/S Yodha Mines and Minerals  
Jainpur -2 sand mine  
ML Area 44.40 ha.  
Mining plan Period 2021-2025

|     |  |                        |
|-----|--|------------------------|
| e.) | <b>Minerals which are the lessee indents to mine</b>   | Sand as minor minerals |
| f.) | <b>Name of Qualified person , who prepare the Mining Plan with PMCP-</b><br>Lessee appointed following qualified person for preparation the Mining plan w<br>PMCP. whose Name, address, Qualification and Experience are as under -<br><b>Name:</b> Shri Govind Singh Naruka<br>M/s Pinkcity Mining Consultancy Pvt. Ltd.<br><b>Address:</b> Khachariyawas House<br>D/88, Meera Marg, Bani Park, Jaipur-302016<br>Mobile: 9314071068, 94140 71070<br>Registration Number: RQP/AJM345/2013/B<br><b>(Annexure.-13)</b> |                        |

|    |   |   |
|----|---|---|
| g) | <b>Name of a Person employed under clause I of Sub rule (1) of rule 42 of MCDR, 1988 (Applicable for Scheme of Mining only)</b> | Statutory mining persons are employed as per Rules of MCDR, 2017 and Regulations of MMR-2016. |
|    | <b>Address-</b>   | First class Manager (Mines)   |
|    | <b>Phone number /mobile number</b>  | C/O Yodha Mines and Minerals company  |
|    | <b>Fax Number</b>   | Village -Jainpur -unit2   |
|    | <b>Registration Number</b>  | Tehsil --Rai  |
|    |   | Distt. Yamuna agar  |
|    |   | Haryana   |
|    |   | Phone : 7903577346  |

## 2.0 LOCATION AND ACCESSIBILITY

|                      |  |
|----------------------|--|
| <b>Lease details</b> | The sand mine 44.40 hect. is a open cast fully mechanized sand mine for which LOI was issued in favour to M/s. Yodha Mines and Minerals vide letter no.DMG/HY/Cont./Jainpur-2//2015/855 dated <b>09.03.2015</b> by following bidding process and the first Mining Plan including Progressive Mine Closure Plan was got |
|----------------------|--|

M/S Yodha Mines and Minerals  
 Jainpur -2 sand mine  
 ML Area 44.40 ha.  
 Mining plan Period 2021-2025

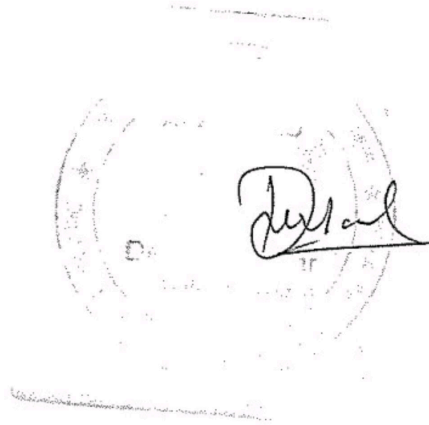
|    |   |  |
|----|---|--|
|    |   | approved by the competent authority Department of Mines and Geology, Haryana vide letter no. Vide letter no. DMG/HY/MP/Jainpur-2/7079 dated 20.7.2015 ( <b>Annexure-</b> ) and The Environment Clearance was obtained, lease deed was executed and registered by applicant <b>Annexure-)</b> |
| a) | <b>Name of mine</b>   | Jainpur-2 Block sand mine  |
| b) | <b>Mine code</b>  | -  |
| c) | <b>Location of mine/ area Village, Tehsil, Police station - Post office District, PIN</b> | Village -Jainpur<br>Tehsil - Rai<br>Distt. Sonipat<br>Haryana  |
| d) | <b>Details of applied/ lease area with location plan-</b>                                 | Granted Lease area is 44.40 hectare (Location plan is enclosed as <b>(Plate-1.)</b> )  |
|    | <b>Forest (Specify)- Protected- Notified-</b>   | There is no forest land, The lease area falls in gram Panchyat land, A Govt. Land.   |
|    | <b>Non Forest</b>   |  |
| a) | <b>Govt.waste land</b>  | 44.40 Govt land )<br>Nil<br>NIL  |
| b) | <b>Grazing Land</b>   | NIL<br>44.40 hect.   |
| c) | <b>Agriculture land</b>   |  |
| d) | <b>Others (specify)</b>   |  |

M/S Yodha Mines and Minerals  
 Jainpur -2 sand mine  
 ML Area 44.40 ha.  
 Mining plan Period 2021-2025

|    |   |   |
|----|---|---|
|    | <b>Total area</b>   |   |
| e) | <b>Area</b>   | 44.40 hect. Jainpur -2  |
|    | <b>Khasra no</b>  | <p>Detail of land covered in the area notified by Govt. of Haryana are as under-</p> <p>Mining contract of Jainpur -2 sand unit over an area of 44.40 hect. Is containing two mining blocks namely (1) Jainpur-2 River Bed block (2) Jainpur -2 out side river block</p> <p><b>(1) Jainpur-2 River Bed block</b><br/>         214/5,214/6,214/7,214/8,214/9,214/10,214/11,214/12<br/>         40//6,7,8,9,10min,11min,12min to 18 min,19min,22min,23,24,25,<br/>         41//9,10,11,12,19,20,21,22<br/>         43//1,2,3,8,9,10,11,12,13/1,18/1,19,20,21,22,23<br/>         44//2min,3to 7 min, 8min,13min , 14 to min16 min,17<br/>         min,18min,24 min, 25min<br/>         72//4min,5,5,15,16 min,25min<br/>         73//1,2,3,8,9,10,11,12,13,18,19,20,21,22,23<br/>         75//1min,2,3,8,9,10min,12 min,13min</p> <p><b>2. Out side river block</b><br/>         62//,8,9/1,9/2,12/11,12/2,13,17,18/1,18/2,19,20,21/22,23/1,23<br/>         /2,24<br/>         86//1,2,3/1,3/2,4,7,8,9,10/1,10/2,11,12,13,14,,18,19,20</p> <p>44.40 Hectares</p> |
| f) | <b>Whether the area falls under Coastal Regulation Zone(CRZ)? If yes, details Thereof</b> | NA  |
|    | <b>Existence of public road/railway line, if any nearby and approximate distance-</b>     | <p>Lease area is well connected with a metallic road from Sonipat ,railway station is 16 kms from the mining lease area. Dehli ISBT is about 40 Kms and Sonipat city is 15 kms district head quarter, UT head quarter is Chandigarh is located 180kms north west of lease area .All nearby villages like have police station ,Electricity and education facilities</p>  |

M/S Yodha Mines and Minerals  
Jaipur -2 sand mine  
ML Area 44.40 ha.  
Mining plan Period 2021-2025

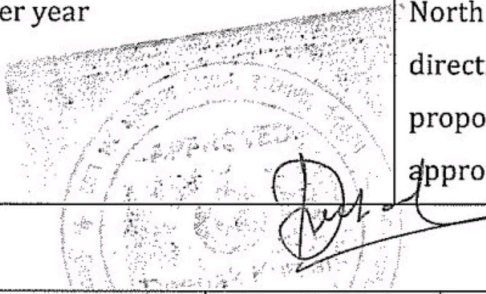
c) Attach a general location map showing area and access routes. It is preferred that the area be marked on a Survey of India topographical map or a cadastral map or forest map as the case may be. However, if none of these are available, the area may be shown on an administrative map.



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| S.N | Date and reference of earlier approved MP/SOM   |  |   |                       |                    |
|-----|---|--|---|-----------------------|--------------------|
|     | Type of document & rule under which prepared  | Approval letter no & date  | Lease area for which approval given ( ha)   | Date of Approval      | Proposal from - to |
| a)  | Mining Plan under Rule Haryana Miner Mineral Concession, Storage, Transportation and prevention of illegal Mining rules -2012) For fresh grant of lease area. | Vide letter no. DMG/HY/MP/Jainpur -2/7079 dated 20.7.2015<br><b>(Annexure -5)</b>  | 44.40 ha.   | 20.7.2015             | 5 Years            |
| b)  | <b>Modified Mining plan</b>   | -  | Not applied   | -                     | -                  |
| c)  | <b>Details of last modifications if any (for approved MP/SOM, indicating date of approval, reason for modification the previous approved period) of</b>       |  |   |                       |                    |
|     | First mining plan was approved by Department of mines and geology Vide letter no.. DMG/HY/MP/Jainpur-2/7079 dated 20.7.2015 for 16.00 MTPA of ROM.            |  |   |                       |                    |
|     | <b>REVIEW OF EARLIER APPROVED PROPOSAL</b>  |  |   |                       |                    |
|     | <b>Items</b>  | <b>Proposals</b>   | <b>Achievement</b>  | <b>Remarks</b>        |                    |
| a)  | Explorati on by Bore holes / Trail pits   | Replenishment study of river sediment sand, gravel was proposed at the time of grant of lease and subsequently at the commencement of next | As per detailed study of lease area conducted in 2016 it was established that total 1751800 | No deviation observed |                    |

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|    |   |   |   |   |
|----|---|---|---|---|
|    | /<br>Trenches<br>on<br>Geologica<br>l axis  | scheme. as area falls in <b>river bed</b> and out side blocks                           | Tons geological reserves are available and 1600000 Ton are mineable reserves available and a mine of 1440000 TPA sand mine was planned in River bed block . |   |
| b) | Number of sand pits proposed for production | Mining was proposed to be carried out from the identified and earmarked block year wise | Sand Mining was carried out as per year wise proposals  | No deviation observed                                       |
| c) | Location of Development                     | Proposed to be carried out in river bed for 14,40000 Tons per year                      | The mining was continuing from North to South direction as proposed in the approved Plan.   | No deviation observed                                       |
| d. | <b>Top Soil</b>                             |     |   |   |
|    | <b>Year</b>                                 | <b>Proposed</b>   | <b>Achievement*</b><br>March 2021   | <b>Remarks</b>  |
|    | 2016-17                                     | 0   | 0   | No top soil was observed and recovered from the river bed . |
|    | 2017-18                                     | 0   | 0   |   |
|    | 2018-19                                     | 0   | 0   |   |
|    | 2019-20                                     | 0   | 0   |   |
|    | 2020-21                                     | 0   | 0   |   |

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|           |   |                      |                                  |   |
|-----------|---|----------------------|----------------------------------|---|
|           | <b>Total</b>  | <b>0</b>             | <b>0</b>                         |   |
| <b>e)</b> | <b>Quantity of overburden (T)</b>                         |                      |                                  |   |
|           | <b>Year</b>   | <b>Proposal</b>      | <b>Achievement</b><br>March 2021 | <b>Remarks</b>  |
|           | 2016-17   | 0                    | 0                                | No overburden was estimated in past plan period and no overburden was recovered as such no deviation is found |
|           | 2017-18   | 0                    | 0                                |   |
|           | 2018-19   | 0                    | 0                                |   |
|           | 2019-20   | 0                    | 0                                |   |
|           | 2020-21   | 0                    | 0                                |   |
|           | <b>Total</b>  | <b>0</b>             | <b>0</b>                         |   |
| <b>f)</b> | <b>Quantity of Reject</b>                                 |                      |                                  |   |
|           | <b>Year</b>   | <b>Proposal</b>      | <b>Achievement</b><br>March 2021 | <b>Remarks</b>  |
|           | 2016-17   | 0                    | 0                                | All sand recovered was homogenous and found useful, thus no reject was there. Hence no deviation was found    |
|           | 2017-18   | 0                    | 0                                |   |
|           | 2018-19   | 0                    | 0                                |   |
|           | 2019-20   | 0                    | 0                                |   |
|           | 2020-21   | 0                    | 0                                |   |
|           | <b>Total</b>  | <b>0</b>             | <b>0</b>                         |   |
| <b>g)</b> | <b>Quantity of ROM production in Tonnes * March 2021</b>  |                      |                                  |   |
|           | <b>Year</b>   | <b>Proposal Tons</b> | <b>Achievement</b>               | <b>Remark</b>   |
|           | 2016-17   | 1600000              | 138028                           | Due to fluctuation in demand in construction industry the quantity of ROM varied. No deviation is considered  |
|           | 2017-18   | 1600000              | 160000                           |   |
|           | 2018-19   | 1600000              | 0                                |   |
|           | 2019-20   | 1600000              | 4924                             |   |
|           | 2020-21   | 1600000              | 236155.02<br>Continue up to      |   |
|           | <b>Total</b>  | <b>8000000</b>       | <b>539107.02</b>                 |   |
| <b>h)</b> | <b>Production of Saleable Sand in tonnes * March 2021</b> |                      |                                  |   |
|           | <b>Year</b>   | <b>Proposal</b>      | <b>Achievement</b>               | <b>Remark</b>   |

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|                             |  |   |  |   |
|-----------------------------|--|---|--|---|
|                             | 2016-17                                  | 1600000   | 138028   | Due to fluctuation in demand in construction industry the quantity of ROM and OB varied. No deviation is considered ,Overburden was back filled and reclaimed thus no deviation found |
|                             | 2017-18                                  | 1600000   | 160000   |   |
|                             | 2018-19                                  | 1600000   | 0  |   |
|                             | 2019-20                                  | 1600000   | 4924   |   |
|                             | 2020-21                                  | 1600000   | 236155.02<br>Continue up to  |   |
|                             | <b>Total</b>                             | 8000000   | <b>539107.02</b>   |   |
| <b>i) Layout parameters</b> |  |   |  |   |
|                             | <b>Item</b>                              | <b>Proposal</b>   | <b>Achievement *</b>   | <b>Remark</b>   |
| j)                          | Location of topsoil dumps                | Top soil generation was not anticipated thus a location for storage of top soil was not planned                         | No location was planned for top soil storage   | No deviation found  |
| k)                          | Stacking of mineral                      | Sand and Gravel was not proposed to be directly loaded in to trucks and location for storage of mineral was not planned | No location was planned for mineral stacking   | No deviation found  |
| l)                          | Location of OB & mineral reject dumps    | No reject was anticipated   | Total mineral as sand and gravel was found usefull and OB was backfilled and reclaimed   | No deviation found  |
| m)                          | Area under backfilling of mined out area | The mined out area was proposed to be back filled by replenishment every year.  | It was ensured mined out area is back filled with OB by leaving a barrier after every 50 meter and it was achieved every year a regular back filling | No deviation found  |

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|    |                           |   |  |                       |
|----|---------------------------|---|--|-----------------------|
| n) | Plantation /Afforestation | 500 plants per year were proposed along the river bank and other feasible sites during five years plan period | Total 500 no. of saplings were planted in plan period for development of green belt of 7.5 meter wide and office area. | No Deviation found    |
| o) | Green belt                | A margin of 7.5 meter was proposed to be left as safety barrier   | Green belt margin 7.5 meter is left for plantation except the main course of river .                                   | No deviation found    |
| q) | Number of settling ponds  | Not proposed  | None   | No deviation found    |
| r) | Processing of mineral     | Sand as ROM was not proposed to be screened and sized as found directly saleable                              | No screening / sizing facility was installed   | No deviation is found |
| s) | UPL limit                 | It was proposed to work 3 meter above the water level   | Complied to work up to UPL limit   | No deviation is found |

The detail of the land covered in the lease area notified by Haryana Govt.on 27.4.2015 and subsequent corrigendum dated 19.5.2015 are described in above para .Coordinates of the lease area and important boundary pillars are as under-

**Co-ordinates of important boundary pillars is as under**

**Co-ordinates of the lease area as under**

**River Bed**

- |    |                    |                   |                     |
|----|--------------------|-------------------|---------------------|
| A) | North 29° 03' 56'' | East 77° 09' 36'' | (North, West end)   |
| B) | North 29° 03' 56'' | East 77° 09' 56'' | (North, East end)   |
| C) | North 29° 03' 24'' | East 77° 09' 59'' | (South, East end)   |
| D) | North 29° 03' 24'' | East 77° 09' 54'' | (South, West end)   |
| E) | North 29° 03' 30'' | East 77° 09' 49'' | (South, South-West) |
| F) | North 29° 03' 37'' | East 77° 09' 48'' | (Middle)            |
| G) | North 29° 03' 45'' | East 77° 09' 45'' | (North, North-West) |

**Outside River Bed**

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North west end = N 29° 03' 39'' to E 77° 07' 35''  
North east end = N 29° 03' 39'' to E 77° 07' 40''  
South east end = N 29° 03' 23'' to E 77° 07' 40''  
North west end = N 29° 03' 23'' to E 77° 07' 32.5''

#### DETAILS OF APPROVED MINING PLAN / SCHEME OF MINING (if any)

##### r) REVIEW OF FINANCIAL ASSURANCE

In present document past five year proposals of Mining scheme with PMCP for Top soil, ROM production ,Overburden, mineral reject, land use, Plantation, environmental management have been discussed considering capacity of 16.00 Million ton per annum for past five years proposals (2016-2021 ) under as per Rule 70(1) and 77 (2) of Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules - 2012. Item wise details are as under-

| S.No. | Item Details   | Proposed for use | Actual area as on date March 2020 | Remarks   |
|-------|--|------------------|-----------------------------------|---|
| i.    | Area under Mining  | 34.40            | 12.0                              | 12.0 hect. per year area has been broken area for mining and rest area is as unused                         |
| ii.   | Storage of top soil  | 0                | 0                                 | No Soil generated during the last 5 years, plantation was done over the road , village and green belt area. |
| iii.  | Waste dump site  | 0                | 0                                 | No waste generated during last 5 years no stacking was required   |
| v.    | Mineral Storage  | 0                | 0                                 | On account of direct loading no mineral stock was proposed at the mine                                      |
| vi.   | Infrastructure, Work shop , Admin building, Weigh bridge etc | 0                | 0                                 | Office and other infrastructure facilities are already made outside lease                                   |
| vii.  | Roads  | 0                | 0                                 | -   |
| viii. | Railways   | 0                | 0                                 | -   |
| ix.   | Tailing Pond   | 0                | 0                                 | -   |
| x.    | Effluent Treatment   | 0                | 0                                 | -   |

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|      |                          |      |     |   |
|------|--------------------------|------|-----|---|
|      | Plant-                   |      |     |   |
| xi.  | Mineral Separation Plant | 0    | 0   | - |
| xii. | Township area            | 0    | 0   | - |
| xii  | Green belt               | 4.01 | 4.0 | - |
| Xiii | Others (Undisturbed )    | 0    | 0   | - |

| Give status of compliance of violations pointed out |   |                |               |  |
|---|---|----------------|---------------|--|
| Sr .no  | Date of inspection  | Violation date | Rule violated | Compliance status  |
| 1.  |   |                |               | Mining was done as per Haryana Minor Mineral Concession stocking and transporting of minerals and prevention of illegal mining rules -2012 and MMDR Act. No violation was pointed out by State and Central Authorities |
| s   | <p><b>Indicate and give details of any Suspension /Closure/ Prohibitory order issued by any Government agency under any rule or Court of law</b></p> <p>The mining lease of the applicant was terminated by the order of DGMG dated 4.12.19 for the nonpayment of dues and appeal was filed before principal secretary to set aside the order and restoring the mining rights .The relief was granted by Principal secretary on the stand to deposit the dues .In view of interim orders dated 30.5.2019 in CWP 15499of 2019 the firm deposited an amount of 1.84 crores with interest to restore the mining rights .</p> |                |               |  |
| t   | <p><b>In case the MP/SOM is submitted under rules 9 and 10 of the MCDR'88 or under rule 17(2) of the MCR'2016 for approval of modification, specify reason and justification for modification under these rules.</b></p> <p>No Modification was sought by applicant during the past plan period</p>   |                |               |  |

### PART - A

**Briefly describe the Topography, drainage pattern, vegetation, climate, rainfall data of the lease area**

#### **PHYSIOGRAPHY, DRAINAGE AND CLIMATE**

Sonipat district of Haryana located in north-eastern part of Haryana State and lies between 29° 55': 30° 31' north latitudes and 77° 00': 77° 35' east longitudes. The district is bounded, in north by Himachal Pradesh, in the east by Uttar Pradesh, in west by Ambala district, in south by Karnal and Kurukshetra districts. Total geographical area of the district is 1768 sq.km and comprises 4% of total area of State. Yamuna Nagar district is divided into one sub-division and six-development blocks viz. Bilaspur, Chachrauli, Jagadhri, Mustafabad, Radaur and Sadhaura. Sonipat is thickly populated district and density of population is 589 persons per Km<sup>2</sup>, which is higher than State average of 478 persons per Km<sup>2</sup>. The population of the district is 12, 14,162 as per 2011 census 801337 persons

#### **PHYGIOGRAPHY**

The district is divided into five Physiographic units

- Siwaliks
- Dissected Rolling Plains
- Interfluvial Plains
- Active And Recent Flood Plains
- Relict Plains

#### **a) Siwaliks hills –**

Siwalik hill ranges occupy the northern fringe of Yamuna Nagar district and attain the height up to 950m AMSL. The hills are about 500m high with respect to the adjacent alluvial plains. These are characterized by the broad tableland topography that has been carved into quite sharp slopes by numerous ephemeral streams come down to the outer slopes of the Siwaliks and spread much of gravels boulders, pebbles in the beds of these streams.

- b) Dissected rolling plains (kandi belt)** - A dissected rolling plain in the northern parts of district is a transitional tract between Siwaliks hills and alluvial plains. It is about 25 km wide and elevation varies between 250 and 375m AMSL.
- c) Interfluvial plains** - This tract is part of higher ground between Ghaggar and Chautang and includes high mounds and valleys. In general, the slope is from northeast to southwest.
- d) Active and recent flood plains** - This plain is narrow tract along river Yamuna in the district.
- e) Relict wedge plain** - This is almost in alignment to the surface water divide between the westward flowing Ghaggar and eastward flowing Yamuna River.

#### **DRAINAGE**

The River Yamuna, which borders the district in the East, is the main river in the district. The district is drained by drain no.8, which was constructed to take out excess monsoon runoff from uplands to River Yamuna. The areas east of upland plains are more prone to flooding because of its low-lying nature.

#### **Irrigation**

Irrigation in the district is done by surface and ground water as well. Around 42% of the area is irrigated by tubewells and rest of the area is irrigated by canals. About 96% area has been irrigated with respect to net sown area in the district. The district has a high irrigation intensity of 159%. About 91% area of the district is gross area irrigated with respect to total cropped area. The area, which is irrigated by surface water lies towards west where ground water is mostly saline while groundwater irrigation is maximum in the eastern parts adjoining the Yamuna river. In this part of the district, ground water is fresh. The canal irrigation is mainly done by West Yamuna Canal system.

#### **CLIMATE**

The climate of the district is characterized by the dryness of the air with an intensely hot summer and a cold winter. The cold season starts by late November and extends to

about the middle of March. It is followed by hot season, which continues to about the end of June when the southwest monsoon arrives over the district. The period from July to September is the southwest monsoon season

**Rainfall:** The normal annual rainfall of the district, based on the record for the period 1901-1980 is 567 mm recorded in 30 rainy days in a year. There is no meteorological observatory in the district, so the climatological data of the nearby observatory at Delhi has been taken as representative of the climatological conditions of the district. About 76% of the annual rainfall is recorded during the southwest monsoon from June-September. July is the wettest month of the year with 7.5 rainy days and 169 mm rainfall. During the period 1901-80, deficient to scanty rainfall was recorded in 18 years. The probability of occurrence of rainfall in the range 400- 700 mm is 0.65.

January is the coldest month with mean daily maximum temperature 21.3o C and mean daily minimum temp 7.3oC. May is the hottest month with mean daily maximum temp 26.6oC. In May and June, the maximum temperature sometimes reaches about 47oC.

#### **HYDROGEOLOGY**

Ground water occurs in alluvial sand, silt, kankar and gravel, which form potential aquifer zones. Depth to water level during pre-monsoon varies from 1.57 - 24.84 m while during post-monsoon it varies from 0.64- 22.46 m. The depth to water level lies within 5 – 20 m below the land surface in most parts of the district. It rests between 2 to 25m deep in the eastern side and 2 to 10m in the north western parts of the district. Only in small patches in the Rai block, water table is deeper having range of 20m to 40m. Water table elevations range from 230 to 220m amsl and the general ground water flow is from northwest to southeast. In general, the water table has declined all over the district over the past decade. During past one decade the district has recorded a fall of less than 1m to 7m. The decline was 2 to 4m in most parts of the district. Long term water level fluctuations indicate rise of water level over a period of last one decade in Mundlana, Kathura, K harkhoda and Rari blocks. The trend of rise of water level is in the range of 0.05 to 0.32m/year. The trend of decline of water level is 0.05 to 0.95m/year.

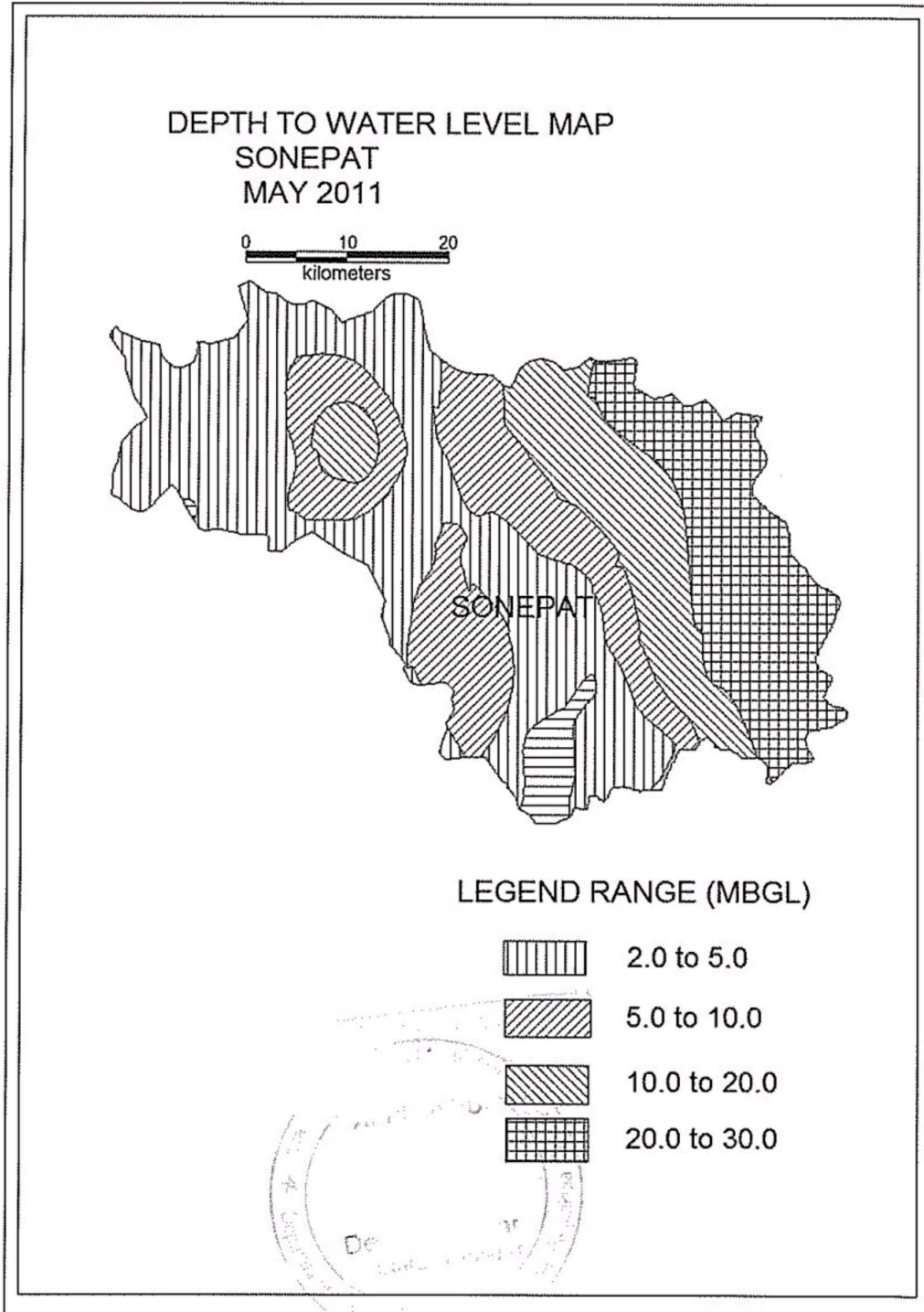
Central Ground Water Board has drilled 15 wells under ground water exploration programme; 8 are exploratory wells, 5 are piezometers and 2 are slim holes. Out of 8 boreholes drilled for ground water exploration, 7 were abandoned due to poor quality of ground water or due to inadequate thickness of permeable granular zones. Granular zones exist down to 460m depth i.e. to depth explored. However, the chemical quality of ground water is not fresh in deeper horizons in most parts of the district and in shallow horizons; in some parts. In general, the quality of ground water in shallow dugwell zones is fresh in the eastern and north, northwest parts and gradually gets deteriorated in the western and southwestern parts. Also the deep zones below 150m depth contain brackish / saline ground water. A number of shallow tubewells exist in all the blocks - more in number in Sonipat, Rai and Ganaur block and these tap water bearing zones in the shallow unconfined aquifer group. These tubewells yielded 300 to 600 lpm for moderate drawdowns. Detailed test drilling has established occurrence of three distinct aquifer groups, down to 450m depth in Upper Yamuna Basin which includes Sonipat district. Aquifer group-I which was in unconfined state extends from water table down to 70m depth. A tubewell located at Khera in the eastern part of the district and tapping this aquifer group-I, yielded 4540 lpm for about 7.5m of drawdown. Aquifer characteristics at Khera site were - Transmissivity : 2340m<sup>2</sup>/day ; Lateral Hydraulic conductivity - 36m/day and specific yield - 2.15 x 10<sup>-1</sup> ( 21.4 % ) -I contains fresh water in eastern parts of the district. Aquifer group-II which is under semi- confined / confined state occurs in the depth range of 90 to 200m and has not been tested for its yield and aquifer characteristics since the formation water is saline. Aquifer group-III which too is under confined state occurs in the depth range of 250 to 400m and contains brackish saline ground water.

#### **.DEPTH TO WATER LEVEL**

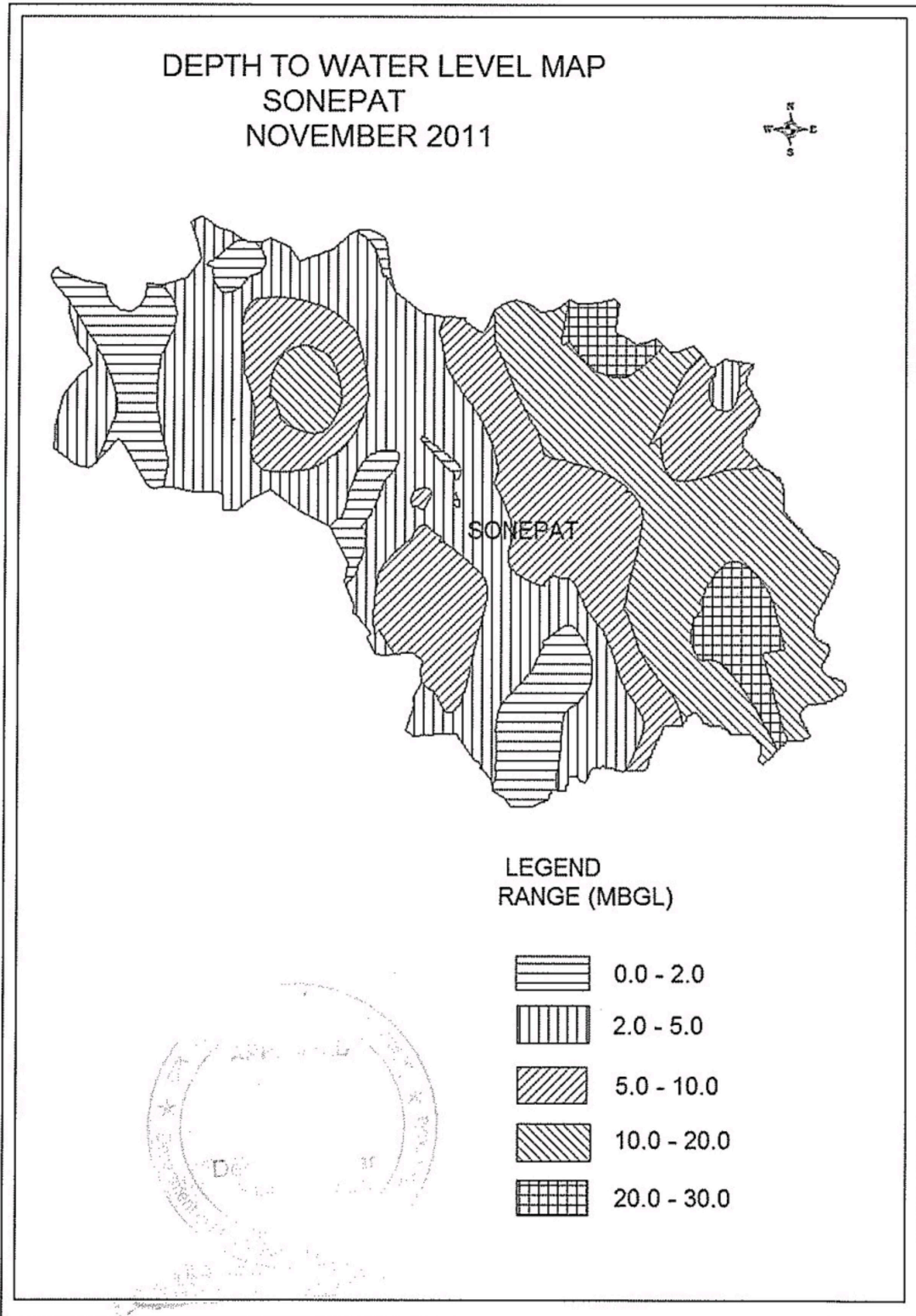
The depth to water level during pre-monsoon period in the district ranges between 2.07m bgl at Choli and 15.32m bgl at Khizrabad. However, in major part of district water level ranges between 5.0m bgl and 10.0m bgl. The Depth to water level during pre-monsoon period in the district ranges between 1.57m bgl at Choli and 18.41m bgl at Bahadurpur. However, in major part of district water level ranges between 5.0m bgl and 15.0m bgl. Appraisal of water level data of May and November reveals that some

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parts of the district have experienced water level decline whereas in other parts rise in water level has been recorded. Maximum decline of -0.43m has been observed in area around Khizrabad and maximum rise of 0.39m was recorded at Sabri village. During



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(Source: District Groundwater Brochure CGWB).

**PART –A GEOLOGY AND EXPLORATION:**

**3.0 Brief descriptions of Regional Geology with reference to location of lease/applied area.**

**3.1 GEOLOGY OF THE AREA**

**i) Regional Geology**

The north-eastern and central part of Haryana is predominantly characterized by sedimentary lithology in the Sub-Himalayan zone comprising Subathus, Dagshais, Kasaulis and Siwaliks. A general Regional stratigraphic sequence in the area is given in Table.

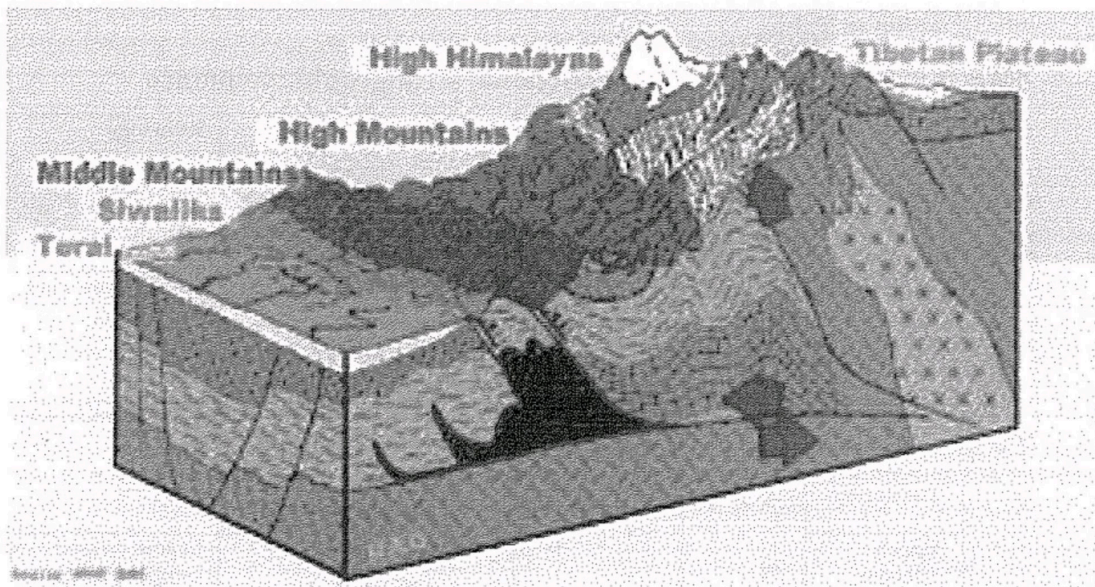
**Table: Regional stratigraphic sequence**

| Age                         | Super group                     | group         | Formation                                 | litho logy  |   |
|-----------------------------|---------------------------------|---------------|---|---|---|
| Holocene                    |                                 |               | Newer alluvium and Newer Aeolian Deposits | Gravel, Sand, silt, clay, limesand, gypsum          |   |
| Lower to upper Pleistocene  |                                 |               | older alluvium and Older Aeolian Deposits | Gravel, grey sand, silt, clay, brown sand, calcrete |   |
| Lower to Middle Pleistocene | S<br>I<br>W<br>A<br>L<br>I<br>K | Upper Siwalik | Boulder Conglomerates formation           | Conglomerate, sandsand, silt, clay                  |   |
| Upper Pliocene              |                                 |               | Pinjore Formation                         | Coarse grit, red sand sand and clay, conglomerate   |   |
|                             |                                 |               | Tatrot Formation                          | Friable Sandsand and variegated clay                |   |
|                             |                                 |               | Dhokpathan Formation                      | Brown sandsand and orange clay                      |   |
| Middle Miocene              |                                 | K             | Middle Siwalik                            | Nagri Formation                                     | Hard grey sand , muds and and minor shale   |
|                             |                                 |               | Lower Siwalik                             | Nahan Formation                                     | Coarse gritty ,clay and red sand sand often calcareous, brownish shale with lignite lenticles, greenish white Quartzite |
| Lower                       |                                 |               | Kausauli Formation                        | Grey and green sand, green shale                    |   |

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|                 |  |        |                   |  |
|-----------------|--|--------|-------------------|--|
| Miocene         |  | Sirmur |                   | and grey clay  |
|                 |  |        | Dagsai Formation  | Purple and green sand sand, deep red gritty,clay,white andsand with ferruginous concretions                      |
| Upper Eocene    |  |        | Subathu formation | Sandsand with gritu clay. Impure fossiliferous limesand calcareous slate,greenish shale and dark brown quartzite |
| Pre-proterozoic |  |        | Tunda pathar      | Thickly bedded ,stromatolite limesand with carboniferous shale and quartzite                                     |

A schematic diagramme of Himalayas showing higher, middle and lower Himalayas including Shiwaliks is shown here below-



**3.2 LOCAL GEOLOGY**

The litho units encountered in the river bed and surrounding areas belongs to the Shivalik super groups. The sediments are river borne and has deposited in the riverbed and the flood plains. The different formations of the area belong to Shivalik Super group and are a mixture of boulders, pebbles, sand, silt and clay. The following sequences have been observed in the area.

1. Soil/Alluvium

2. Sand
3. Gravel
4. Boulder

There is no clear demarcation between the litho units. They have been deposit in a mixed form. The Litho- units exposed in the flood plains belong to Shivalik Super-Group. The mineral Boulders, Gravel and sand have formed by weathering of rocks and then deposition on the flood plains of the rivers originated from the Shivaliks. These have been washed by rainwater during rainy season and deposited in flood plains and river beds in the form of boulders, gravels and sand of different sizes and shapes. These minerals are sorted by screening. The max depth of the minerals is not known.

Soil/alluvium varying in thickness from 0.5 -1.50m (Av.1.0mts) constitute the top horizons in the area suitable for agriculture. Yamuna River meanders through the area exposing the alluvium and soil at the banks. Sand is found in the river bed. Sand is deposited up to great depths. This bed is presently dry and water flows only during the rainy season The Sand exposed in the River bed of Yamuna and surrounding areas is the product of the deposition of the sediments brought and deposited in the flood plains of River Yamuna. These sediments are of recent geological formation. The litho-units exposed within the river and surrounding areas have formed as water borne sediments brought by flood water during rainy season every year and deposited in riverbed and flood plains. Geological map and section are enclosed as Plate – 03)

### 3.2.1.3 DESCRIPTION OF FORMATION

The description of Sand found in the lease area as minor mineral has been as under:

#### 3.2.2 Sand

Sediments of various sizes and in mixed form are predominantly deposited in the flood plains of River Yamuna and its tributaries. There is no perfect classification between boulders, cobbles, pebbles and sand. They are deposited in a mixed state.

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The classification is done by grab mining and the sediments are passed through different sieves in the screening plants.

Sediments of various sizes and in mixed form are predominantly deposited in the flood plains/river bed and there is no perfect classification between sediments. These may be called as coarse sand, medium sand and fine sand. The term sand is used to denote an aggregate of rock grains greater than 1/16mm and less than 2 mm in diameter mineral.



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Classification of Sediments (Wentworth-Grain Size-chart)

| Φ  | PHI - mm COVERSION<br>φ = log <sub>2</sub> (d in mm)<br>1 μm = 0.001mm |                                  | SIZE TERMS<br>(after Wentworth, 1922) | SIEVE SIZES              |                | Intermediate diameters of natural grains equivalent to sieve size | Number of grains per mg |              | Settling Velocity (Quartz, 20°C) |         | Threshold Velocity for traction cm/sec |                                 |     |
|----|--|----------------------------------|---------------------------------------|--------------------------|----------------|---|-------------------------|--------------|----------------------------------|---------|--|---------------------------------|-----|
|    | mm   | Fractional mm and Decimal inches |                                       | ASTM No. (U.S. Standard) | Tyler Mesh No. |   | Quartz spheres          | Natural sand | Spheres (Gibbs, 1971) cm/sec     | Crushed | (Nevis, 1946)                          | (modified from Hjulstrom, 1939) |     |
| -8 | 256  | 10.1"                            | BOULDERS<br>(3-64)                    |                          |                |   |                         |              |                                  |         |  |                                 |     |
| -7 | 128  | 5.04"                            |                                       | COBBLES                  |                |   |                         |              |                                  |         |  |                                 |     |
| -6 | 64.0   | 2.52"                            | PEBBLES                               | 2 1/2"                   | 2"             |   |                         |              |                                  |         |  | 200                             |     |
| -5 | 53.9   | 2.12"                            |                                       | very coarse              | 1 1/2"         | 1 1/2"  |                         |              |                                  |         |  |                                 | 150 |
| -4 | 45.3   | 1.26"                            |                                       | coarse                   | 1 1/4"         | 1.05"   |                         |              |                                  |         |  |                                 | 100 |
| -3 | 33.1   | 0.63"                            |                                       | medium                   | 3/4"           | .742"   |                         |              |                                  |         |  |                                 | 100 |
| -2 | 32.0   | 0.32"                            |                                       | fine                     | 5/8"           | .525"   |                         |              |                                  |         |  |                                 | 100 |
| -1 | 26.9   | 0.16"                            |                                       | very fine                | 1/2"           | .371"   |                         |              |                                  |         |  |                                 | 100 |
| 0  | 22.6   | 0.08"                            |                                       | Granules                 | 3/8"           | .265"   |                         |              |                                  |         |  |                                 | 100 |
| 1  | 17.0   | 0.04"                            |                                       | very coarse              | 4              | 4   |                         |              |                                  |         |  |                                 | 100 |
| 2  | 16.0   | 0.02"                            |                                       | coarse                   | 5              | 5   | 1.2                     | .72          | .6                               |         |  |                                 | 100 |
| 3  | 13.4   | 0.01"                            |                                       | medium                   | 6              | 6   | .86                     | 2.0          | 1.5                              |         |  |                                 | 100 |
| 4  | 11.3   | 0.008"                           | fine                                  | 7                        | 7              | .59   | 5.6                     | 4.5          |                                  |         |  | 100                             |     |
| 5  | 9.52   | 0.006"                           | very fine                             | 8                        | 8              | .42   | 15                      | 13           |                                  |         |  | 100                             |     |
| 6  | 8.00   | 0.005"                           | very coarse                           | 10                       | 10             | .30   | 43                      | 35           |                                  |         |  | 100                             |     |
| 7  | 6.73   | 0.004"                           | coarse                                | 12                       | 12             | .215  | 120                     | 91           |                                  |         |  | 100                             |     |
| 8  | 5.66   | 0.003"                           | medium                                | 14                       | 14             | .155  | 350                     | 240          |                                  |         |  | 100                             |     |
| 9  | 4.76   | 0.0025"                          | fine                                  | 16                       | 16             | .115  | 1000                    | 580          |                                  |         |  | 100                             |     |
| 10 | 4.00   | 0.002"                           | very fine                             | 18                       | 18             | .080  | 2900                    | 1700         |                                  |         |  | 100                             |     |
| 11 | 3.36   | 0.0015"                          | very coarse                           | 20                       | 20             |   |                         |              |                                  |         |  | 100                             |     |
| 12 | 2.83   | 0.0012"                          | coarse                                | 25                       | 24             |   |                         |              |                                  |         |  | 100                             |     |
| 13 | 2.38   | 0.001                            | medium                                | 30                       | 28             |   |                         |              |                                  |         |  | 100                             |     |
| 14 | 2.00   | 0.0008"                          | fine                                  | 35                       | 32             |   |                         |              |                                  |         |  | 100                             |     |
| 15 | 1.63   | 0.0006"                          | very fine                             | 40                       | 35             |   |                         |              |                                  |         |  | 100                             |     |
| 16 | 1.41   | 0.0005"                          | very coarse                           | 45                       | 42             |   |                         |              |                                  |         |  | 100                             |     |
| 17 | 1.19   | 0.0004"                          | coarse                                | 50                       | 48             |   |                         |              |                                  |         |  | 100                             |     |
| 18 | 1.00   | 0.00035"                         | medium                                | 60                       | 60             |   |                         |              |                                  |         |  | 100                             |     |
| 19 | .840   | 0.0003"                          | fine                                  | 70                       | 65             |   |                         |              |                                  |         |  | 100                             |     |
| 20 | .707   | 0.00025"                         | very fine                             | 80                       | 80             |   |                         |              |                                  |         |  | 100                             |     |
| 21 | .545   | 0.0002"                          | very coarse                           | 100                      | 100            |   |                         |              |                                  |         |  | 100                             |     |
| 22 | .500   | 0.00018"                         | coarse                                | 120                      | 115            |   |                         |              |                                  |         |  | 100                             |     |
| 23 | .420   | 0.00016"                         | medium                                | 140                      | 150            |   |                         |              |                                  |         |  | 100                             |     |
| 24 | .354   | 0.00014"                         | fine                                  | 170                      | 170            |   |                         |              |                                  |         |  | 100                             |     |
| 25 | .297   | 0.00012"                         | very fine                             | 200                      | 200            |   |                         |              |                                  |         |  | 100                             |     |
| 26 | .250   | 0.00011"                         | very coarse                           | 230                      | 250            |   |                         |              |                                  |         |  | 100                             |     |
| 27 | .210   | 0.0001                           | coarse                                | 270                      | 270            |   |                         |              |                                  |         |  | 100                             |     |
| 28 | .177   | 0.00009"                         | medium                                | 325                      | 325            |   |                         |              |                                  |         |  | 100                             |     |
| 29 | .149   | 0.00008"                         | fine                                  | 400                      | 400            |   |                         |              |                                  |         |  | 100                             |     |
| 30 | .125   | 0.00007"                         | very fine                             |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 31 | .105   | 0.00006"                         | very coarse                           |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 32 | .088   | 0.00005"                         | coarse                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 33 | .074   | 0.000045"                        | medium                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 34 | .062   | 0.00004"                         | fine                                  |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 35 | .053   | 0.000038"                        | very fine                             |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 36 | .044   | 0.000035"                        | very coarse                           |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 37 | .037   | 0.000032"                        | coarse                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 38 | .031   | 0.00003"                         | medium                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 39 | .02  | 0.000025"                        | fine                                  |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 40 | .016   | 0.000022"                        | very fine                             |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 41 | .01  | 0.00002"                         | very coarse                           |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 42 | .008   | 0.000018"                        | coarse                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 43 | .006   | 0.000016"                        | medium                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 44 | .005   | 0.000015"                        | fine                                  |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 45 | .004   | 0.000014"                        | very fine                             |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 46 | .003   | 0.0000125"                       | very coarse                           |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 47 | .002   | 0.00001125"                      | coarse                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 48 | .001   | 0.00001024"                      | medium                                |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 49 | .001   | 0.00001024"                      | fine                                  |                          |                |   |                         |              |                                  |         |  | 100                             |     |
| 50 | .001   | 0.00001024"                      | very fine                             |                          |                |   |                         |              |                                  |         |  | 100                             |     |



### 3.2.5 PHYSICAL & CHEMICAL CHARACTERISTICS OF MINERAL

Technically, the size of boulders varies from 2.52 inches to up to 10.1 inches & pebbles range from 0.08 inches to 2.52 inches. Sand is merely a size category. Sand is particulate matter that's larger than silt and smaller than gravel. Different specialists set different limits for sand: Engineers call sand anything between 0.074 and 2 millimeter, or between a U.S. standard #200 sieve and a #10 sieve.

Soil scientists classify grains between 0.05 and 2 mm as sand, or between sieves #270 and #10. Sedimentologists categorise sand between 0.062 mm (1/16 mm) and 2 mm on the Wentworth scale, or 4 to -1 unit on the phi scale, or between sieves #230 and #10. In some other nations a metric definition is used instead, between 0.1 and 1 mm. From a geological viewpoint, sand is anything small enough to be carried by the wind but big enough that it doesn't stay in the air, roughly 0.06 to 1.5 millimeters. It indicates a vigorous environment.

#### COMPOSITION AND SHAPE OF MINERALS

Most boulders, gravels and sand is made of quartz or its microcrystalline cousin chalcedony, because that common mineral is resistant to weathering. The farther from its source rock sand is, the closer it is to impure quartz. But Yamuna sands contain quartz grains, tiny bits of rock (lithics), or dark minerals like lime sand and ferruginous concretions.

The size of the sediments is variable. The grains whether small or large are rounded in shape. Sand is grey, brown in color, coarse to fine grained. The present deposits are of good quality and can be used for building industries. There is no other use of this material.

#### ORIGIN & CONTROL OF MINERALISATION (ANNUAL REPLENISHMENT OF MINERAL IN RIVER BED/FLOOD PLAINS AREA VIS-À-VIS SEDIMENTATION)

Sedimentation, in the geological sciences, is a process of deposition of a solid material from a state of suspension or solution in a fluid (usually air or water). Broadly defined it also includes deposits from glacial ice and those materials

collected under the impetus of gravity alone, as in talus deposits, or accumulations of rock debris at the base of cliffs. The term is commonly used as a synonym for sedimentary petrology and sedimentology.

Sedimentation is generally considered by geologists in terms of the textures, structures, and fossil content of the deposits laid down in different geographic and geomorphic environments.

The factors which affect the "Computation of Sediment":

a) Geomorphology & Drainage Pattern : The following geomorphic units play an important role :

- Structural Plain
- Structural Hill
- Structural Ridge
- Denudation Ridge & Valley
- Plain & Plateau of Gangetic plain
- Highly Dissected pediment
- Un dissected pediment

b) Distribution of Basin Area River wise ( Area in Sq. Km or Sq. Miles)

c) Drainage System/Pattern of the area (Drainage Density = .....Km/Sq. Km of Yamuna River

d) Rainfall & Climate : Year wise Rainfall data for previous 07 years of Yamuna Basin/River

e) As per Dandy & Bolton study "Sediment Yield" can be related to

- i) Catchment Area and
- ii) Mean Annual Run-off

Sand is an essential minor mineral used extensively across the country as a useful construction constituent and variety of other uses in sports, agriculture, glass

making (a form of sand with high silica content) etc. It is common knowledge that minerals are non-renewable but this form of mineral naturally gets replenished from time to time in a given river system and is very much interrelated to the hydrological cycle in a river basin.

The Rivers originating from the Himalayas bring with them lots of aggregate materials whereas as they move downstream, only finer elements / minerals like sand are found in abundance. River Yamuna near Dakpathar barrage leaves Uttarakhand and enters Himachal Pradesh.

The Yamuna river is the biggest tributary of the river Ganga in North India. Its source in the Yamunotry glacier at an elevation of 6387 mtrs on South western sides of Banderpooch crests in the lower Himalayan ranges. The overall span of the Yamuna river is 1376 Kms (855 miles) with catchment area of 366223 square km ( 141,399 square mile). This encompasses 40.2 % of the whole Ganga valley, prior to joining Ganga at Triveni Sangam in Allahabad (UP)

*Itinerary of Yamuna River:and its tributries*

The river passes through many states such as Uttrakhand, UP, Haryana, going across to HP and then Delhi. With yearly discharge of around 10,000 cubic billion meters (cbm) and consumption of 4400 cbm (of which irrigation comprises 96%), the river represents above 70% of water provision of Delhi. Yamuna water are fairly good quality for its entire span from Yamunotri in Himalayan ranges to Wazirabad in Delhi, the length of which is around 375 Kms.

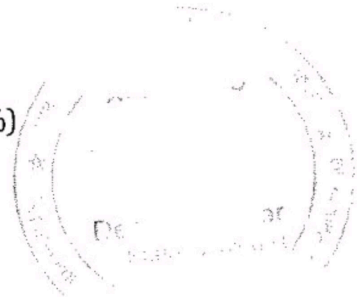
The origin of Yamuna is situated in the Yamunotri glacier at an elevation of 6387 mtrs on SE sides of Banderpooch crests, which are located in the Mussoorie range of lower Himalayan range in Uttrakashi district of Uttrakhand, to the North of Haridwar. From this place Yamuna runs to South around 200 Kms across the Shivalik mountain ranges and lower Himalayan ranges. A significant portion of its beginning of Drainage basin (with total area of 217.00 square km) is situated in HP

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and a major tributary sapping the upper drainage basin in the Tons, which is also biggest and most extensive tributary of the Yamuna. Other tributaries in the area are the Rishi Ganga, Giri, Hanuman Ganga, Kunta & Bata, which sap the upper drainage basin of the huge Yamuna river. Subsequently, the river moves down the terrains of Doon basin at Dak Pathar close to Dehradun, in this place water is redirected into a channel for the purpose of electricity generation. Once it goes across the sikh religious place of Ponta Sahib, the river arrives at Tajewala in the Yamunanagar district of Haryana where a dam was constructed in 1873. This dam is the origin of the two major channels or water courses – Eastern Yamuna Canal and Western Yamuna Canal and both drain in UP & Haryana. The Western Yamuna Canal (WYC) traverses Karnal, Yamunanagar and Panipat prior to arriving at the Haiderpur water treatment plant, which provides a portion of municipal water provisions of Delhi. The Yamuna also forms natural boundary between the states of Uttrakhand & HP and also amid the states of UP and Haryana. Together with the Ganga to which it flows almost parallel once it meets the Indo-Gangetic plateau, the biggest Alluvial productive area in the World, it forms the Ganges-Yamuna Doab are stretched across 69,000 square Km which is 33% of the whole area.

Table of Drainage Basin area of River Yamuna (square KM/square mile) with % of Drainage Basin

- |                    |   |                       |
|--------------------|---|-----------------------|
| 1. HP              | : | 5799/2240 (1.6)       |
| 2. UP & Uttrakhand | : | 74208/142 (21.50)     |
| 3. Rajasthan       | : | 102883/39739 (29.80%) |
| 4. Haryana         | : | 21265/8214(6.5%)      |
| 5. Delhi           | : | 1485/574(0.4%)        |
| 6. MP              | : | 14023/5416 (40.6%)    |



**d.) Name of prospecting /exploration agency-**

Department of Mines and Geology Haryana has identified potential segments in Yamuna river near Yamunanagar district found depositional sites for sand. Accordingly department carved sand blocks for auction. Finding it low cost mineral and useful for common man No detailed exploration was proposed in the area .

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As per environmental clearance condition no.19 the project proponent will submit annual replenishment studies by an authorized agency and in case the increment is lower than the approved rate of production than the mining activity shall be decreased /stopped accordingly till the replenishment is completed. Accordingly the project proponent appointed t M/S Vardan Environet (A NABET accredited organization ) Consultant to conduct Replenishment studies following MoEF CC guide lines of January ,2020 .

The study period was during the Pre-monsoon: 15<sup>th</sup> to 20<sup>th</sup> April, 2021 and Post-monsoon: 18<sup>th</sup> to 21<sup>st</sup>September, 2020 using following Methodology and approach for studies

**Approach & Methodology Followed for Replenishment Study:-**

- a) Pre-monsoon survey of River bed with the help of GPS and Unmaned Artificial Vehicles (UAV's )/Drone fitted with advance camera
- b) Grid pattern 30 m x 20 m (30 m along the length of the river and 20 m along width of the river) or part thereof.
- c) To draw pre-monsoon contour map (Base map considered as per approved mining plan)
- d) Post-monsoon survey of River bed with the help of GPS and unmanned Drone
- e) Same Grid pattern (30 m x 20 m) or part thereof was considered for survey.
- f) To draw post-monsoon contour map (Base map considered as per approved mining plan)
- g) To draw composite sections of Pre and post monsoon maps. This will determine the depth and volume of sand replenished.
- h) Finally to calculate the volume of sand with grid pattern of 30 m x 20 m multiplied by depth of replenishment.
- i) The tonnage of replenishment will be volume of sand multiplied by density of sand (which is 2 T per Cubic m)

**e.) Details of prospecting/exploration already carried out:**

**1) Number of pits and trenches indicating dimensions, spacing etc along and across the strike/foliation with reference to geological plan.**

Detail of Replenishment studies are places Annexure -13

**2.) No. of bore hole indicating type(Core/RC/DTH ) diameter, spacing inclination, ,collor level, depth etc. with standard borehole logs duly marked on geological plan and sections**

No Bore hole/ DTH /RC/Augur holes are required in view of low priced mineral in shallow deposits.

**3) Details of samples analysis.**

The Sand deposits are mainly consisting of quartz- feldspar and other flaky minerals constituting mainly silicates thus regular sample of the area are not required in view of low cost mineral as per MEMC Rules 2015,

**4.) Expenditure incurred in various prospecting operations.**

No expenditure incurred on exploration as mineralization is exposed very well and also further exposed on account of mining pit .

**f.) The surface plan of the lease area may be prepared on a scale of 1: 1000 or 1: 2000 with contour interval of maximum of 10 m depending upon the topography and size of the area duly marked by grid lines showing all features indicated under Rule 32(1) of MCDR 2017.**

Updated Surface plan dated 10.4.2021 is enclosed as **Plate 3**.

**g.) For preparation of geological plan, surface plan prepared on a scale of 1: 1000 or 1: 2000 scale specified under para 1.0 (f) of Part A of the format may be taken as the base plan. The details of exploration already carried out along with supporting data for existence of mineral, locations proposed exploration, various litho-units along with structural features, mineralized/ore zone with grade variation if any may be marked on the geological plan along with other features indicated under Rule 32(2) of MCDR 2017.**

Surface Geological plan is enclosed as **Plate-4**.

**h.) Geological sections may be prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary.**

Surface Geological sections are enclosed as **Plate-4**.

**i.) Broadly indicate the future programme of exploration with due justification(duly marking on Geological plan year wise location in different colours) taking into consideration the future tentative excavation programme planned in next five years as in table below: -**

The area is fully exposed along the river bed section with the sand resources and also exposed contemporary to mining in past years. Sufficient data are available there to prepare the mining scheme for next five year thus, No additional exploration is proposed in the area

**j.) Total Geological, Mineable/ Recoverable Reserves & Resources as per UNFC classification**

**Proved Reserves**

Replenishment Survey by Unmanned Artificial Vehicles (UAV's )/Drone survey technology reveled incremental in reserves estimated approximately 14,58,143.64 MT per annum are shown in study report as **Annexure 13**

- Following special conditions those are applicable for excavation of minor mineral(s) from river beds in order to ensure safety of river-beds, structures and the adjoining areas are considered while calculating the reserves of this area:
- (i) No mining would be permissible in a river-bed up to a distance of five times of the span of a bridge on up-stream side and ten times the span of such bridge on down-stream side, subject to a minimum of 250 meters on the up-stream side and 500 meters on the down-stream side;

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- (ii) There shall be maintained an un-mined block of 50 meters width after every block of 1000 meters over which mining is undertaken or at such distance as may be directed by the Director or any officer authorized by him;
- (iii) The maximum depth of mining in the river-bed shall not exceed three meter from the un-mined bed level at any point in time with proper bench formation;
- (iv) Mining shall be restricted within the central 3/4th width of the river/ rivulet;
- (v) In case of areas permitted for excavation outside river/rivulets i.e. areas adjoining to rivers/rivulets, no mining shall be permissible in an area up to a width of 500 meters from the active edges of embankments in case of river Yamuna, 250 metres in case of Tangri, and Ghaggar river and 100 meters on either side of all other rivers/ rivulets;
- (vi) Any other condition(s), as may be required by the Irrigation Department of the state from time to time for river-bed mining in consultation with the Mines & Geology, a safety margin of two meters (2m) shall be maintained above the ground water table while undertaking mining and no mining operations shall be permissible below this level unless a specific permission is obtained from the competent authority in this behalf.
- vii) The contractor shall not undertake any mining operations in the area granted on mining contract without obtaining requisite permission from the competent authority as required for undertaking mining operations under relevant laws.
- ix) A barrier of 7.5 m width will be left from the mining area boundary, .

**Basis of Mineral Reserves Calculation – outside River channel Area**

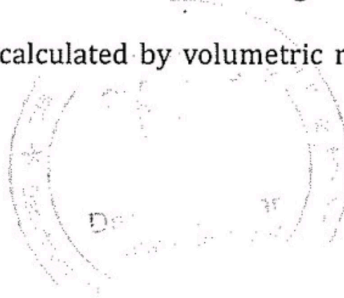
- Mineral Reserves falling iout side the river bed area has been calculated taking the maximum permissible depth of 3 m from the river bed surface RL.
- The bulk density of Sand is considered 2.0
- Volumetric method is adopted for calculating reserves of Sand.

- The mineable reserves are calculated by deducting “Blocked Geological Reserves on account of river banks, lease boundary, railway line, highways, bridges, anicuts (where ever applicable) from total proved Geological Reserves”.
- It is considered that river bed Sand shall be replenished every year as evident from preceding paragraph (3.2.6) on “ Annual Replenishment of Mineral in River Bed Area vis-à-vis Sedimentation”

**UNFC classification – Codes of UNFC are followed for reserve calculation**

UNFC is a three digit code based system, the economic viability axis representing the first digit, the feasibility axis the second digit and the geological axis the third digit. Each digit provided.

- Codes 1, 2 and 3 in decreasing order. The highest category of resources under UNFC system has code (111) and for lowest category the code is (334).
- Code (111): This code is provided for the economically mineable part of the measured mineral resources (proved category reserves).
- Code (121): This code is provided for the economically mineable part of the indicated mineral resources (probable category reserves).
- Code (211): The part of the measured mineral resources (proved category), which as per feasibility study has not found economically mineable. The reserves blocked in 7.5 meters buffer zone and 50 meters from permanent structure.
- Code (222): The part of the indicated mineral resources (probable category), which as per feasibility study has not found economically mineable. The reserves blocked in 7.5 meters buffer zone and 50 meters from permanent structure.
- Code (480): Tonnage, Grade and mineral contents can be estimated with low level of confidence and resources are also inferred from geological
- The reserves of Sand calculated by volumetric method and are summarized here below:



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**Table: Geological Reserves**

| S. No | Nature of Land    | Lease area in Hectares | Total Proved Geological Reserves (MT) For 9 years (A) | Block area due to safety barrier and bench slopes | Blocked Geological reserves (B) | Total Mineable Reserves (C) | Planned Production |
|-------|-------------------|------------------------|---|---|---------------------------------|-----------------------------|--------------------|
| 1     | River Bed         | 34.40 ha               | 2064000x9<br>=1,85,76,000                             | 7.87  | 472200x9=4<br>2,49,800          | 1591800<br>=1,43,26,200     | 15,91,800          |
| 2     | Outside reiverbed | 10.00                  | 16,00,000   | 1.0   | 160000                          | 1440000                     | 1,60,000           |
|       | Total             | 44.40                  | 2,01,76,000   | 8.87  | 4409800                         | 15766200                    | 17,51,800          |

Replenishment Study for the year 2020-21 reveals that there is replenishment (Natural Reclamation Rainfed Water Containing Sand ) of approximately 14,58,143.64 MT of mineral Sand in river bed block . **Annexure -**

**k.) Furnish detailed calculation of reserves /resource section wise of reserves**

Details of Reserves calculation and blocked reserves under pit slopes and benches and safety barrier are calculated and Reserves as on March .2021.

Resources and reserves within the lease have been arrived after applying results /Feasibility /prefeasibility study and economic valuation of deposit based on various factors such as :

**a) Mining method, recovery factor, mining losses, processing factor**

Open cast mechanized using heavy machineries mining method is proposed and recovery factor for saleable sand is considered s 100% , only no waste is likely to be generated .All sand fractions are saleable

**b) Cut off grade, ultimate pit depth proposed**

No cut off grade is there as all mineral is saleable

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c) Mineral /ore blocked due to benches , barriers, pillars, road, railways, river ,nala, reservoir, Electric line and other statutory barriers, under forest, sanctuaries ,etc. where necessary permissions are not available

Mineral shall be blocked only in safety barrier of 7.5 meter wide green belt and under benche slopes as a part of statutory provisions .Other features like road, nala, reservoir and HT lines are not found in the area. Depletion of Mineral in last five years period from 01.04.2016 to March 2021 are as under -

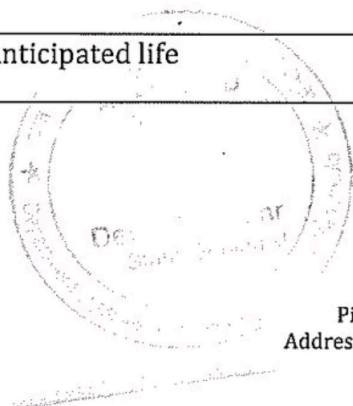
| Year         | Past Proposal of ROM | Achieved ROM in T.<br>(*Up to March..2021) |
|--------------|----------------------|--|
| 2016-2017    | 1600000              | 138028                                     |
| 2017-2018    | 1600000              | 160000                                     |
| 2018-2019    | 1600000              | 0  |
| 2019-2020    | 1600000              | 4924                                       |
| 2020-2021    | 1600000              | 236155.02*Continue                         |
| <b>Total</b> |                      | <b>539107.02</b>                           |

\*Work suspended due to litigation of lease

#### Anticipated life of mine

It is estimated that the entire mineral mined every year will be replenished. Therefore at the proposed rate of production the life of the mine is more than 4 years

|    |  |   |                             |
|----|--|---|-----------------------------|
| 1) | Estimated mineable ROM being replenished | = | 14,58,143.64 Tons           |
| 2) | Proposed Production every year           | = | 14,40000Tons                |
| 3) | Depleted reserves in past plan period    | = | 539107.02Tons               |
| 4) | Balance Reserves after replenishment     | = | 14,58,143.64 MT per year    |
| 5) | Anticipated life                         | = | >5.0 years approx. and more |



## PART -B MINING

### OPEN CAST MINING:

#### a.) Briefly describe existing and proposed method of excavation with all design parameters indicating plans and sections

As per previous mining plan some area was broken due to mining activities but the same area is back filled by fresh sand .During the past plan period 539107.02Tons production was done and the working was suspended due to Hon'ble NGT order and DMG for some time , which was resumed after rectification by PP . The year wise excavation was replenished in every monsoon season. In view of the same mining activities was continued to next block as per past proposal. On account of regular replenishment the no excavation left open for measurement. Fully mechanized opencast mining method was adopted in this mine to ensure the continuous supply of desired quantity and quality of sand to the nearby consumers in two shift working

Fresh area doesn't have top soil and overburden so directly sand in loose form loaded to tippers by loaders or by combination of dozer, excavator and dumpers without use of drilling and blasting .

The sand is excavated in bench of 3.0 meters or less .The working bench width is kept more than 10 m having pit slope 30°.The sand is loaded by excavator into dumpers.

#### Proposed method of Mining

Mining activity will be carried out by open cast semi-mechanized method. Mining Contract has been allotted for a period of 09 years only. Mining area consist of 44.40 ha area in Jainpur-2 out of which about 34.40 hectares area is under river bed mining zone. And 10.0 hectares area is out side the river bed . Currently mining is proposed in the river bed area as of having no restriction except statutory barrier there are sufficient reserves after replenishment in the in area for proposed mining.

- No overburden/ waste material will be produced in river bed. No drilling/ blasting are required as the material is loose in nature.
- Light weight excavators will be used for loading of mineral in tippers.

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- Proper benching of 1.5- 3.0 m height will be maintained and width of the bench will be around 20 m. The benches shall be maintained in the form of slices/strips parallel to the banks of river.
- Mining activities will be carried out in a manner so that there is no obstruction to the movement of water flow, if any, during rainy season.
- Roads will be properly made and sprayed by water for suppression of dust.
- Roads in the mining area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.
- Extraction activities will start in the blocks from the upstream side to downstream side. This will not obstruct the movement of water, if any, during monsoon period in the river course.
- In case during any period, the replenishment was found less than 1.5-3.0 m or depth of exaction, the mining during said period would restrict to depth which would not be more than 3 m of the original level of the river bed.

Total production envisaged is 3033 MT per day i.e. 121 trips@25Mt/trip. Activities will be carried out as per the production schedule given earlier. The mining quarry will be working as self sustained units with all facilities like site office, rest shelter, first aid and drinking water etc. All these mines will be connected suitably with communication system.

Roads will be properly made and sprayed by water for suppression of dust.

Roads in the mining area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20.

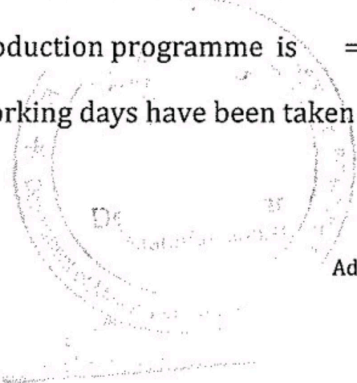
**b.) Indicate year-wise tentative Excavation indicating development, ROM, pit wise as in table below\****Bulk Density of mineral is assumed to be = 2.0 T/ m<sup>3</sup>.*

Annual production proposed = 14,40,000Tons /Annum

Daily production proposed = 4966Tons /day

Production programme is =198 trips/ day @ 25 ton per trip .

Working days have been taken as 290 days per annum.



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Projected Production per Year =  $290 \times 4966 = 1440000$  Tons (1.44 Million MT)

Table: Four Years Proposed Production Details (MT/A)

| Year    | Production proposed |       | Area (ha) required per year |
|---------|---------------------|-------|-----------------------------|
|         | Trips/ day          | MTPA  |                             |
| 2021-22 | 192                 | 14.40 | 28.0                        |
| 2022-23 | 192                 | 14.40 | 28.0                        |
| 2023-24 | 192                 | 14.40 | 28.0                        |
| 2024-25 | 192                 | 14.40 | 28.0                        |

**II) Dump rehandeling (for the purpose of recovery of mineral:**

No permanent dump will be rehandled and no dump shall be created during the plan period

c.) Enclose Individual year wise development plans and sections showing pit layouts, dumps, stacks of mineral reject, if any, etc. In case of A category mine .Composite development plan showing pit layout ,dumps stacks , mineral rejects if any and year wise sections in case of B category.

Year wise development plan and section have been prepared as 5A to 5C and sections are also drawn showing all layout, slope ,gradient ,benches and proposed plan

d. Describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of overburden/waste along with ground preparation prior to disposal of waste, reject etc.

Lay out of mine working is given in year wise development plan and sections (Plate 5A, 5B, 5C & 5D).

Details of year wise progression of sand pit , opening RL and closing RL , Haul road from 2021-22 to 2023-25 at the end of each year are as under-

**YEAR – 2021-22**

During this year, the mining is proposed in same area after replenishment, from top RL 215 mRL , and bottom will reach to 213 mRL . Benches height will be of 1.5meter height and width will be more than 20 meters .Total 1440000 T ROM will be produced. Proposed working will be advanced from north to south side in all directions. During the year 28.0 ha. area will be broken and no top soil , No OB is likely be generated . Plantation will be carried out in green belt area and connecting roads to main road in consultation with state govt. departments.. Similarly no mineral stock will be maintained as all mineral is directly saleable. Approach roads will be extended up to face with proper gradient of 1:20,

Mining will be carried out without disturbing the River Chanel Geometry, Bed Geomertry ,Sub-stratum composition and tubidites . All due care will be undertaken for in-stream biota , loss of riparian in stream biota .No working shall be carried out erosion site of river (Concave Sites) during the plan period . The details of mine layout for the year has been shown on **plate no.5A**

**YEAR – 2022-23**

During this year, the mining is proposed in same area after replenishment, from top RL 215 mRL , and bottom will reach to 213 mRL . Benches height will be of 1.5meter height and width will be more than 20 meters .Total 1440000 T ROM will be produced. Proposed working will be advanced from north to south side in all directions. During the year 28.0 ha. area will be broken and no top soil , No OB is likely be generated . Plantation will be carried out in green belt area and connecting roads to main road in consultation with state govt. departments.. Similarly no mineral stock will be maintained as all mineral is directly saleable. Approach roads will be extended up to face with proper gradient of 1:20,

Mining will be carried out without disturbing the River Chanel Geometry, Bed Geomertry ,Sub-stratum composition and tubidites . All due care will be undertaken for in-stream biota , loss of riparian in stream biota .No working shall be carried out erosion site of river (Concave Sites) during the plan period . The details of mine layout for the year has been shown on **Plate No.5B)**

**YEAR – 2023-24**

During this year, the mining is proposed in same area after replenishment, from top RL 215 mRL , and bottom will reach to 213 mRL . Benches height will be of 1.5meter height and width will be more than 20 meters .Total 1440000 T ROM will be produced. Proposed working will be advanced from north to south side in all directions. During the year 28.0 ha. area will be broken and no top soil , No OB is likely be generated . Plantation will be carried out in green belt area and connecting roads to main road in consultation with state govt. departments.. Similarly no mineral stock will be maintained as all mineral is directly saleable. Approach roads will be extended up to face with proper gradient of 1:20,

Mining will be carried out without disturbing the River Chanel Geometry, Bed Geomertry ,Sub-stratum composition and tubidites . All due care will be undertaken for in-stream biota , loss of riparian in stream biota .No working shall be carried out erosion site of river (Concave Sites) during the plan period . The details of mine layout for the year has been shown on **Plate No.5C )**

**YEAR – 2024-25**

During this year, the mining is proposed in same area after replenishment, from top RL 215 mRL , and bottom will reach to 213 mRL . Benches height will be of 1.5meter height and width will be more than 20 meters .Total 1440000 T ROM will be produced. Proposed working will be advanced from north to south side in all directions. During the year 28.0 ha. area will be broken and no top soil , No OB is likely be generated . Plantation will be carried out in green belt area and connecting roads to main road in consultation with state govt. departments.. Similarly no mineral stock will be maintained as all mineral is directly saleable. Approach roads will be extended up to face with proper gradient of 1:20,

Mining will be carried out without disturbing the River Chanel Geometry, Bed Geomertry ,Sub-stratum composition and tubidites . All due care will be undertaken for in-stream biota , loss of riparian in stream biota .No working shall be carried out

erosion site of river (Concave Sites) during the plan period . The details of mine layout for the year has been shown on **Plate No.5D )**

#### **f) CONCEPTUAL MINE PLANNING**

##### **Exploration proposed.**

Mineral is being replenished by river Yamuna sediments and lying adjacent to river bed in post monsoon period , so exploration is not required as low cost commodity minor mineral. Exploration will not be required up to the conceptual period of mining scheme.

**(i)** Mine area will be worked in blocks for ease of operation. However, as the digging depth will be restricted to 1.5-3.0 m only in river bed and material will still be available below. This will be further replenished during rainy season. Blocks will be worked systematically as the width is limited while length is much more.

**(ii)** Sequence of working has been shown on Plate no -4. As the mining contract period is only 09 years, some of the area will be left un-worked at the end of contract period.

##### **(iii) Final Slope Angle To Be Adopted**

Height of the bench is limited to 1.5-3.0 m only and width will be more than the height of the bench. Bank side natural slope will not be disturbed. This will prevent collapse of bank and erosion. During plan period workings will be carried out in the designated khasras only & workings will ensure safety, remove congestion of vehicles and will have better control and management. The final slope angle of the benches at conceptual stage will be  $30^{\circ}$  and haul road gradient will be maintained to 1:20. At plan and section at 283.5 mRL is shown on the **Plate no.6**

##### **(iv) Ultimate Capacity Of Dumps**

There will be no burden removal / generation during the plan period. Therefore no site is designated for dumps.

##### **a) Land use Pattern of Mining Area at Various Stages**

Land use pattern will be as follows:

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| Sr.No. | Particulars                                      | Present Land Use (ha) |
|--------|--|-----------------------|
| 1      | Restricted Safety Zone/7.5m mining area boundry, | 28.0                  |
| 2      | Infrastructure ( Office,temp. Shelters etc.      | 0.0                   |
| 3      | Area available for mining                        | 28.0                  |
| 4      | Un worked  | 16.44                 |
|        | Total  | 44.14                 |

#### LAND USE PLANING AT THE END OF LEASE PERIOD

| Sr.No. | Particulars   | At the end of 5th year (ha) |
|--------|---|-----------------------------|
| 1      | Safety Zone 7.5m mining area boundary, /restricted area | 28.0                        |
| 2      | Infrastructure ( Office,temp. Shelters etc.             | 0.0                         |
| 3      | Reclaimed area  | 0.0                         |
| 4      | Unworked  | 16.44                       |
| 5      | Plantation*(Out side )                                  | 00                          |
|        | Total   | 44.14                       |

\*Plantation in 3.0 ha land will be done under social forestry on restricted area/ lease boundary and land available from Panchayat by the end of mine life

\* Plantation & infrastructure In restricted area only

#### Generation of Top soil & its preservation

No top Soil will be available up to the conceptual period , if any negligible quantity will be used as and when required for plantation .

#### Post mining land use & reclamation:-

The reject and waste generation from year 2021-25 will be almost Nil/ negligible thus back filling will not be possible. However the plantation at green belt will be done at village area / roads and govt. premises .This will be undertaken under specific permission from the Govt. Department. About 4.0 hect. area will be covered under green belt plantation by local species.

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**Year wise plantation proposals for next three years.**

| Year         | No of plants | Area       | Survival rate | Species of plants   |
|--------------|--------------|------------|---------------|---|
| 2021-22      | 500          | 1.0        | About 90%     | Arjun,Karanj,Mango,Jamun, Imli, Peltafar, Acacia ,Kathal, Cenmia, Neem, Gulmohar, and other local species |
| 2022-23      | 500          | 1.0        | About 90%     | --Do--  |
| 2022-23      | 500          | 1.0        | About 90%     | --Do--  |
| 2024-25      | 500          | 1.0        |               |   |
| <b>Total</b> | <b>2000</b>  | <b>4.0</b> |               |   |

**PROTECTIVE WORK FOR ENVIRONMENT:-**

1. Mining will be carried out without disturbing the River Chanel Geometry, Bed Geomertry , Sub-stratum composition and tubidites .
2. All due care will be undertaken for in-stream biota, loss of riparian in stream biota .
3. No working shall be carried out along erosion site of river (Concave Sites) during the plan period
4. Water will be sprayed on haul road to arrest the dust particles.
5. Regular Air, water and noise monitoring will be done.
6. Plantation will be done to dampen the dust and noise.
7. Proper maintenance of all machinery will be carried to minimize the noise levels ,
8. Only trained operators will be allowed to operate,
9. All machines will be used at optimum capacity,
10. Loading and use of HEMM will be under the strict supervision of certified personals
11. Workers and operators working near machine sites will be provided with PPE's.
12. Mining will be restricted to 3 meter above the water in river channel
13. No aquatic flora and fauna will be disturbed

14. Pit slope will be maintained to 30° in view of loose mineral, it will be strictly ensured to maintain slope low for better safety to avoid failure of slope by mining.

15. Garland drain around the sand pit will be made and fencing will be carried out to prevent ingress of any unauthorized person etc.

16. Ear muff fitted Helmets & safety shoes will be provided to workers.

### iii.) EXTENT OF MECHANIZATION

In view to produce 16.0 million ton from the mining area the project proponent has already obtained the permission from DGMS to use heavy machineries .Following assumptions are considered for computation of mechanization:

| S.no. | Assumptions                         | Unit |
|-------|-------------------------------------|------|
| 1     | No. of shift per day                | 2    |
| 2     | No. of working day                  | 290  |
| 3     | Bulk density of sand/boulder/gravel | 2.0  |
| 4     | Availability of equipments          | 75%  |
| 5     | Fill factor of excavator bucket     | 0.80 |
| 6     | Hours of working per shift          | 6.00 |

### Loading /excavating equipments

The number of loading/excavating equipment as envisaged to be provided is given below in view of enhanced rock volume , the calculation in terms of adequacy of equipments are given below-

### Requirement of Excavators:

Annual proposed Sand production = 1440000 Tons

| S.No. | Particular               | Capacity           | No. |
|-------|--------------------------|--------------------|-----|
| 1     | Total no of working days | 290                |     |
| 2     | Excavators               | 2.0 M <sup>3</sup> | 7   |

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|   |                              |                    |     |
|---|------------------------------|--------------------|-----|
| 3 | Hydraulic excavator capacity | 2.0 M <sup>3</sup> |     |
| 4 | Dumper Capacity 25.0Tons     | 25.0Tons           | 193 |
| 5 | Water Tanker                 | 4000 liters        | 2   |
| 6 | Light vehicles               | 1                  | 1   |
| 7 | Maintenance van              | 1                  | 1   |

Thus 5shovels +1 standby will be required to meet the current production

### Requirement of Dumpers

The produced ROM shall be sold from the ex pit thus the trucks will be deployed as per the demand. As per targeted quantity 193 nos. of trucks of 25 Ton capacity per day will be required to transport the production

### C. List of Machineries owned by company

The Project proponent has deployed a fleet of heavy machineries, its capacity, make and no. are tabulated as under :

| Sr. No | Make          | Description   | Units |
|--------|---------------|---------------|-------|
| 1      | Local         | Water tankers | 1     |
| 2      | Ashok Leyland | Dumpers       | 193   |
| 3      | local         | Compressor    | 1     |
| 4      | Kirloskar     | Pumps         | 1     |
| 5      | Maruti        | Service van   | 1     |

The company has sufficient fleet of machineries to meet the production and development requirements. Additional machinery and trucks will be on hired basis as and when required.

### DRILLING & BLASTING

Not applicable

#### A. UNDER GROUND MINING

Not applicable, it is an open cast mine

### 3.0 MINE DRAINAGE

The River Yamuna flows from N to S which originates from the Himalayas provides the major drainage in the mining area. The general slope of the land surface is From E-W and elevation of the mining area varies from 220.0 mRL in the north end side of the mining area to 209.0 mRL in south end side of the mining area. There is flow of water in the river bed in a narrow area in post monsoon period. Area is having 1067 mm rainfall in a year. During rainy season, catchment water flows in the river. During dry period the Sand is excavated which gets replenished during rainy period. No mining activities will be carried out during rainy season when there is water flowing in the working area. There will be no intersection of water table as working will be carried out upto 3.0 m depth only from surface of river bed while the water level is 5 -10 m below the surface of river bed.

#### 3.1 Drainage around and within mine:

The mining area will become a depression, which warrants accumulation of water during rainy season. The pit will become a depression and will help in faster recharge of water in the aquifer

#### 3.2 DEWATERING:

Since the depth of mining proposed is only 1.5-3.0 meters near the river bed, the same being above the water table of the area, there will be no chance of encountering the ground water table during the mining operations. No dewatering of the ground water is proposed.

#### 3.3 Water Requirement

The requirement of water for the project will be as under and it will be sourced through hired tankers and locally tube wells

| Sr.no | Activity         | Requirement in KLD | Source        |
|-------|------------------|--------------------|---------------|
| 1     | Dust suppression | 10                 | Hired Tankers |

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|   |              |           |               |
|---|--------------|-----------|---------------|
| 2 | Drinking     | 4         | Hired Tankers |
| 3 | Green belt   | 5         | Hired Tankers |
|   | <b>Total</b> | <b>19</b> |               |

**a) Minimum and maximum depth of water table based on observations from nearby wells and water bodies**

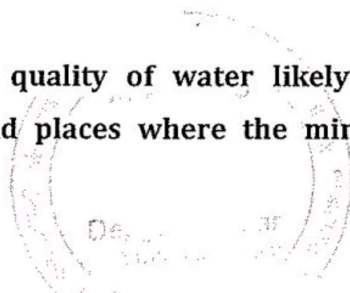
The River Yamuna flows from N to S which originates from the Himalayas provides the major drainage in the mining area. The general slope of the land surface is From E-W and elevation of the mining area varies from 220 mRL in the north end side of the mining area to 209 mRL in south end side of the mining area. The proposed production for the five years is @ 14,40000 TPA. The ultimate pit limit is 3 m bgl or 2 meter above water table whichever comes first

There is flow of water in the river channel in a narrow area in post monsoon period. Area is having 1067 mm rainfall in a year. During rainy season, catchment water flows in the river. During dry period the Sand is excavated which gets replenished during rainy period. No mining activities will be carried out during rainy season when there is water flowing in the working area. There will be no intersection of water table as working will be carried out upto 1.5-3.0 m depth only from surface of river bed while the water level is 5 -10 m below the surface of river bed.

**b) Indicate maximum and minimum depth of Workings.**

During the plan period the depth of mining at the end of year 2021-25 working will be up to 213 mRL, i.e 3 mtr above from ground water level So water level will not be intersected

**c) Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged**



50

The quality of water analyzed is observed with in permissible limit. No toxic elements have been observed in the water. The water is drinkable and potable. Water quality report is enclosed herewith as **Annexure -9**.

**d) Describe regional and local drainage pattern. Also indicate annual rain fall, catchments area, and likely quantity of rain water to flow through the lease area, arrangement for arresting solid wash off etc.**

The area does not have any other source of water except river or manmade (Public water supply system), so the Rain water is the only source of water to meet the domestic and industrial need of company establishments.

#### **4.0 STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE**

**a) Indicate briefly the nature and quantity of top soil, overburden / waste and Mineral Reject to be disposed off.**

Type of waste generated during the year.

1. No top Soil found in area.
2. Mineral sand consisting of rounded to sub subrounded fine rock of sub Himalayan region .
3. No mineral subgrade / Reject found in the river bed

**b) The proposed dumping ground within the lease area be proved for presence or absence of mineral and be outside the UPL unless simultaneous backfilling is proposed or purely temporary dumping for a short period is proposed in mineralized area with technical constraints & justification.**

No external sand/gravel is dump is proposed. All the waste & OB will be dumped at periphery for temporary period in the lease area. After complete exhaustion of mineral in the area backfilling will be done with the available waste and plantation will done by spreading top soil over it.

**Maximum Height & Spread of the Dump :**

During plan period no waste dump shall be made, the waste generated during period of mining scheme shall be used in selling as associated mineral as per permission granted by Mines department .

**c) Attach a note indicating the manner of disposal of waste, configuration and sequence of year wise build up of dumps along with the proposals for Protective measures.**

It will not be required no OB /waste will be generated . all mineral is saleable .

**5.0 USE OF MINERAL AND MINERAL REJECT**

**a) Describe briefly the requirement of Mineral :**

The main mineral is sand , Boulde and Gravel hence the entire mineral sand of this mine is used for construction purpose only and source material for production of sand aggregates of different sizes .

**b) Give brief requirement of intermediate industries involved in upgradation of mineral before its end-use.**

Not applicable

**c) Give detail requirements for other industries, captive consumption, export, associated industrial use etc.**

The sand produced from the mine is being used in the manufacturing of aggregates by crushers , which are located near by the lease area.

**e) Give details of processes adopted to upgrade the ROM to suit the user requirements.**

Not applicable

**6.0 PROCESSING OF ROM AND MINERAL REJECT**

**a) If processing / beneficiation of the ROM or Mineral Reject is planned to be conducted, briefly describe nature of processing / beneficiation. This may indicate size and grade of feed material and concentrate (finished marketable product), recovery etc.**

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The overall quality of ROM sand is suitable for manufacturing of sand aggregate purpose and filler purpose. no sand will be sub grade , The sand will be crushed to supply for a specific size to the customers ,hence beneficiation / processing will be required .As masonry sand is low cost mineral Thus no beneficiation investigation has been proposed.

#### **6.10 EXISTING METHOD OF BENEFICIATION:**

**Crushing:** There is no mineral crushing , screening and beneficiation facility set up with the mine lease area M/S Yodha Mines and Minerals has planned sell ROM to nearby construction sites .

**b) Give a material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing.**

All sizes of crushing will be saleable including fine dust .thus 100 % ROM and processed material will be balanced, no loss is anticipated .

**c) Explain the disposal method for tailings or reject from the processing plant.**

Not anticipated tailing or rejects

**d) Quantity and quality of tailings /reject proposed to be disposed, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailings dam.**

Not applicable

**e) Specify quantity and type of chemicals if any to be used in the processing plant.**

Not applicable

**f) Specify quantity and type of chemicals to be stored on site / plant.**

Not applicable

**g) Indicate quantity (cum per day) of water required for mining and processing and sources of supply of water, disposal of water and extent of recycling. Water balance chart may be given.**

Total water requirement for the proposed working will be 40KLD per day for dust suppression and drinking purpose , as such there is no tailing /waste water discharge . Water balance chart is attached as **Annexure- 12**. The Permission Consent to establish and consent to operate have been obtained from HSPCB .Govt. of Haryana.

## 7.0 OTHER

### a) SITE SERVICES

(A) A well constructed mine manager office, stores, First aid center, rest shelters, toilets, drinkable water facilities, canteen facilities and workshop have already been provided for this lease area and within the adjoining lease area of 300 meters . Proper space is available to keep the registers and records during working hours.

(B) visiting doctor facility is provide located in the plant area, So only first aid kits & first aid box are proposed at mine site for giving first aid to the injured persons if, any. Record of pre and during medical examination is kept, and no health hazard is found during the mining working

(C) A well equipped workshop and repair facilities are available for carrying out preventive maintenance, minor and major repairs, rebuilding and complete overhauling of mining equipment.

(D) Permanent facility for workmen, guest houses are within 5 km from Pichopa mine site .Further additional all facilities, Gramin bank, post office, hospitals etc are available at Jainpur and Yamunnagar .

### b) EMPLOYMENT POTENTIAL

Following statutory and workmen employed are employed at the mine in site two shift working

| S. No.       | Category               | Numbers   |
|--------------|------------------------|-----------|
| 1            | Mines Manger           | 1         |
| 2            | Foreman/mates          | 4         |
| 3            | Skilled personnel      | 20        |
| 4            | Semi-skilled personnel | 20        |
| 5            | Unskilled              | 8         |
| <b>Total</b> |                        | <b>53</b> |

The excising man power will remain continue and additional man power will be deployed as per requirement.

### **8.0 PROGRESSIVE MINE CLOSURE PLAN UNDER RULE 27 OF MCDR' 2017**

This is an existing area being worked by mechanized way, in lease area of 48.60 hect. falls in Topographic sheet no. H43W2 falling near village Kanalsi, District Yamunanagar .A key plan of lease area and surrounding area with 5.0 kms radius is marked .The total lesase area is barren land as per revenue records of the mine. There is no protected forest, reserve forest and archeological monument in the granted area..The same has been recovered and being used under due permission from the state govt.

### **REVIEW OF IMPLEMENTATION OF MINING PLAN INCLUDING FIVE YEAR PROGRESSIVE CLOSURE PLAN UP TO FINAL CLOSURE OF MINE**

**8.1 Reason of closure:** It is a granted area and minerisation is replenished every year so during plan period closure action is not proposed. Unrestricted area is back filled with minerals and closure is not proposed considering mineral conservation and extraction.

#### **8.1.1 Statuary obligation:**

1. The project proponent is working while taking all safety measures and compiling all statutory obligations of MMR 1961, MMDR ACT.1957,IE Act. 1884 and Air(prevention and control of pollution ) Act.1981 and water (prevention and control of pollution) Act.1981 etc.
2. The mining contractor is bound to submit the Progressive mine closure plan either with Mining plan or Scheme of Mining.
3. Mining contractor is bound to follow the terms and conditions as will be stipulated in the mining contract.
4. In addition to it the rules pertaining to the Protection of Environment i.e Environment Act. Environment Rules and other associated rules for the protection of environment will have to be followed.

5. During the course of mining the rules stipulated in Mines Act, Mines rules Metalliferous Mines Regulation 1961 and HMMCR.2012 will be followed.

6. All other rules pertaining to the mining existing at that time will be followed during the course of mining activities.

### 8.1.2 Closure plan preparations

Name, address and registration number of the recognized persons who prepared the progressive closure plan and name and address of the executing agency who is involved in the preparation of progressive mine closure plan.

**Kireet Acharya**

**Regd. No RQP/AJM/230/2003/A (Annexure-13)**

8.1.3 Regional Geology local geology Reserves and Method of mining already described

**8.1.3 Environment Base line information:** Details of status of baseline Information with regard to Existing land use pattern indicating the area degraded due to mining, roads, processing plant, workshop, township etc are shown in tabular form.

### 8.1.4 EXISTING LAND USE PATTERN

The lease area is falling in govt. land (44.14 hect.), others type of land is not found in the area . total lease area the mineralized area and part of area is broken for mining purpose .The present land use pattern of the lease area is tabulated as follows: -

| Sr.No. | Particulars                                      | Present Land Use (ha) |
|--------|--|-----------------------|
| 1      | Restricted Safety Zone/7.5m mining area boundry, | 4.0                   |
| 2      | Infrastructure ( Office,temp. Shelters etc.      | 0.00                  |
| 3      | Area available for mining                        | 28.0                  |
| 4      | Unworked   | 16.4                  |
|        | Total  | 44.40                 |

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#### LAND USE PLANING AT THE END OF LEASE PERIOD

| Sr.No. | Particulars                                 | At the end of 5th year (ha) |
|--------|---|-----------------------------|
| 1      | Safety Zone/7.5m mining area boundry,       | 4.0                         |
| 2      | Infrastructure ( Office,temp. Shelters etc. | 0.00                        |
| 3      | Reclaimed area                              | 28.0                        |
| 4      | Unworked                                    | 16.40                       |
| 5      | Plantation*                                 | 0.0                         |
|        | Total                                       | 44.40                       |

Plantation\* 4.0 Ha. out side along road, village

\*Plantation in 4.0 ha land will be done under social forestry on land available from Panchayat by the end of mine life

\* Plantation & infrastructure In restricted area only

#### 8.1.2 Water regime

The area constitutes almost alluvial plain without any conspicuous topographical features and forms a part of the vast Indo-Gangetic plain. The elevation of the area above mean sea level is about 215 MSL. The general slope of the area is southwards. Area is having 1076 mm rainfall in a year. During rainy season, catchment water flows in the river.

There will be no intersection of water table as working will be carried out upto 3.0 m depth only from surface.

#### 8.1.3 Water Quality

The area constitutes almost alluvial plain without any conspicuous topographical features and forms a part of the vast Indo-Gangetic plain. The elevation of the area above mean sea level is about 2156 m aMSL. The general slope of the area is southwards. Area is having 1076 mm rainfall in a year. During rainy season,

catchment water flows in the river. There will be no intersection of water table as working will be carried out upto 1.5- 3.0 m depth only from surface.

#### **8.1.4 Quality of air, ambient noise level.**

The air noise level is much below the permissible level. Quality of air, water & Noise is monitored regularly at defined stations. The results of the study show that the observed values of base line information are within limits with reference to standard parameters. Air, water & Noise monitoring reports are enclosed as **Annexure-8-11**.

#### **8.1.5 Air Quality Management:**

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face mask, ear plug/ muffs.

For air pollution management at the progressive mine closure of mine, green belt will be developed to prevent and control air pollution.

#### **8.1.5. Waste Management:**

As stated in mining method, there will be no waste of any kind. Therefore no waste management s required.

#### **8.1.6 Top Soil Management**

There will be no top soil in the river bed. Therefore no top soil handling is needed.

#### **8.1.7 Tailing dam management**

There is no proposal of beneficiation of mineral. No tailing dam is envisaged.

#### **8.1.8 Infrastructure:**

The infrastructure facilities like site office, first -aid station, rest shelter/ store, drinking water etc. will be established temporarily. At the time of closure there will be no problem to remove the same from the lease area.

#### **8.1.9 Disposal of mining machinery:**

Machinery is proposed on hire basis. Hence no decommissioning of mining machinery is proposed.

#### **8.1.10 Safety & Security:**

1. Safety measures will be implemented to prevent access to excavation area by unauthorized persons as per Mine Act 1952, MMR 1961.

2. Safety measures will be implemented as per Mine Act 1952, MMR 1961, Mines Rules 1955.
3. Provisions of MMR1961 shall be followed strictly and all roads shall be 10 m wide and have a gradient of not more than 1 in 20.
4. Excavation will be not more than 3 m in river bed ..
5. Width of bench will be kept around 20.0 m for ease of operations and provide sufficient room for the movement of equipments.
6. Protective equipment like dust masks, ear plugs/ muffs and other equipments shall be provided for use by the work persons.
7. Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
8. Danger signs shall be displayed near the excavations.
9. Security guards will be posted.
10. In the event of temporary closer, approaches will be fenced off and notice displayed.

#### **4.10 Disaster Management and Risk Assessment:**

This should deal with action plan for high risk accidents like landslides, subsidence, flood, inundation in underground mines, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of lessee to meet such eventualities and the assistance to be required from the local authorities should be described.

- The shallow depth of activities outside the river bed mining will not involve any high risk accident due to side falls/collapse.
- There will be no mining whenever there is flow of water.
- The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Haryana Minor Mineral Concession rules , Mines Act 1952, MMR 1961 and Mines Rules 1955, and other laws applicable to mine will strictly be complied with.
- During heavy rainfall the mining activities will be closed.

- All persons in supervisory capacity will be provided with proper communication facilities.

Competent persons will be provided First Aid Kits which they will always carry.

#### **8.11 Care and Maintenance during Temporary Discontinuance:**

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

Mine roads and approach roads,

Fencing on approach roads,

Checking and maintenance of machines and equipment,

Drinking water arrangements,

Mine office, first aid stations etc.

- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

#### **8.2 IMPACT ASSESSMENT:**

### 8.2.1 Land area indicating the area likely to be degraded due to quarrying, dumping, roads, workshop, processing plant, tailing pond/dam, township etc.

Due to mining activities, the present land use pattern will be definitely change, the land will be degraded as pit size will increased & waste removed during mining operation will be systematically backfilled with the balance waste .The disturbed area due to mining , transportation , and temporary infrastructure will be levelled and put use for regressing as per MoEFCC notification 2020

Land use pattern after end of the four year scheme period will be as follows.

| S no. | Particulars   | Area put on use at end of mining scheme |
|-------|---|---|
| 1     | Area under reclamation                                  | 28.0                                    |
| 2     | Storage for top soil                                    | 0.00                                    |
| 3     | Waste dump  | 0.00                                    |
| 4     | Mineral storage   | 0.00                                    |
| 5     | Infrastructure -workshop, Administrative, building etc. | 0.00                                    |
| 6     | Roads   | 0.00                                    |
| 7     | Railways  | 0.00                                    |
| 8     | Tailing pond  | 0.00                                    |
| 9     | Mineral Separation Plant                                | 0.00                                    |
| 10    | Afforestation   | 0.00                                    |
| 11    | Restricted area   | 0.0                                     |
| 12    | Others (Green belt )                                    | 0.0                                     |
| 13    | Undisturbed area  | 16.4                                    |
|       | <b>Grand Total</b>                                      | <b>44.40 hect.</b>                      |

The likely depth of the pit at the end of mining scheme period will be up to 213 mRL.

### 8.2.2 Impact on Air Environment

The mining activity does have some impacts on air quality. The major contribution to the air pollution by sand mining is the rise in Suspended Particulate Matter (SPM) due to generation of dust by movement of fleet of dumpers, trucks, jeep etc. Transportation

will also give rise to generation of NO<sub>x</sub> and SO<sub>2</sub>. Heavy vehicles cause emission of NO<sub>2</sub>, SO<sub>2</sub> and CO. To prevent air born particles at the time of loading water spraying over haul road will be done . Within sand mining pit area where water sprinklers are not installed, water spraying by water tankers are done to prevent dust generation. Periodical Air sampling and analysis is done by NABL labs and the results are within the range. (Annexure-8)

### 8.2.3 Impact on Water Environment

The mining operations will not interfere with natural drainage pattern and river channel will not be obstructed in any case .

The water will pass freely during rainy season through broken block area and backfilled by sand and gravel .No waste dumps are there thus the quality of water and mineral will be deteriorated. In absence of toxic minerals, the quality of water will not get any adverse impact.

In order to avoid soil erosion & carry-over of the material with rain water, bank slope is kept to 30°, which is on quite safer side . Rain water from pits , river channel , pit sumps, shall be not pumped out and no water reservoir shall be made .Water in small quantity shall be brought through the open aqua duct. The water will seep to river channel owing to high porosity and permeability of sand and gravel . Thus there will be no loss of water Periodical water sampling and analysis is done by NABL labs and the results are within the range.(Annexure -9)

### 8.2.4 Impact on Noise levels

In Mine area noise level will be is increased by movement of dumpers , loading of minerals by excavators , and Movement of LMVs etc. The noise level in the working environment are compared with the standards prescribed by Occupational Safety and Health Administration (OSHA-USA) which has been adopted and enforced by the Govt. of India through model rules framed under Factories Act. These standards have been established with emphasis on reducing the hearing loss and consequential effects. The summary of the permissible exposures in cases of continuous noise as per above rules is give below:-

Noise at lower levels (sound pressure) is quite acceptable and does not have any bad effect on human being but when it is abnormally high, it incurs some maleficent effects on human beings. Sufficiently loud noise may cause the following adverse effects:-

- (i) Damage hearing and health,
- (ii) Interfere with work task,
- (iii) Interfere with speech communication,
- (iv) Cause irritation,
- (v) Affect inter-room privacy,
- (vi) Interfere with sleep,
- (vii) Cause annoyance,

Noise survey is done regularly. Report of Noise survey is attached All the HEMM operators have been provided with ear muff mounted Helmet, also they have been trained & motivate to use them. Periodical Noise monitoring is being done by NABL labs and the results are within the range .(Annexure -10).

#### 8.2.5 Vibration levels (due to blasting)

No blasting will be there and movement of heavy machinery will cause vibration effect negligible. It is not proposed to periodically measure / monitoring of ground vibrations, ..

#### 8.2.7 Impact on Acid mine drainage

No acid mine drainage is expected.

#### 8.2.8 Impact on Surface subsidence

No surface subsidence is expected.

#### 8.2.9 Impact on Socio-economics

The mining of sand and Gravel will promote the construction activities in the region and will create direct and indirect employment opportunities to 500 peoples. It has not only helped in improving and developing the infrastructure of the area but also changed the economic pattern of the area. M/S Yodha Mines and Minerals Company

has made provided renal accommodation to employees with all basic amenities. Plantations , light and drinking water and coolers are provided under, Schools, post office, bank, hospitals, shopping center, facilities are available at Nearby village .

Due to mining activities no evacuation of human settlement is involved. The mining operations will not cause any adverse impact on socio economic environment of the area. The Social & Demographic Profile of the area improves by having an economic activity near the villages by direct and in direct jobs.

#### 8.2.10 Historical monuments etc.

There is no historical monument, place of worship falls in the buffer and core zone .

### ENVIRONMENT MANAGEMENT PLAN

#### 9.0 MEASURES TAKEN AND TO BE TAKEN FOR LAND RESTORATION, RECLAMATION AND PLANTATION IN/ OR NEARBY MINING AREA

- Envisaged mining operation will be carried out in the River bed only. There will be no mining activities when there is flow of water in the working zones. During rainy season, the activities will be stopped, if there is flow in the mine.
- Besides resource extraction, following activities will be kept in view:
  - a) Protection and restoration of ecological system
  - b) Prevent damages to the soil erosion in the nearby areas by making soil bund on the lease boundry
  - c) Protect riverine configuration such as bank erosion, change of water course gradient, flow regime etc.
  - d) Prevent contamination of ground water

#### Safeguard Measures

While carrying out mining activity following measures will be taken:

- Mining activities will be carried out only in dry bed. No in stream mining will be practiced.
- Identification of river stretches for mining will be completed.
- There will be no mining near the banks and same would be restricted with central 3/4th of the river bed. This is to protect the bank erosion and river migration.
- Mineral Sand from river will be restricted to a maximum depth of 3.0 m from the

existing bed level. This is for safety and sustainability.

- As the mining area is quite large and long in length, systematic extraction will be carried out to prevent seasonal scouring and enhanced erosion.
- Extraction will be carried out in a manner that there is no obstruction to flow of water, if any, during rainy season.

Mining on the concave side of the river channel would be avoided to prevent bank erosion. Similarly meandering segment of river will be selected to prevent natural eroding banks and to promote mining on natural building (aggrading) meanders component

Reclamation of Mined out Area (plate no.5)

There is no generation of OB/ waste material in case of river bed mining. No backfilling has been proposed in the excavated zone in river bed. River bed will be replenished by sediments during rainy season.

### 9.1 GREENBELT DEVELOPMENT

In order to restore the environment and ecological balance in the area affected by mining, a forestation is considered to be an effective measure. Afforestation is a major thrust area in pollution control of mining. Afforestation is suitable for detecting, recognizing and reducing air pollution effects. Tree functions as sinks of air pollutants, besides their bio-aesthetical values, owing to its large surface area. The green belt supplements Oxygen to the atmosphere and combat air pollution effectively and aesthetic beauty and landscape of the area improves. It also checks soil erosion and make eco-system and climate more conducive.

Following factors will be considered while selecting species for plantation:-

- i) Fast growing plant species shall be preferred.
- ii) The plant will be of deep rooting system.
- iii) The plant will be perennially green to improve aesthetic beauty of the area.
- iv) The plant species will be adoptable to the local climatic conditions.
- v) Native plant species will be planted.

Forestation programme shall be carried out basically, along the mine boundaries and roads as permitted by land owners. The mining area is devoid of any vegetation, will

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not cause any harm to riparian vegetation cover. It is proposed to have plantation on both sides of the roads as greenbelt to provide cover against dust dissemination. Plantation will also be carried out as social forestry programme in villages, school and the areas allocated by the Panchayat/ State authorities.

Native plants like Neem, shisham, , Mango and other local species will be planted. A suitable combination of trees that can grow fast and also have good leaf cover shall be adopted to develop the greenbelt. It is proposed to plant 2000 no's of native species along with some fruit bearing and medicinal trees during the plan period.

#### YEAR WISE GREENBELT PROGRAMME

| Year    | Proposed trees nos. | Survival 80 % | Species  | Place of Plantation  |
|---------|---------------------|---------------|--|--|
| 2021-22 | 500                 | 400           | Neem, , Mango, Shisham, Sirish, Babool, Gulmohar | Along the roads, in schools and public building and other social forestry programme. |
| 2022-23 | 500                 | 400           |  |  |
| 2023-24 | 500                 | 400           |  |  |
| 2024-25 | 500                 | 400           |  |  |
| Total   | 2000                | 1600          |  |  |

#### 11.0 MEASURES TAKEN AND TO BE TAKEN FOR PROTECTION OF ENVIRONMENT IN AND AROUND MINING AREA

- Mining activities will be confined to 3.0 m depth .
- All link roads from the mining area to the tar road will be properly sprayed with water for dust suppression.
- Greenbelt and plantation on road side will help in dust suppression and will also reduce noise level.
- Plantation will improve ecology and aesthetic beauty of the area
- Measures will be taken to prevent the workings from extending in safety zones, cutting the banks and exceeding 3.0 m depth limit from the river bed surface.

## **12.0 MEASURES TAKEN AND TO BE TAKEN FOR DUMPING OVERBURDEN, STACKING OF TOP SOIL AND UTILIZATION OF TOP SOIL**

There is no top soil in the river bed mining. If any soil is required to be removed the same will be used to strengthen the river banks.

## **13.0 MEASURES TAKEN AND TO BE TAKEN FOR THE CONTROL OF WATER, NOISE AND AIR POLLUTION**

Air Pollution:

Emission of gases and dust takes place due to movement of vehicles. Spraying of water and plantation along the road side prevents the spread of dust. Plantation also acts as barrier for restricting pollution. Impact on air environment has been assessed taking in to consideration the proposed production and increase emissions. The sources of air pollution are given below:

- Operation of mining machinery/ loading operations
- Transportation of mineral
- Wind erosion from barren area and river bed
- Emission of gases and dust due to movement of vehicles

### **MEASURES FOR DUST SUPPRESSION & CONTROL OF AIR POLLUTION:**

Control of Air Pollution Due To Dust, Exhaust Emissions or Fumes During Mining or Processing Operations For Minor Mineral & Related Activities and Containing the Same Within Permissible Limits Specified Under : -

1. Plantation road side as it will prevent the spreading of dust.
2. Water spraying will be done twice in a day over the haul road & roads leading to adjoining state roads.
3. Dust respirators will be provided to the operators of the heavy earth moving machineries.
4. Preventive maintenance shall be carried out of equipment.

5. At every work place where, the air borne dust generated, to be sampled and the concentration of the respirable dust will be determined regularly. If any measurement at any workplace and at source, the concentration in excess of 50% or 75% of the available concentration of permissible limit then measurements shall be carried on, at intervals not exceeding 3 months or 1 month respectively.
6. Silencers will be fitted to the dumpers.

The following table indicates the concentration of Ambient Air as per the CPCB guidelines:

Air pollutants released during production can be checked by:

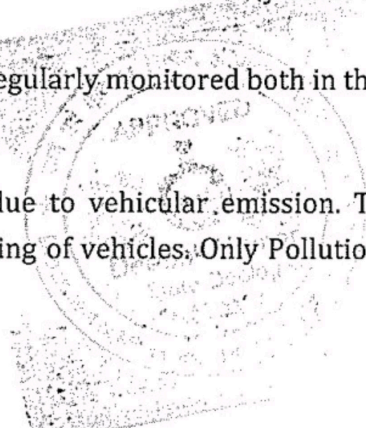
- Dust suppression system/ water spraying would be adopted at mine working and loading points
- Excavation operations to be suspended during very strong wind conditions
- Afforestation will be carried out for control of dust
- Plantation with wide canopy trees along approach road will help in dust suppression
- Persons to be provided with dust mask and other personal protective equipments, particularly during summer months and dust storm periods

Transportation

- Regular water spraying on haulage roads during mineral transportation by water sprinklers,
- Avoid over loading of tippers & consequent spillage on the roads,
- Mineral carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to atmosphere,
- Air quality shall be regularly monitored both in the core zone and the buffer zone.

Controlling of NOx level

The source of NOx is due to vehicular emission. This can be controlled by proper maintenance and servicing of vehicles. Only Pollution under control certified vehicles will be permitted



### **Noise Pollution**

There is no drilling and blasting for mineral extraction. Noise pollution due to transportation will not cause any problem to the inhabitants of this area because there is no human settlement in close proximity to the link roads in mining area. Effective steps will be taken to keep the noise level well below the DGMS prescribed limit of 85 dBA.

Noise control is achieved by the following:

- Proper care and maintenance of the equipments will be carried out.
- Personal protective equipments will be provided to the workers.

### **15.0 DETAILS OF HEALTH CHECKUP AND INSURANCE OF ALL THE EMPLOYED PERSONS (FOR EXISTING MINING AREA)**

The lease will comply with the recent provisions of medical examination as per Mines Rule 1955 both at times of appointment and at least once in five year. Medical camps will be organized for this activity. Necessary record and return will be sent to respective authorities Insurance of all employees as per the rules will be carried out.

#### **15.1 Corporate Social Responsibility**

As a corporate responsibility following measures along with budget provision is proposed for improving the conditions of persons in and around the project area:

The Yamuna nagar district of Haryana State is relatively less developed in respect of employment and facilities. Thus, it can be seen that the proposed project offers good potential for the local people for employment directly and indirectly. The Project Affected Persons, if any, of the lease area will be provided with compensation or job or indirect employment such as business, contract works etc. With the starting of mining operation, employment/business opportunity will increase and welfare amenities such as free medical facilities, conveyance, school, free education, drinking water supply etc will be available for the area.

The details of benefits to the people in the adjoining villages are discussed here under:

**a) Employment**

From the study of socio economic environment at the study area it is quite evident that the area is not quite developed as far as job opportunities and living standard of the population is concerned. Apart from cultivation, agriculture, etc mining, industries and ancillary activities play an important source of livelihood in this as well as adjoining districts.

With the start of mining operations, various employment opportunities will be generated. Several persons will be benefited with mining works, employment through contractor, running of jeep and buses, canteens, different kind of shops and transport related business avenues.

**(b) Educational facilities**

Industrial on-job training will be provided to the interested local people and the trained people will be absorbed in jobs as per the requirement of the project. Proponent will also provide full cooperation and monetary assistance for adult education programme. Other activities proposed are :

1. Targeted programmes for primary education for specially girl child
2. Augmentation of infrastructure and equipments, furniture, blackboard, toilets etc in schools
3. Scholarships to meritorious students
4. Adult education & awareness about saving & investment plans.
5. Partnerships in state sponsored education programmes
6. School wall boundary maintenance
7. Existing govt. school strengthening by boundary wall construction, construction of toilets, roof repair, drinking water taps, etc.

**Capacity building activities such as following will be undertaken:**

1. Scholarship for ITI training outside for 10 persons
2. Sponsorship of land losers / wards for full term courses
3. Short term courses for skill up gradation
4. Vocational training (dairy, poultry, bee keeping, sericulture)
5. Specific Programmes for Ladies (stitching, embroidery, tailoring etc)

**(c) Medical facilities**

Project shall provide aid to improve the existing medical facilities in the villages and also improve awareness and provide sufficient training in hygiene, sanitation and proper diet. Some of the activities that can be carried out are as follows:

1. Mobile Clinic with testing and diagnostic facilities
2. Health Camps for Family Planning, HIV/AIDS and other communicable diseases.
3. Addressing local health related issues through audio visuals and group meetings
4. Subsidized treatment in hospital with which tie-up will be there
5. Specific Programmes for hygiene and sanitation
6. Helping aids to each category of physically challenged as per requirement
7. Eye camps to address the issue of cataracts specially

**(d) Infrastructure facilities**

Infrastructure facilities like road, Post & Telegraph, Telephone, Banks etc are basics for each and every area. These facilities are already well developed in the surrounding areas. The lessee will take various steps for upliftment of the basic amenities of the area by providing drinking water, communication facilities, etc. Construction of roads, drainage, community halls, school buildings, health centers, street lighting, equipments to educational institutions, public utilities, sanitation facilities, etc in nearby area will be undertaken.

**15.2 Fund Provision for Environmental Management**

It is proposed to create an Environment Management Fund. The contractor shall deposit/pay an amount equal to 10% of the due contract money along with installments towards the 'Mines and Minerals Development, Restoration and Rehabilitation fund.

### **8.3 PROGRESSIVE RECLAMATION PLAN:**

As the mineral potential will be a continuous process every year in the area and none of the part is will be left as void/ depression available for reclamation . , under the circumstances the back filling and progressive reclamation plan is not feasible.

#### **8.3.1. Mined-Out Land:**

Backfilling by fresh mineral sand will be resume with natural flow of river water during the plan period so manual / mechanized process will not be involved

#### **8.3.2 Topsoil Management:**

There is no topsoil available in the area. Hence, no stock will be maintained. if soil observed in any part shall be scrapped and shall be collected and stacked separately to be used in plantation.

#### **8.3.3 Tailings Dam Management:**

Tailing dam is not required and not proposed in the mining plan hence this para does not apply.

#### **8.3.4 Acid mine drainage, if any and its mitigative measures.**

No acid mine drainage is expected, hence no management required.

#### **8.3.5 Surface subsidence mitigation measures through backfilling of mine voids or by any other means and its monitoring mechanism.**

Not Applicable

#### **8.3.6 Information on protective measures for reclamation and Rehabilitations work -**

Plantation programme is proposed a long haul road, office, nearby roads and nearby villages outside the lease area for year 2021-2025. Green belt plantation covering an area 4.0 hectares will be carried out on along the 7.5 meter periphery of lease area and afforestation of 4.0 hectares is proposed along the haul road , office ,workshop area

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| Year         | No of plants | Area       | Survival rate | Local Species of plants  |
|--------------|--------------|------------|---------------|--|
| 2021-22      | 500          | 1.0        | 80%           | Neem, kikar ,Kikar kabli ,siras, pipal ficus , cicus, hareda, badberi , Sisam, or any other local species in consultation of forest office |
| 2022-23      | 500          | 1.0        | 80%           |  |
| 2023-24      | 500          | 1.0        | 80%           |  |
| 2024-25      | 500          | 1.0        | 80%           |  |
| <b>Total</b> | <b>1500</b>  | <b>3.0</b> |               |  |

### 9.3.7 Regrassing proposal

The area after mining activity will again be backfilled by fresh sand and gravel every year , thus the regressing will be done over it . The back filled area and undisturbed area will be taken up for plantation and regressing as MoEFCC notification dated 16.1.2020 for the growth of grass ,fodder in the mining area

The project proponent shall after ceasing the mining operations undertake regressing in the mining area and any other area which may have been disturbed due to their mining activities and restore the land to the condition which is fit for the growth of regressing, fodder for flora and fauna etc .Necessary undertaking shall be given by project proponent to Mines and Geology Department ,Haryana .

### 8.4 Disaster Management and Risk Assessment:

The topography of the area is such that, there are no chances of landslide, subsidence, inundation, fire, and seismic activities. No tailing dam exists in the area, so there is no chance of failure of this. The management of M/S Yodha Mines and Minerals is fully capable to handle risk assessment and disaster management. The mining activities in the lease area are proposed as per regulations of the MMR-1961. First aid facilities are available at the mines site office. Competent persons (first aid trained) appointed as mining mate, Manager will provide first aid to injured person, if any. Trained persons kept first-aid kits with them. Transportation facilities for the injured persons are available at site for this purpose. Hospital facility is located in the colony at about 5.0 from lease area, Communication facility is available at mine.

#### In an emergency following person may contact.

1. Shri Pradeep Ahlawat (Authorized person)

M/S M/S Yodha Minea and

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minerals

Sonipat

Mobile no. 8397800000

2. Mines Manager

M/S Yodha Minea and minerals

Village -Jainpur ,unit-2

Distt. Sonipat , State -Haryana

#### **8.5 CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:**

In case of any temporary discontinuance of the mining activities, the guards will watch & ward to prevent any in advert entry of the unauthorized person also All entries to the mine shall be properly closed. The duty & responsibility of mines manager is to visit all sites & to check, the fencing, waste dump etc. during the working & in the period of the temporary discontinuance of the mining activities. the infrastructure facilities will continue to be used to maintain in safe working.

#### **8.6 OCCUPATIONAL HEALTH AND SAFETY**

The lease will comply with the recent provisions of **OSHW code- 2020** for contract workers also to medical examination in addition to as per Mines Rule 1955 both at times of appointment and at least once in year. Medical camps will be organized for this activity. Necessary record and return will be sent to respective authorities Insurance of all employees as per the rules will be carried out.

To prevent the occupational disease / health hazards, suitable measures are proposed in drilling & excavation operations. This will prevent the inhalation of the dust by the workers. The workers will be periodically medically examined under Rule 29(b) of Mines Rule. If any worker found to have contracted with any occupational disease, he will be immediately removed from the affected area and will be provided with proper medical care as per provision of Mines Rule.

In case of any injury to the worker during work, the following measures will be taken:

- (i) The workers will be immediately provided the first aid by a trained worker.

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(ii) For safety practices during mining, the workers will be provided proper safety wearing and equipments such as hand gloves, safety boots, helmets, earplugs and life jackets etc.

(iii) A First Aid Box will always be provided to the mining mate/ mines foreman, to attend minor injuries.

All the workers will be given vocational training every year on safety aspects in mining by the trained Vocational Training Officers. Apart from this all safety precaution will be taken as per Act, Rules, Regulation and Byelaws made there under.

### **8.7 ECONOMIC REPERCUSSION OF CLOSURE OF MINE AND MANPOWER RETRENCHMENTS**

Mining contract area is granted for a period of 09 years only. As per the production programme envisaged, at the end of contract period, still sufficient Replenished un-worked area would be left available for continuing production activities , Hence, closure is not planned. There will be no affect on the man power as the persons belong to nearby villages and will have an option either to be available for employment for the next contract or do the agriculture in their fields.

### **8.8 TIME SCHEDULING FOR ABANDONMENT**

The mining area has enormous potential for continuance of operations even after the expiry of the awarded period. The details of time schedule of all abandonment will be given at the time of final closer plan. Mining activities are confined 3.0m. depth, relatively shallow depth of workings which will be reclaimed every year during rainy season.

### **8.9 ANDONMENT COST**

As at present mining is not going to be closed so abandonment cost could not be assessed. However based on the progressive mine closure activities during the plan period, cost is assessed as given below:

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| ACTIVITY                   | YEAR    |         |         |         | Rate  | Amount<br>(in<br>Lakhs) |
|----------------------------|---------|---------|---------|---------|---|-------------------------|
|                            | 2021-22 | 2022-23 | 2023-24 | 2024-25 |   |                         |
| Plantation<br>(in no.)     | 500     | 500     | 500     | 500     | @ 30 Rs per<br>sapling+70 Rs<br>maintenance<br>cost | 2.20                    |
| Plantation<br>cost in Rs   | 50000   | 50000   | 50000   | 50000   |   |                         |
| Wire<br>fencing<br>(meter) | 500     | 500     | 500     | 500     | @ of 125 Rs per<br>meter                            | 2.50                    |
| Wire<br>fencing<br>cost    | 62500   | 62500   | 62500   | 62500   |   |                         |
|                            |         |         |         |         | Total   | 4.70                    |

#### 8.10 FINANCIAL ASSURANCE:

The Indian Bureau of mines has given guidelines for calculation of FA, The amount calculated for the purpose of Financial Assurance is based on the CCOM's Circular no. 4 dated 2006 , and Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules -2012."the computation of FA is based on the area put to use and area considered fully reclaimed . The particulars of area are as below-

**Table indicating the break-up of areas in the Mining Lease for calculation of Financial Assurance**

| S no. | Particulars   | Area put on use at start of plan in hect. | Additional requirement of area during plan period in hect. | Total Area in hect. | Area considered as fully reclaimed & rehabilitated in hect. | Net area considered for calculation in hect. |
|-------|---|---|--|---------------------|---|--|
| 1     | Area under mining   | 0.00                                      | 44.00  | 44.00               | NIL   | 44.00  |
| 2     | Storage for top soil  | 0.0                                       | 0.0  | 0.0                 | Nil   | 0.0  |
| 3     | Waste dump site   | 0.0                                       | 0.0  | 0.00                | Nil   | 0.00   |
| 4     | Mineral storage   | 0.0                                       | 0.0  | 0.0                 | Nil   | 0.0  |
| 5     | Infrastructure (work shop, administrative building etc.), electric lines. | 0.0                                       | 0.0  | 0.0                 | 0.00  | 0.0  |
| 6     | Road (Kachha way)   | 0.00                                      | 0.00   | 0.00                | Nil   | 0.00   |
| 7     | Railways  | Nil                                       | Nil  | Nil                 | Nil   | Nil  |

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|    |                          |            |              |              |            |              |
|----|--------------------------|------------|--------------|--------------|------------|--------------|
| 8  | Mineral separation plant | Nil        | Nil          | Nil          | Nil        | Nil          |
| 9  | Township area            | Nil        | Nil          | Nil          | Nil        | Nil          |
| 10 | Undisturbed              | 0.0        | 10.0         | 10.0         | 0-00       |              |
| 11 | Afforestation            | 0.00       | 0.00         | 0.00         | 0.00       | 0.0          |
| 12 | Others (green belt)      | 4.0        | 0.0          | 4.00         | 0.0        | 0.0          |
|    | <b>Grand Total</b>       | <b>4.0</b> | <b>34.00</b> | <b>44.00</b> | <b>0.0</b> | <b>44.00</b> |

### CALCULATION OF FINANCIAL ASSURANCE

The financial assurance is applicable for the area put to use by project proponent and area reclaimed and habilitated under the provisions .The total broken area at the end of the scheme will be 44.0 hectares .The calculation of financial assurance will be based on the provisions made by state govt. as per Financial security under Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012 .The FA is calculated @15000/- per hectare or minimum to Rs.100000/- in case of minor minerals .The same is required to be deposited at the grant of mining lease . accordingly, financial assurance is commuted as under:

Rs 15,000/- X 44.00 = Rs 6.66,000/- (Rupees Six Lacks Sixty Six Thousands only)

In case of any deficit amount the Project proponent will comply and deposit in account of Department of Mines and Geology department , Government of Haryana

### 9.0 CERTIFICATE

It is enclosed with the report.

### 10.0 PLAN AND SECTION

Plan and section are prepared and enclosed with the mining plan.



Dated-3/8/2023  
 Place- Jaipur

IT IS CERTIFIED THAT THIS  
 PLAN IS CORRECT TO THE  
 BEST OF MY KNOWLEDGE

  
 Pinkcity Mining Consultancy Pvt Ltd  
 RQP-421/15-2011B

( Govind Singh )  
 B.E. Mining (1974)  
 Qualified Person

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