

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI**

O.A.No. 626 of 2023

Balbir Sandhu

Applicant

Versus

State of Haryana and others

Respondents

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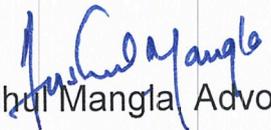
NEW DELHI

8

DATED: 18.07.2024.

Respondent No.

Through Counsel


Anshul Mangla, Advocate

H. No. 477, Sector-12, Panchkula

anshul.mangla16@gmail.com

82830-97167

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI**

O.A.No. 626 of 2023

Balbir Sandhu

Applicant

Versus

State of Haryana and others

Respondents

Reply on behalf of Respondent No. 8 i.e.
M/s Maa Vaishno Minerals, Karnal.

RESPECTFULLY SHOWETH:

1. That the answering respondent is a proprietorship concern and is filing the present reply through its proprietor i.e. Sh. Manoj Kumar S/o Sh. Radhe Shyam R/o House No. 676, Urban Estate, Near Government Girls School, Sector 13, District Karnal, Haryana.

PRELIMINARY SUBMISSIONS:

2. That in the present case, the applicant has sought quashing of the Letter of Intent dated 06.10.2022 (Annexure A-7) issued in favour of answering respondent; Letter dated 26.06.2023 (Annexure A-8) whereby the mining plan submitted by the answering respondent was approved by respondent No. 5 and the e-auction notice dated 30.05.2023 (Annexure A-9) issued by the Department.

3. That the applicant has sought the aforesaid reliefs, primarily, on the ground that the District Survey Report, District Yamunanagar had expired and without there being an updated and valid District Survey Report, the auction of mining blocks was conducted by the Department.
4. That the applicant has not stated the true and complete facts in the Original Application and has intentionally concealed the material facts from this Hon'ble Tribunal.
5. That as per the knowledge of the answering respondent, the draft District Survey Report for District Yamunanagar was prepared by District Environment Impact Assessment Authority, District Yamunanagar (DEIAA) on 10.08.2017. Thereafter, vide Letter bearing memo No. Mining/Ynr/2709 dated 11.08.2017 (Annexure A-5), the Mining Officer, District Yamunanagar had forwarded the same to respondent No. 5 i.e. Director General, Mines and Geology Department, Haryana for further action.
6. That it shall be imperative to state that the answering respondent had filed an application under RTI Act, 2005 seeking information with regards to the official correspondence for the purpose of preparation of District Survey Report, District Yamunanagar-2017. The same was provided by Mining Officer, Yamunanagar vide Reply dated 22.05.2024.

7. That thereafter, in view of the Notification dated 15.01.2016 (Annexure A-1), respondent No. 5 issued a Letter bearing Memo No. DMG/HY/DSR/YNR/2017 dated 30.08.2017 to respondent No. 7 i.e. Deputy Commissioner, District Yamunanagar. As per the said letter, respondent No. 7 was requested to post the draft District Survey Report on the website of the District for the purpose of seeking comments/suggestions etc. from the general public. A copy of the Letter dated 30.08.2017 is **Annexure R-8/1**.
8. That thereafter, the Mining Officer, District Yamunanagar submitted a Letter dated 15.09.2017 to respondent No. 7 and reiterated the request made by respondent No. 5 with regards to uploading the draft District Survey Report on the website of the District. A copy of the Letter dated 15.09.2017 is **Annexure R-8/2**.
9. That it shall be imperative to state that as per the knowledge of the answering respondent, the draft District Survey Report was duly uploaded on the official website of the District on 18.09.2017. Thereafter, respondent No. 5 issued a Letter bearing Memo No. DMG/HY/DSR/YNR/2017/7214 dated 27.11.2017 to respondent No. 7. As per the said letter, the period of 21 days after the uploading of the draft District Survey Report had expired and information was sought with regards to the comments/objections/ suggestions, if any, received for the purpose of finalization of the District Survey

Report. A copy of the Letter dated 27.11.2017 is **Annexure R-8/3**.

10. That in response thereto, respondent No. 7 issued a letter dated 12.01.2018 to respondent No. 5 whereby it was communicated that after a lapse of 21 days from the date of uploading of the draft District Survey Report on the website of the District, no objections/suggestions were received. It was further stated that final District Survey Report is being sent for further action. A copy of the Letter dated 12.01.2018 is **Annexure R-8/4**.
11. That in response thereto, respondent No. 5 issued a letter bearing Memo No. DMG/HY/DSR/YNR/2017 dated 12.01.2018 to respondent No. 7 and requested respondent No. 7 to upload the final District Survey Report on the website of District Yamunanagar. A copy of the Letter dated 12.01.2018 is **Annexure R-8/5**.
12. That as per the information available on the official website of District Yamunanagar, the final District Survey Report was uploaded on 24.05.2018. In this regard, the relevant information of the official website is attached as **Annexure R-8/6**.
13. That from the bare perusal of the documents vide Annexure R-8/1 to R-8/6 shall reveal that the final District Survey Report was uploaded on the official website of the

S

District Yamunanagar on 24.05.2018; and the District Survey Report was prepared as per the mandate of the Notification dated 15.01.2016 (Annexure A-1). Hence, for all means and purposes, the validity of the District Survey Report shall be reckoned from the date on which the final District Survey Report was uploaded on the official website i.e. 24.05.2018.

14. That it shall be pertinent to mention that as per notification dated 15.01.2016 (Annexure A-1), the validity of the District Survey Report is five years. In the present case, since the final District Survey Report was uploaded on the official website on 24.05.2018, the validity of the District Survey Report was till 23.05.2023.
15. That it shall be imperative to state that as per the District Survey Report (Annexure A-5), a total of 35 mining units/blocks were identified at District Yamunanagar and the mining units/blocks were classified as "riverbed mining areas" and "outside riverbed mining areas". Furthermore, at Sr. No. 4 of the table at 10.2 of the District Survey Report, the details of the mining block i.e. Bailgarh North Block (YNR B-1), District Yamunanagar are mentioned.
16. That as per the knowledge of the answering respondent, the Department, on the basis of valid District Survey Report, issued e-auction notice dated 26.07.2022. As per the e-auction notice, the mining contract for Bailgarh North Block (YNR B-1), District Yamunanagar was sought to

be auctioned. The auction notice had provided the complete details of the area of the mining block alongwith the relevant revenue record as well as the GPS coordinates. A copy of the e-auction notice dated 26.07.2022 is **Annexure R-8/7**.

17. That it shall be pertinent to mention that as per e-auction notice, the date of bidding was 22.08.2022. However, by way of Corrigendum dated 18.08.2022 (Annexure A-6), the date of bidding was changed to 25.08.2022. It was only the date of bidding which was revised by way of corrigendum; and the rest of the conditions were as per the e-auction notice dated 26.07.2022.
18. That in pursuance of the e-auction notice dated 26.07.2022, the answering respondent had participated in the e-auction dated 25.08.2022 and submitted bid for grant of mining contract for Bailgarh North Block (YNR B-1). The bid submitted by the answering respondent was the highest bid and the acceptance was communicated by way of issuance of Letter of Intent dated 06.10.2022 (Annexure A-7).
19. That it is submitted that the e-auction notice dated 26.07.2022 as well as the Letter of Intent dated 06.10.2022 were issued by the Department during the validity period of the District Survey Report for District Yamunanagar; and there was no violation of the notifications or the guidelines

while doing so. Hence, the claim of the applicant in the Original Application is liable to be rejected.

20. That as per the knowledge of the answering respondent, the official respondents, in pursuance of the notification dated 25.07.2018 (Annexure A-3) and the Guidelines of 2016 & 2020 (Annexure A-2 and A-4), initiated the process for updation of the District Survey Report for District Yamunanagar. The draft District Survey Report was approved on 12.10.2023. A copy of the draft District Survey Report dated 12.10.2023 is **Annexure R-8/8**.
21. That the bare perusal of the draft District Survey Report, 2023 shall reveal that the same was prepared on 07.08.2023. However, the Forest Department and the Irrigation Department had submitted shortcomings in the draft vide Letter dated 10.08.2023 and 31.08.2023 respectively. Thereafter, the same were considered and incorporated in the draft which was approved by the Chairman of the Committee on 12.10.2023.
22. That it shall be pertinent to mention that the draft District Survey Report, 2023 has four Annexures; and Annexure – II appended with the draft contains the details of the mining blocks at District Yamunanagar which have been classified as riverbed mining areas. At Sr. No. 8 of the Annexure – II, the details of the Bailgarh North Block (YNR B-1) are provided. The details mentioned therein are

identical to the details of the said block as provided with the Letter of Intent dated 06.10.2022 (Annexure A-7).

23. That on account of the fact that the details of the aforesaid mining block, as provided in the Letter of Intent dated 06.10.2020, are identical to the details mentioned in the draft District Survey Report, 2023, the approval of the mining plan vide Letter dated 26.06.2023 (Annexure A-8) is liable to be accepted. A copy of the approved mining plan is attached herewith as **Annexure R-8/9**.
24. That the bare perusal of the mining plan shall reveal that the same was prepared after a detailed survey and analysis of the area of the mining block. Furthermore, the mining plan is duly accompanied by replenishment study report which has also been approved by the Department.
25. That it shall be imperative to state that as per letter dated 17.11.2023 issued by Mining Officer, District Yamunanagar, the draft District Survey Report, 2023 was uploaded on the official website of District Yamunanagar on 17.10.2023 for the purpose of inviting objections /suggestions from general public. During the period of 30 days, objections from 9 persons were received and request was made to respondent No. 5 to issue appropriate directions for the purpose of removal of objections and finalization of District Survey Report. A copy of the Letter dated 17.11.2023 is **Annexure R-8/10**.

26. That it is submitted that the relief claimed by the applicant with regards to quashing of the Letter of Intent dated 06.10.2022 (Annexure A-7) is liable to be rejected on account of the fact that the e-auction notice dated 26.07.2022 and the Letter of Intent dated 06.10.2022 (Annexure A-7) were issued during the validity of District Survey Report, District Yamunanagar i.e. till 23.05.2023. It is further submitted that the claim with regards to quashing of approval letter dated 26.06.2023 (Annexure A-8) is also liable to be rejected since there is no difference in the details of the mining block as mentioned in the e-auction notice dated 26.07.2022 as well as Letter of Intent dated 06.10.2022 and the draft District Survey Report, 2023.
27. That apart from the fact that the applicant is not entitled to any relief with respect to Letter of Intent dated 06.10.2022 and approval letter dated 26.06.2023, the relief claimed with respect to e-auction notice dated 30.05.2023 (Annexure A-9) is also liable to be rejected. It is submitted that as per knowledge of the answering respondent, the e-auction notice dated 30.05.2023 was challenged before the Hon'ble Punjab and Haryana High Court, Chandigarh in CWP No. 13772 of 2023 on the same ground as the one raised in the Original Application. The Hon'ble High Court, vide Order dated 03.07.2023, had directed the Department to finalize the District Survey Report and not to issue the Letter of Intent till

such finalization. A copy of the Order dated 03.07.2023 is **Annexure R-8/11**.

28. That apart from the fact that the original application is without any merits, the same is barred by the limitation prescribed under Section 14 of National Green Tribunal Act, 2010 and is liable to be rejected on this score alone.
29. That in the light of the submissions made herein above, it is humbly prayed that the original application is without any merits and the same is liable to be dismissed with exemplary costs.

REPLY ON MERITS:

1. That the contents of paragraph No. 1 does not require any reply being formal in nature.
2. That the contents of paragraph No. 2 does not require any reply being formal in nature.
3. That the contents of paragraph No. 3 are a matter of record in so far as the same refers to the provisions of the Act of 2010. The rest of the contents are denied being false. It is submitted that the applicant has not disclosed his antecedents and the bonafides in the original application; and there is nothing to even remotely suggest that the applicant is interested in the protection of the environment.

4. That the contents of paragraph No. 4 are denied since there is no substantial questions relating to the environment which are involved in the present case. It is submitted that the original application is not maintainable and is liable to be rejected.
5. That the contents of paragraph No. 5 are denied since there is no substantial questions relating to the environment involved in the present case. The original application is not maintainable and the case does not fall within the purview of Section 14 of the National Green Tribunal Act, 2010. Hence, this Hon'ble Tribunal does not have the requisite jurisdiction in the present case.
6. That the reply to the contents of sub-paragraphs of Paragraph No. 6 are as follows:
 - i. That the contents of sub-paragraph No. i are a matter of record in so far as the EIA Notification dated 14.09.2006 is concerned.
 - ii. That the contents of sub-paragraph No. ii refers to statutory provisions of MMDR Act, 1957. Hence, no reply is required.
 - iii. That the contents of sub-paragraph No. iii are a matter of record in so far as the judgment of the Hon'ble Supreme Court in SLP (Civil) No. 19628-19629 of 2019 titled as Deepak Kumar v/s State of Haryana and others.

- iv. That the contents of sub-paragraph No. iv are a matter of record in so far as the notification dated 15.01.2016 vide Annexure A-1 is concerned.
- v. That the contents of sub-paragraph No. v are a matter of record in so far as the Sustainable Sand Mining Management Guidelines, 2016 are concerned.
- vi. That the contents of sub-paragraph No. vi are a matter of record in so far as the Sustainable Sand Mining Management Guidelines, 2016 are concerned. It is submitted that the District Environment Impact Assessment Authority prepared the final District Survey Report for District Yamunanagar as per the mandate of notification dated 15.01.2016 read with the Sustainable Sand Mining Management Guidelines, 2016. The final District Survey Report for District Yamunanagar was uploaded on the official website of District Yamunanagar on 24.05.2018 and the same was valid for a period of five years i.e. till 23.05.2018.
- vii. That the contents of sub-paragraph No. vii are a matter of record in so far as the notification dated 15.07.2018 is concerned. However, it is clarified that the provisions of the notification dated 15.07.2018 cannot be applied retrospectively to the final District Survey Report dated 24.05.2018.
- viii. That the contents of sub-paragraph No. viii are a matter of record in so far as the notification dated 15.07.2018 vide Annexure A-3 is concerned.

- ix. That the contents of sub-paragraph No. ix refers to the judgment of this Hon'ble Tribunal in OA No. 360 of 2015. Hence, no reply is required.
- x. That the contents of sub-paragraph No. x are a matter of record in so far as the Enforcement and Monitoring Guidelines for Sand Mining, 2020 vide Annexure A-4 are concerned. However, it is clarified that the Guidelines of 2020 cannot be applied retrospectively.
- xi. That the contents of sub-paragraph No. xi refers to the provisions of the guidelines of 2020 highlighting the objectives of preparation of District Survey Report. These are a matter of record.
- xii. That the contents of sub-paragraph No. xii, except the contents of document vide Annexure A-5, are denied being false. It is submitted that as per Letter dated 10.08.2017, the DEIAA had accorded approval to the draft District Survey Report which was to be placed before general public for the purpose of seeking objections/suggestions in terms of the notification dated 15.01.2016. The approval conveyed vide Letter dated 10.08.2017 cannot be taken into consideration since it was only the draft District Survey Report and not the final District Survey Report. In this regard, the contents of preliminary submissions are reiterated.
- xiii. That the contents of sub-paragraph No. xiii are a matter of record in so far as the issuance of public notice dated 18.08.2022 vide Annexure A-6 is

concerned. The rest of the contents are denied being false and contrary to record. It is submitted that the public notice dated 18.08.2022 was only a corrigendum to the e-auction notice dated 26.07.2022. It is submitted that the e-auction notice dated 26.07.2022 as well as notice dated 18.08.2022 were issued during the validity of the District Survey Report since the final District Survey Report was dated 24.05.2018. In this regard, the contents of preliminary submissions are reiterated.

- xiv. That the contents of sub-paragraph No. xiv are a matter of record in so far as the Letter of Intent dated 06.10.2022 vide Annexure A-7 is concerned.
- xv. That the contents of sub-paragraph No. xv, except the contents of letter dated 26.06.2023 vide Annexure A-8, are denied being false. It is submitted that respondent No. 5 had rightly approved the mining plan submitted by the answering respondent since the same was prepared on the basis of the detailed survey and analysis of the mining lease area. Furthermore, the Department had complete authority to take decision on the mining plan since the auction as well as the letter of intent were issued during the validity of the District Survey Report. It is further submitted that the mining plan was rightly approved since the answering respondent had submitted detailed replenishment

study report alongwith the mining plan. In this regard, the preliminary submissions are reiterated.

- xvi. That the contents of sub-paragraph No. xvi, except the contents of e-auction notice dated 30.05.2023 vide Annexure A-9, are denied being false. It is submitted that the Department had initiated the process of updation of the District Survey Report as submitted in the preliminary submissions. Furthermore, the e-auction notice dated 30.05.2023 was challenged before the Hon'ble Punjab and Haryana High Court, Chandigarh vide CWP No. 13772 of 2023 on the ground of non-updation of District Survey Report. The Hon'ble High Court, vide Order dated 03.07.2023, took note of the same and directed the Department not to issue LOI till the finalization of the District Survey Report. In this regard, the contents of preliminary submissions are reiterated.
7. That the contents of paragraph No. 7 are denied being false. It is submitted that in so far as the case pertaining to the answering respondent is concerned, there is no illegality or irregularity with regards to the issuance of e-auction notice or the Letter of Intent or the approval of the mining plan. In this regard, the contents of preliminary submissions as well as the preceding paragraphs of reply on merits are reiterated.
8. That the contents of paragraph No. 8 are denied being false. It is submitted that the mining plan was approved in

pursuance of the letter of intent dated 06.10.2022 issued by the Department in favour of the answering respondent. Furthermore, the mining plan was approved since the same was prepared after detailed survey and analysis of the mining lease area as well as on account of being accompanied by the replenishment study report.

9. That the contents of paragraph No. 9 are denied being false. In this regard, the contents of preliminary submissions as well as the preceding paragraphs are reiterated.
10. That the contents of paragraph No. 10 are denied for want of knowledge. The petitioner may kindly be put to strict proof regarding the same.
11. That the contents of paragraph No. 11 are denied being false. It is submitted that there is no substantial question relating to environment involved in the present case and there are no merits in the present case. Furthermore, there is no civil dispute between the parties.

REPLY TO THE GROUNDS:

- A. To G. That the contents of paragraph No. A to G, except the reference to the judgments/orders passed by this Hon'ble Tribunal and other Courts, are denied since no ground is made out in favour of the applicant to grant any relief claimed in the Original Application and the grounds set forth are liable to be rejected. The contents of the preliminary submissions and reply on merits are reiterated in this regard.

- H. That the contents of paragraph No. H are denied being false. It is submitted that the balance of convenience is not in favour of the applicant and the Original Application is liable to be rejected.
- I. That the contents of paragraph No. I are denied for want of knowledge. The applicant may kindly be put to strict proof regarding the same.

LIMITATION:

The contents of the paragraph relating to limitation are denied being false since the Original Application is barred by limitation. The Original Application is liable to be rejected on this score alone.

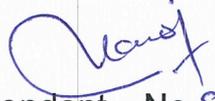
PRAYER:

In the light of the submissions made herein above, it is most respectfully prayed that there is no merit in the original application and the same is liable to be rejected.

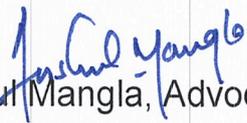
NEW DELHI

8

DATED: 18/07/2024.


Respondent No. 8

Through Counsel


Anshul Mangla, Advocate

H. No. 477, Sector-12, Panchkula

anshul.mangla16@gmail.com

82830-97167

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

O.A.No. 626 of 2023

Balbir Sandhu

Applicant

Versus

State of Haryana and others

Respondents

AFFIDAVIT

I, Sh. Manoj Kumar S/o Sh. Radhe Shyam R/o House No. 676,
Urban Estate, Near Government Girls School, Sector 13, District
Karnal, Haryana, do hereby solemnly affirm and state as under:

1. That the deponent is the proprietor of respondent No. 8 and is competent to file the accompanying reply on behalf of respondent No. 8.
2. That the contents of the accompanying reply are true and correct to the best of the knowledge of the deponent and have been drafted by the Counsel on the instructions of the deponent and nothing material has been concealed therefrom.

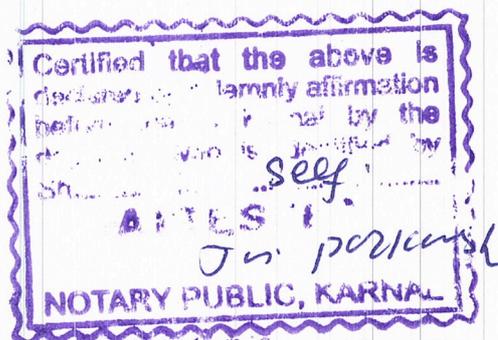
Manoj
DEPONENT

VERIFICATION

Verified at ^{Karnal} ~~Delhi~~ on this the 18th day of July 2024 that the contents of the above stated affidavit are true and correct to my knowledge and belief and nothing material has been concealed there from.

Manoj
DEPONENT

SSB
18/7/2024



ANN. R-8/1

From

The Director,
Mines and Geology, Haryana,
30-Bays Building, Sector-17, Chandigarh.

To

The Deputy Commissioner,
Yamuna Nagar.

Memo No. DMG/HY/DSR/YNR/2017/
Dated Chandigarh, the

Sub:- Submission of 'District Survey Report' for sustainable Sand Mining-Regd.

Please Refer to the Mining Officer, Yamuna Nagar letter memo No. 2709 dated 11.08.2017 as well as a copy endorsed to your office on the subject noted above.

2. The 'District Survey Report' (DSR) are required to be prepared and finalized by the DEIAA in line with the procedure laid down by the Ministry of Environment & Forest, Climate Change, Government of India in its notification dated 15.01.2016. The draft DSR sent by MO, Yamunanagar after approval of the committee, as per said needs to be placed in the public domain by keeping its copy in the Collectorate and posting it on the district website for 21 days for seeking comments of the general public. The comments received if any, shall be considered and if found fit, shall be incorporated in the final report and the same be finalized by the 'District Level Environment Impact Assessment Authority (DEIAA).

3. Keeping in view the above position, it is requested that further necessary action to place the 'District Survey Report' duly approved by the Committee headed by you on the website of the district for seeking response of the public and, if any suggestion found fit, be incorporated in the final report.

INFORMATION
PROVIDED UNDER
THE R.T.I. ACT 2005

Sd.
Director, Mines and Geology,
Haryana.



12/9/17

M/



Regd. of Speed Post.

Endst. No. DMG/HY/DSR/YNR/2017/ 4825

Dated: 30/8/2017.

A copy of 'District Survey Report' is forwarded to the Mining Officer,
Yamuna Nagar for further necessary action.

State Mining Engineer,
for Director, Mines and Geology,
Haryana.

INFORMATION :-
PROVIDED UNDER
RTI ACT 2005

ANN. R-8/2



प्रेषक,

खनन अधिकारी,
खान एवं भू-गर्भ विभाग,
यमुनानगर।

सेवा में,

उपायुक्त,
यमुनानगर।

क्रमांक/खनन/यमुनानगर/2667

दिनांक:- 15/9/2017

विषय : जिला सर्वे रिपोर्ट को अपलोड करवाने बारे।

उपरोक्त विषय पर निदेशक खान एवं भू विज्ञान विभाग चण्डीगढ़ के पत्र क्रमांक DMG/HY/DSR/YNR/2017/4825 दिनांक 30.08.2017 के संदर्भ में।

इस सम्बन्ध में आपको सूचित किया जाता है कि निदेशक, खान एवं भू विज्ञान विभाग, चण्डीगढ़ के पत्रानुसार जिला सर्वे रिपोर्ट को आम आदमी के सूझाव व आपत्ति के लिए जिले की वेबसाइट पर 21 दिन के लिए अपलोड की जानी है। अतः आपसे अनुरोध है कि खनन से सम्बन्धित उक्त जिला सर्वे रिपोर्ट वेबसाइट पर अपलोड करवाने की कृपा करें। यह आपको सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है। कृपया।

INFORMATION :-
OPENED UNDER
RTI ACT 2005


खनन अधिकारी
खान एवं भू-गर्भ विभाग
यमुनानगर।

ANN. R-8/3

Mining officer to send you
person under instruction
to this office
From

9327

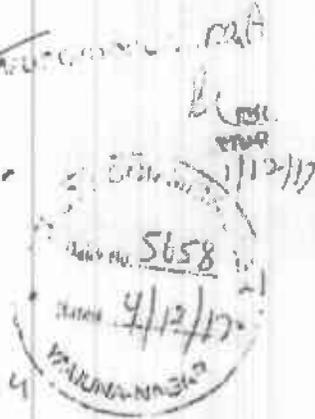
The Director,
Mines and Geology, Haryana,
30-Bays Building, Sector-17, Chandigarh:

To

The Deputy Commissioner,
Yamunanagar.



Memo No. DMG/HY/DSR/YNR/2017/ 7214
Dated Chandigarh, the 27.11.2017



Sub: Submission of District Survey Report for Sustainable Sand mining-regd.

Reference this office memo No. DMG/HY/DSR/YNR/2017/4824 dated 30.08.2017 on the subject noted above.

2. Vide letter under reference duly approved 'District Survey Report' of district Yamunanagar was sent to you with request to place the same on website of the district for seeking response of the public so that suggestions received if any, and found fit, shall be incorporated in the final report. The stipulated period of 21 days has already been elapsed.

3. I have been directed to request you to intimate the objections/suggestions received, if any, so that District Survey Report could be finalized.

QmY

State Mining Engineer,
For Director, Mines and Geology,
Haryana.

Endst. No. DMG/HY/DSR/YNR/2017/

Dated:

A copy is forwarded to Mining Officer, Yamunanagar with direction to take up the matter with the Deputy Commissioner, Yamunanagar and ensure timely supply of objections/suggestions received, if any.

INFORMATION
PROVIDED UNDER
THE RTI ACT 2005

State Mining Engineer,
For Director, Mines and Geology,
Haryana.

श्रीमती अशोक कौर मंगुला जगद

कै. नं. 242457 MA दिनांक 5-12-17

श्रीमती अशोक कौर मंगुला जगद को भेजे गए
आदेश का आपत्काली एवं रिपोर्ट हेतु प्रतिक्रिया

QmY

ANN. R-8/4

प्रेषक,

सेवा में,

उपायुक्त,
यमुनानगर।निदेशक,
खान एवं मू-गर्भ विभाग, हरियाणा,
चण्डीगढ़।

क्रमांक / खनन / यमुनानगर /

दिनांक:-

विषय : **Submission of District Survey Report for Sustainable sand Mining-Regd.**

उपरोक्त विषय पर आपके कार्यालय के पत्र क्रमांक DMG/HY/DSR/YNR/2017/7214 दिनांक 27.11.2017 के संदर्भ में।

इस सम्बन्ध में आपको सूचित किया जाता है कि District Survey Report को जिला प्रशासन यमुनानगर की वेब साइट पर अपलोड किया गया था जिसमें आम जनता से इस रिपोर्ट को फाइनल करने से पहले सुझाव/आपत्ति मांगी गई थी 21 दिन बीत जाने के बाद आम जनता द्वारा कोई सुझाव/आपत्ति नहीं आई है। इसलिए District Survey Report को फाइनल करके आपको आगामी कार्यवाही हेतु भेजा जाता है।

उपायुक्त,
यमुनानगर।

क्रमांक / खनन / यमुनानगर / 522/MN/2018 दिनांक - 12-11-2018

इसकी एक प्रति खनन अधिकारी यमुनानगर को सूचनार्थ एव आवश्यक कार्यवाही हेतु प्रेषित है।

उपायुक्त,
यमुनानगर।

ANN. R-8/5

Registered

From

The Director,
Mines & Geology, Haryana,
30 Bays building, Sector-17, Chandigarh.

To

The Deputy Commissioner,
Yamuna Nagar.

Memo No. DMG/HY/DSR/YNR/2017/
Dated Chandigarh, the

**Subject: Submission of District Survey Report for Sustainable Sand Mining-
Reg.**

Reference your letter No. Mining/YNR/521/MA/200 dated
12.01.2018 on the subject cited above.

2. The draft 'District Survey Report' of district Yamunanagar was sent to you for placing the same on the website of the district for seeking suggestions/objections from the public, so that suggestion/objections received, if any and found fit, can be incorporated in the final report. However, vide letter under reference it has been informed that no suggestion/objections from the public have been received and the draft DSR has been finalized as such.

3. I have been directed to request you to place the final 'District Survey Report' of district Yamuna Nagar on the website of the District Administration website for information of general public. A copy of the same is enclosed for your ready reference please.

DA: As above.

INFORMATION :-
PROVIDED UNDER
THE R.T.I. ACT 2005

^{-st}
Mining Engineer,
for Director, Mines and Geology,
Haryana.

Endst. No. DMG/HY/DSR/YNR/2017/ 232

Dated 12.01.2018

A copy is forwarded to the Mining Officer, Department of Mines and Geology, Yamuna Nagar for information and necessary action. He is directed to ensure uploading of final DSR on the website of the District Administration.

RKSharma
Mining Engineer,
for Director, Mines and Geology,
Haryana.



24/1/18
M/
uploaded
on 15/1/18



जिला यमनागर



ANN.-R-8/6.

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Page updated: April 16, 2024



ANN. R-8/7



**Department of Mines and Geology
Government of Haryana**

e-Auction Notice

Date 26th July, 2022

No. DMG/HY/e-Auction/YNR/2021/4772

It is hereby notified for the information of the General Public that for grant of mining contract/mineral rights, for excavation of minor mineral namely "Boulder, Gravel, Sand, and Sand" from the minor mineral mines of the district Yamuna Nagar, the e-Auction process (Registration/User ID) and submission of bidding will be as per schedule given below:

Sr. No.	Titles	From	To
1	Registration and Creation of user ID and uploading of documents	26.07.2022 10:00 AM	19.08.2022 Upto 05:00PM
2	Deposition of EMD	26.07.2022 10:00 AM	19.08.2022 Upto 05:00 PM
3	E-service fee	26.07.2022	19.08.2022 Upto 05:00 PM
4	Bidding	22.08.2022 10:00 AM	Till the conclusion of Auction

Note: The manual for prospective bidders shall be available on e-Auction portal.

The important instructions for participation in the online e-Auction are as under:

1. The bids shall be made online on the e-Auction web portal, link of which is available on website of the Department <https://minesharyana.gov.in/> under the tab 'Auctions/Tenders'.
2. The intending bidders before participation in the e-Auction/bidding process will be required to create a User Account and to obtain a User-ID and Password for the e-Auction Platform by following the link given on the website of the Department of Mines and Geology, Haryana i.e.; minesharyana.gov.in under the tab 'Auctions/Tenders'.
3. The intending bidders once registered/ having created the "user account" would not be required to get registered again.

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4. On successful Registration a **Wallet** for the bidder will get created in the name of bidder/ intending bidder for keeping additional amount.
5. The detailed instructions for participation in e-Auction can be perused at "**Bidders Manuals**" attached as Annexure A. The copy of same can also be downloaded from link "**Download Manuals**" at e-Auction web portal.
6. The prospective/intending bidders having created user account shall upload following documents (in PDF format not exceeding limit of 10 MB for individual document)
 - i. **No-Dues-Certificate(s)** from the concerned Officer In-Charge(s) of the District Mining Office (s) or an affidavit sworn before any Magistrate to the effect that no amount of contract money, royalty, dead rent or surface rent is due in respect of any mining lease/contract or mineral concession held by him (or any of his family members) currently or in the past.
 - ii. **Copy of the Partnership Deed** (where bidding entity is a partnership firm) or Articles of Association (where bidding entity is a registered Company) or an Affidavit (where bidding entity is a sole proprietorship firm and the bidder is participating as an Individual).
No transfer or addition or deletion of the Partners/Directors will be permissible before execution of the agreement;
 - iii. **A copy of the authority letter by the Partnership Firm** (where bidding entity is a partnership firm) or a copy of the resolution of the Board of Directors (BoD) of the Company (where bidding entity is a registered Company) in favor of the person (authorized representative) who shall be offering the bids online on behalf of the bidding entity.;
 - iv. **An affidavit by the authorized representative** of the bidding entity participating in the bid to the effect that the bidder/any of the partners of the partnership firm/any of the Directors of the Company have not been debarred from participation in the auction and from obtaining a mineral concession/s from the State of Haryana.
7. **Deposition of amount of Earnest Money Deposit (EMD): Earnest Money for participation in bidding process for any mining area/ site/**

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unit/ block shall be equal to 10% of the reserve price rounded by an amount of Rs. 10,000/-.

8. The prospective bidders would have option to select one or more mines of their interest for participation in the auction and would have option to be change the same before the last date for deposit of EMD
9. The perspective bidders shall deposit lumpsum amount of EMD, which shall not be less than 10% of the highest amount of reserve price among the mines opted to be participated by the bidder.
10. The prospective bidders for participation in the bidding shall transfer (RTGS/NEFT) funds in lumpsum amount, to be deposited as EMD and other amount of bid security etc., online to the Account of the Department as per detail given below:

TYPE OF ACCOUNT: CURRENT ACCOUNT
Account No: DMGZ9999
MICR Code: 160751005
SWIFT BIC CODE: IDFBINBB
IFSC CODE: IDFB0010209

Note: All amount will be accepted in INR and refunds, if any, will also be in INR.
The prospective bidder is required to make single transaction for the EMD amount.

11. On successful transfer of lumpsum amount as EMD and other amount/s towards bid security etc. in the above said Account of the Department up to 19.08.2022 till 05:00 PM and successfully verification [UTR 22 digits (in case of RTGS) or 16 digits (in case of NEFT) Verification on the e-Auction portal, as a part of e-Auction process] of the EMD deposited along with the prospective bidder having already submitted other documents as per clause 6 shall be eligible to offer further bid for mine.
12. In case the amount deposited is not verified (UTR Verification on the e-Auction portal) within stipulated time frame, the intending bidder will not be allowed to enter in e-Auction of mine(s)/block(s). In case of highest bidder of any of the mine, the amount equal to 10% of the reserve price rounded by Rs. 10,000/- will be deducted from the lumpsum EMD already deposited and such highest bidder will be able to offer bids for further mines, if so desire, only in case the balance amount is equal or more than 10% of the reserve price of next mine selected for bidding. If the balance amount is less than the 10% of the reserve price of next mine selected for

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bidding, the bidder may add additional amount before commencement of bidding time for mine to be participated in the e-auction.

13. **Process for Top-up of EMD from wallet of the bidder:** The prospective bidder, in addition to depositing EMD in the Account of the Department, may deposit and keep additional amount in his wallet, by clicking the link "My Account" available on top right corner on portal;

Note: It is clarified that amount of EMD to be deposited initially has to be deposited as per steps given in clause (10) above and in case of deposits (Top-up of EMD) in wallet by following payment gateway by clicking link "My Account".

14. **Refund of the EMD**

On completion of the auction process of all the mines in this list, the amount of EMD of the un-successful bidders or balance amount of EMD out of lumpsum amount to the successful bidders, if any, would be refunded, provided the same is otherwise not ordered to be forfeited. The prospective bidders shall furnish details of their account for **refund of EMD** (a) Refund Account Name (b) Refund Account No. (c) IFSC code of the Bank.

Note: Please cross check the information to be submitted online before saving the same as the information in non-editable.

15. **Refund from the wallet:**

Bidder may request for refund by clicking on 'Request for Refund' button available under the section "My Account" and will get refunded to his Refund Account.

16. **Deposition of amount of E-service fee for participation in the e-auction** The prospective bidders shall have to pay **e-Service Fee/Administrative Charges of Rs. 11000/- plus GST online** for each of the mine to be participated for e-auction through Debit Card/Internet Banking by using the service of secure electronic payment gateway available on the e-Auction portal itself with the link titled as 'Pay Now'. The secure electronic payments gateway is an online interface between contractors and online payment authorization networks. The Payment for e-Service Fee/Administrative Charges of the bank can be made by eligible bidders/contractors online directly through **Debit Cards & Internet Banking Accounts.**

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17. **Furnishing of wrong information or documents:** In case any of the information furnished for creation of User Account and/or any of the documents uploaded as above are found to be wrong/false at any stage during or after the e-Auction, the same shall be liable for action as under:
- The Department shall be entitled to invoke revocation/cancellation of bid;
 - The Department shall be entitled to forfeit the amount deposited (EMD or any other amount) at the time of auction;
 - Even in case, the false information/document is detected after the award of mineral concession, the Department shall be entitled to terminate the mineral concession.
 - The Department shall debar the bidder from participation in any subsequent auction for a period of 5 years.
18. **Information /training/ clarification/ difficulty for participation in the e-auction process:** In case of any query regarding process of e-Auction and for undertaking training, the intending bidder can contact **Help-desk support for e-Auction Portal** for offering Technical Support Assistance over telephone from Monday to Friday (**Exclusions: GAZETTED HOLIDAYS**) between **10:00 A.M to 06:30 P.M** as per details given below:

Following helpdesk No. shall be open between 10: 00 AM to 18:30 PM IST		
Contact Person	Email ID	Tel. No.
1. Ms. Neeti Bala Chandra	neeti.bala@c1india.com	+91-7291981128
2. Mr. Chandan Kumar	chandan.kumar@c1india.com	+91-9015145373
3. Mr. Sandeep	Sandeep@c1india.com	+91-9050287464
4. Ms. Sneha Kapoor	sneha.kapoor@c1india.com	+91-9953126803
In case the issue is not resolved by the above team, kindly contact on contact given below		
1. Mr. Mukesh Kumar	mukesh.kumar@c1india.com	+91-7291981127
Monday to Friday (Exclusions: Gazette Holidays)		
Dedicated centralized email id: auctions@c1india.com		

- The bidders may also send queries to the help-desk through e-mail by sending an email to auctions@c1india.com along with appropriate screenshots or error description.
- The **Online Training Videos** for prospective bidders shall be available on e-Auction portal.

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19. **Bidding Process:**

Serial auction of mines: The mines shall be put-up for auction serially from top to bottom as per list notified in the Auction Notice.

- i. The bidding process shall start on 22.08.2022 at 10.00 AM.
- ii. On the start of the bidding process, the name and the particulars of the mine at Sr. No. 1 to be put-up for e-Auction shall be displayed to the bidders.
- iii. The perspective bidder would be allowed to offer bids only in case the mine put to auction is selected for participation in bidding.
- iv. In case no bid is received during first 60 minutes after the commencement of bidding process the first round of auction of said mine/block offered shall conclude. The new mine/next in the Sr. no., from the list of mines being taken up for auction, would be offered for auction on 10:00 AM of the following day.
- v. If a bid/s is/are received during first 50 minutes but no bid is received during last 10 minutes of the auction (50 minutes to 60 minutes), the bidding shall be concluded by the system after 60 minutes of commencement of bidding.
- vi. In case a bid is received during last 10 minutes (50 minutes to 60 minutes) the auction shall be extended by blocks of 10 minutes till such time that no bid is received during the last extended block of 10 minutes. Thus, the bidding shall be concluded when no bid has been received in the last 10-minute extended block.

Note: To illustrate, if a bid is received in say, the 55th minute, the bidding process shall extend by 10 minutes from 60 to 70 minutes. If a bid is now received, say in the 69th minute, the bidding process shall again get extended for another block of 10 minutes from 70 to 80 minutes. If no bid is received from 70 to 80 minutes the bidding process will conclude after expiry of 80 minutes.

- vii. Fresh Round of auction for unsuccessful mines: The mines which fail to attract bidders during first round of auction, completed serial wise, shall again be offered for e-auction for second time to explore the possibility of attracting bidders.

Note: To illustrate say there are total 02 mines offered/notified for auction. The mine at Sr. no 1 fails to attract any bid

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during first 60 minutes and the auction gets concluded as explained in Sub Clause (iv) above. The mine at Sr. no 2 will be offered for e-auction/bidding on next day (day two). Finally, after concluding auction process for all mine in serial, the mine says at Sr. no 1 which failed to attract bidders in first round will be again offered for bidding. The same process will be followed for any other mine which fails to attract bid in first round.

- viii. **Incremental amount:** Minimum incremental bid amount shall be Rs. 5,00,000/- and its multiples.
- ix. **Auction without any break:** Auction of any mine that has started at 10:00 AM shall be completed, without any break, irrespective of the number of days taken in the process.
- x. **Auction of new mine on following day of conclusion of auction:** Any new mine, from the list of mines being taken up for auction, would be offered for auction on 10:00 AM of the following day on which the ongoing auction of last mine was/ is concluded.
- xi. **Confidentiality of bids/Display of the bids:** All bidding participants shall be able to view the quoted highest bid value during online bidding process and they will be able to have details of all of their own quoted bids at their end. However, the names/identity of any of bidder in any manner will not be accessible to anyone during auction.
- xii. **Payment of balance amount of initial bid security by highest bidder:**

On conclusion of the bid/auction for any particular mine, a system generated confirmation of highest bid offered by the highest bidder shall be sent automatically on the registered email and SMS will be sent on the registered mobile number, directing the highest bidder to deposit an amount equal to 10% of the highest bid after adjusting the EMD deposited for said mine/ block, as 'Initial Bid Security' within 24 hours of such confirmation. The payment has to be made through RTGS/NEFT mode (as process mentioned in clause 10). The payment is required to be made into Department's account directly and a 22 digits (in case of RTGS) or 16 digits (in case of NEFT) UTR number will

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be required to verified through the option available on portal for Verification of UTR by the highest bidder. Further, it may also be noted that the highest bidder is not allowed to adjust the amount available in the wallet for payment of difference account. The highest bidder is required to make a single independent transaction for the balance amount.

- xiii. In case the highest bidder of preceding mine has funds available in Account (after retention of amount equal to EMD for his successful bid by the Department) equal to EMD for any subsequent mine being offered for auction he may opt for participation in the bidding like any of the other bidders.
- xiv. **Non-payment of balance amount of initial bid security by the highest bidder:** In case the bidder is not able to deposit the initial bid security within period allowed as above, the EMD shall be forfeited and he shall be debarred for 5 (five) years to participate in any further/future auction.
- xv. **Prospective Effect of Debarment:** The highest bidder of any mine, may participate in subsequent bids for other mine/s in the auction list during the period of 24 hours provided to pay the balance amount towards initial bid security for earlier highest bid. The following scenarios may emerge:
- The bidder fails to deposit the balance amount for the first mine for which he was the highest bidder. The EMD for the mine in question shall be forfeited and he shall be debarred from participating in future auctions for a period of 5 years. The system shall block the bidding by this bidder in all ongoing/ subsequent bids. Any other highest bids offered subsequently by the bidder thus debarred shall automatically stand cancelled.
 - The bidder deposits the balance amount for the first mine for which he was the highest bidder but fails to deposit the balance amount for the subsequent mine for which he was also the highest bidder. The bid for the first mine shall be accepted. The EMD for the mine for

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which the balance amount was not deposited shall be forfeited and the bidder shall be debarred from participating in future auctions for a period of 5 years.

- xvi. **Refund of EMD:** After the completion of the bidding process the EMD amount of the unsuccessful or any balance amount of the highest bidder after adjustment of amount to be deposited, would be refunded/transferred to the account of the bidders on conclusion of the auction process. The unsuccessful bidder may request for refund through "Refund EMD" available under "My Account" section.

20. The details of the areas of the Mining Block along with reserve price and period of mining contract, are given below:

Sr. No.	Name of mining Block with name of Mineral	Name of village	Details of Khasra Nos.	Area as per Revenue record (in hect/ Acres)	GPS reading of all corner point taken by HARSAC by using DGPS	Area as per GPS reading (in hect / Acres)	Reserve Price (Rs. in Crores Per Annum)	Period (in years)		
District Yamuna Nagar										
1	Bailgarh North Block/YN R B-1 (BGS)	Bailgarh	1// 21min 5// 6min, 15min, 16min, 17min, 23min, 24min, 25 6// 1min, 10min, 11, 20, 21 7// 1, 10, 11 min 8// 2min, 3min, 4, 5, 6, 7, 8, 9min, 11min, 12, 13, 14, 15min, 17min, 18, 19, 20 min, 21, 22, 23, 24min 9// 16min, 24min, 25 min 17// 3min, 4min, 5, 6, 7min, 8min, 14min, 15, 16min, 25min 18// 1, 2, 3, 4min, 7min, 8, 9, 10, 11, 12, 13min, 19min, 20, 21, 22min, 23min 20// 1, 2, 3 min, 4min, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22 21// 5min, 6min, 15min, 16min, 25min 34// 5min, 6min 35// 1, 10min	25.96 (Hects) / (64.91 Acres)	Pillar No A B C D E F G H I J K L M N O P Q R S T	Latitudes 30°14'6.403"N 30°13'56.124"N 30°13'56.167"N 30°14'4.500"N 30°14'9.600"N 30°14'13.100"N 30°14'17.600"N 30°14'24.300"N 30°14'27.800"N 30°14'32.300"N 30°14'37.228"N 30°14'42.200"N 30°14'39.600"N 30°14'37.100"N 30°14'25.000"N 30°14'23.900"N 30°14'16.500"N 30°14'12.200"N 30°14'10.600"N 30°14'9.800"N	Longitudes 77°30'48.674"E 77°30'42.677"E 77°30'41.864"E 77°30'41.000"E 77°30'40.800"E 77°30'38.700"E 77°30'35.400"E 77°30'41.400"E 77°30'44.600"E 77°30'49.500"E 77°30'55.228"E 77°30'53.600"E 77°30'54.700"E 77°30'52.200"E 77°30'54.000"E 77°30'49.900"E 77°30'48.500"E 77°30'43.600"E 77°30'45.400"E 77°30'51.000"E	25.83 (Hects) / 64.58 Acres)	14 10	07
Note: The area of contract shall be as per revenue record, however, for the purpose of										

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clarity, the area of contract based on GPS reading of corner points has also been given as above.

21. The terms and conditions of the Auction:

- i) The period of contract shall commence w.e.f. the date of grant of environmental clearance by the Competent Authority and the Consent to Operate (CTO) by the State Pollution Control Board, whichever is later, or on expiry of the period of 12 months from the date of issuance of LoI, whichever is earlier.
- ii) Any site/area/ mine offered for auction can be withdrawn from the Auction without assigning any reason;
- iii) Due care had been taken in specifying the details of the areas of the mining blocks. However, in case of any inadvertent clerical mistake in area detail/Khasra number etc., the same shall be got rectified/corrected even after the completion of the auction but before execution of contract agreement;
- iv) The contract areas are Tentative and are being notified on 'as is where is' basis and all prospective bidders are expected and presumed to have surveyed the areas to make their own assessment for the potential of the areas for which bids are to be offered.
- v) The bidders are expected and presumed to have gone through the terms and conditions of auction notice and also the applicable Acts and Rules for undertaking mining. The State government shall not be responsible for any kind of loss in land/area or any other loss to the bidders/contractors at any point of time (before or after grant of contract) on any account including on account of reduction of land/area/production/non grant of permission for mining in part area or otherwise on account of any condition stipulated for undertaking mining by any competent authority.
- vi) No request regarding reduction in bid amount on account of reduction in land/area of the Mining Block, on any account including that of change in description of khasra numbers/location etc. at any stage will be entertained on any ground. This shall also include any loss/reduction of area for actual mining for want of compliance of applicable laws/restrictions for mining or part of the contracted area had already been operated in the past. Needless to state that this also includes the changes, if any, as per condition above and the prospective bidder shall

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- give their bids taking account of all such eventualities;
- vii) No person shall be eligible to participate in the Auction, who or any of his family members is a defaulter of any mining dues in respect of any mineral concession granted in the past or any other current mineral concession. In case any of the partners of a Partnership Firm or a Director of a company participating in the auction process or any of their family members are found to be defaulter, the bidder firm/company would be held ineligible. Further, any person, firm or company as the case may be who had been specifically debarred to participate in the auction would not be eligible to participate in the auction;
- viii) In case any bidder participated in the auction is found to be default in arrears of government dues on account of any mineral concession obtained from the State of Haryana at any stage, his bid shall be revoked/cancelled with forfeiture of the amount deposited in order to obtain the said mine on contract;
- ix) All intended participant can view the highest quoted bid during online bidding process. The highest bidder will be informed for confirmation of the same through e-mail and SMS alert at his online registered email and Mobile Number respectively on the conclusion of the respective mine;
- x) The highest bid received/quoted shall become the 'annual contract money' amount payable by the bidder/contractor. The amount of annual contract money initially determined on the basis of competitive bids/auctions shall be increased by 10% on completion of each block of three years; for every three years.
- Explanation:** If the initially determined annually bid/ contract money is Rs. 100/-, it shall be increased to Rs. 110/- with the commencement of the fourth year and to Rs. 121/- with the commencement of the 7th year and so on and so forth for the next each block of three years.
- xi) The highest bidder would be informed about the same- confirmation that he being declared as highest bidder- as per which he shall be liable to deposit 25% of the annual bid/ contract money amount as "security" and one month's advance contract money. The above said amount shall be deposited as per following schedule:
- a) an amount equal to 10% of the annual bid amount/ highest bid, after adjusting the EMD deposited for said mine/ block, as 'initial bid security' within 24 hours of conclusion of the bidding process

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as per details given in **clause 19 (xii)**.

- b) balance amount of bid security i.e. 15% of an annual bid amount before commencement of the mining operation or before expiry of the period of 12 months from the date of issuance of Letter of Intent (LOI), whichever is earlier;

Provided that where the Letter of Intent holder/contractor having taken all steps on his part, fails to obtain required environmental clearance and Consent To Operate (CTO) for undertaking mining operations within the said period of 12 months from the date of issuance of LOI, such letter of intent holder/contractor on a specific application submitted to the Director, at least *thirty days* prior to the end of the period mentioned above, giving details of the action already taken may seek additional time up to another twelve months, over and above the time of 12 months already allowed for commencement of the period of contract, on payment of a non-refundable fee as per the following:-

1	Extension of further period up to six months	On payment of a non-refundable fee at the rate of one percent per month of the annual bid for each month of requested extension period
2	Extension for a second period up to six months	On payment of a non-refundable fee at the rate of two percent per month of the annual bid for each month of requested extension period
<p>Note: Extension shall be allowed only in month (s) and any request for period less/part of the month shall be summarily rejected and shall apply along with advance amount of the fee for such requested period of extension.</p>		

- xii) In case the highest bidder fails to deposit 10% of the annual bid amount online towards the "Initial bid Security" within 24 hours given for the same, the earnest money deposited shall stand forfeited. Further such bidder(s) shall not be eligible to participate in any future auctions/Tenders/ competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years;
- xiii) The bids offered/received during the e-auction process shall be provisionally accepted and shall be regarded as successful bid only after acceptance by the State Government;
- xiv) The LOI would be issued through e-auction portal/online itself on registered e-mail of the bidder, after validating all the documents and

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- approval from the State Government.
- xv) After deposit of 10% of the bid amount (as initial bid security) after the conclusion of auction by the highest bidder(s), no request from the highest bidder(s) regarding revocation or the withdrawal of the highest bid shall be considered. In case, any such request is made, the same shall be followed by the Penal Action i.e. 10% amount deposited towards initial bid security shall stand forfeited and such bidder(s) shall be **debarred** from participation in any future auctions/tenders/competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years;
- xvi) The earnest money deposited by the bidders other than highest bidders shall be refunded upon completion of the auction proceedings.
- xvii) After the acceptance of highest bid by the State Government and on issuance of Letter of Intent, the Lol holder shall execute an agreement in Form MC-I appended to the '**Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012**' within a period of 90 days of the order of grant of Lol;
- xviii) The agreement executed shall be got duly registered under relevant law with concerned Registering Authority and they shall be liable to pay applicable stamp duty and registration fee etc. as per the applicable rates and demanded by the Registering Authority/Revenue Department.
- xix) In case of failure to execute the agreement, after issuance of acceptance of bid/LOI within prescribed period of 90 days from the date of issuance of LOI, the acceptance/LOI shall be deemed to have been revoked and 10% amount deposited towards "initial bid security" shall stand forfeited and such bidder shall be **debarred** from participation in any future auctions/tenders/competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years.;
- xx) After execution of agreement, either before commencement of the mining operation or before expiry of the time allowed, if any, as per **clause 21(xi)(b)** above, in case of failure to deposit the balance 15% amount towards security (as required under clause 21(xi)(b) above) the acceptance of bid/issuance of Lol/execution of agreement shall be deemed to have been revoked and 10% amount deposited towards as initial bid security after the conclusion of auction shall stand forfeited.

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- Further, such bidder shall be debarred from participation in any future auctions/tenders/competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years.
- xxi) In case of default as per clause 17 and 19 (XIV and XV) above, wherever the bidder/contractor are debarred from participation future auctions/tenders/competitive bidding process, it may be noted that in case of such default by a company, the said company and all of its Promoter/s and Director/s, in case of Partnership Firm along with such firm all of its partners shall be debarred from participation whether individually or as partner/ proprietor/director in a company in bids for the period prescribed.
- xxii) The contractor shall also deposit/pay an additional amount equal to 7.5% of the due contract money along with installments towards the 'Mines and Minerals Development, Restoration and Rehabilitation Fund'
- xxiii) The contractor shall also deposit/pay an additional amount equal to 2.5% of the due contract money along with instalments towards the 'District Mineral Fund'.
- xxiv) The contractor shall be liable to pay advance Income Tax as per provisions of Section 206 (c) of the Income Tax Act, in addition to the contract money payable as per terms and conditions of the contract agreement;
- xxv) On enhancement of the contract money by 10% with expiry of every three years period, the contractor shall deposit the balance amount of security so as to upscale the security amount equal to 25% of the revised annual contract money as applicable for one year with respect to the next block of three years;
- xxvi) No interest, whatsoever, shall be payable on the security amount deposited under proper security head of the government;
- xxvii) The LoI holder/contractor shall also furnish a solvent surety for a sum equal to the amount of the annual bid for execution of the agreement. In case the surety offered by the contractor(s) during the subsistence of the contract is not found solvent, the contractor (s) shall offer another solvent surety and a supplementary deed to this effect shall be executed;
- xxviii) The mining contractor shall get prepare a Mining Plan along with the Mine Closure Plan (Progressive & Final) from the Recognized Qualified Person as per Chapter 10 of the "State Rules, 2012" for mining area granted on contract and shall get the same approved by an officer authorized by the

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Director, Mines & Geology, in this behalf.

- xxix) The contractor / Lol shall obtain prior Environmental Clearance for the Mining block(s)/area from Competent Authority as required under notification dated 14/09/2006 issued by the MoE&F, Govt of Haryana as amended from time to time and also other required approvals for mining including Consent to Establish and Consent to Operate before commencement of actual mining operations;
- xxx) The Mining contractor would also be liable to pay following to the land owners;
- (a) The annual rent in respect of the land area blocked under the concession but not being operated, and;
- (b) The rent plus compensation in respect of the area used for actual mining operations.
- xxxi) The amount of annual rent and the compensation shall be settled mutually between the landowner and the mining contractor. In case of non-settlement of the rent and compensation, the same shall be decided by the District Collector concerned in accordance with the provisions of Chapter 9 of "the State Rules, 2012".
- xxxii) The total mineral excavated and stacked by the concession holder within the area granted on mining contract shall not exceed two times of the average monthly production as per approved Mining Plan at any point of time.
- xxxiii) The Mining contractor shall not stock any mineral outside the concession area granted on mining contract, without obtaining a valid Mineral Dealer License as per provisions contained in Chapter 14 of the "Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012";
- xxxiv) The contractor shall not carry out any mining operations in any reserved/protected forest or any area prohibited by any law in force in India, or prohibited by any authority without obtaining prior permission in writing from such authority or an officer authorized in this behalf. In case of refusal of permission by such authority or officer authorized in this behalf, contractor(s) shall not be entitled to claim any relief in payment of contract money on this account;
- xxxv) The following special conditions shall be applicable for excavation of

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minor mineral(s) from river beds in order to ensure safety of river-beds, structures and the adjoining areas:

- 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;
 - 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 3 meters 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 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 on either side of all other rivers/ rivulets in case of river Yamuna. (This clause is applicable for mining outside riverbed area);
 - 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 Department, may be made applicable to the mining operations in riverbeds.
 - vii. No mining operation may be carried out from 01-07 to 15-09 every year (rainy season)
- xxxvi) That no mining operation shall be allowed in the urbanize zone of area notified by Town and Country Planning Department. Further, in case of the agriculture zone notified by Town and Country Planning Department mining shall be permissible only after obtaining prior permission from the competent authority;
- xxxvii) 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.

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- xxxviii) 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;
- xxxix) The contractor shall be under obligation to carryout mining in accordance with all other provisions applicable as per Mines Act, 1952, Mines and Minerals (Development and Regulation) Act, 1957, Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986 and the rules made there under Wild Life (Protection) Act, 1972, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981;
- xl) Further information, if any required, can be had on any working day from the office of the Mining Officer, Mines & Geology Department, Yamuna Nagar or from the O/o the Director, Mines and Geology, Haryana, DHL Square, Plot No 9, IT Park, Sector 22, Panchkula, Haryana.

Director,
Mines & Geology, Haryana.

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DISTRICT SURVEY REPORT (RIVER BED MINING)



*As per Sustainable Sand Mining Management Guidelines, 2016;
Enforcement & Monitoring Guidelines for Sand Mining, 2020;
of Ministry of Environment, Forest and Climate Change, Govt. of India
and
Haryana Minor Mineral Concession, Stocking, Transportation of Minerals
and Prevention of Illegal Mining Rules, 2012*

YAMUNANAGAR DISTRICT, HARYANA

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**CHAPTER 1
INTRODUCTION**

1.0 GENERAL INFORMATION

The District Survey Report of Yamuna Nagar District has been prepared in compliance of the guide line of Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India vide notification S.O. 1533 (E) dated 14th Sept., 2006 and subsequent MoEF&CC notification S.O. 141 (E) dated 15th Jan., 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF&CC published a notification S.O. 3611 (E) dated 25th July, 2018 and recommended the format for District Survey Report.

The objectives of the District Survey Report (DSR) are as following:

1. Identification and quantification of mineral resources and its optimal utilization.
2. To regulate the sand & gravel mining in the country, identification of site-specific end-use consumers and reduction in demand & supply gaps.
3. Use of information technology (IT) & latest scientific methods of mining for surveillance of the river bed mining at each step.
4. District Survey Report shall enable environmental clearance for cluster of sand & gravel mines. It shall assist concern department during post environmental clearance monitoring.
5. To control the instance of illegal mining and flood in the area.
6. To maintain the livelihood of aquatic habitat.
7. To protect the incursion of ground water in the area. Limiting extraction of material in floodplains to an elevation above the water table generally disturbs more surface area than allowing extraction of material below the water table.
8. To keep accumulated data records viz. details of mineral resources, potential areas, leases, approved mining plan, co-ordinates of a district at one place.
9. To maintain the records of revenue generation.

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1.2 STATUTORY FRAMEWORK

Requirement of the District Survey Report and the year-wise modification of decisions and guidelines are furnished in the table below:

Table 1: Requirement of DSR and the year-wise modification of decisions/guidelines

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment notification, 1994 which is only applicable for the major minerals more than 05 ha.
2006	Minerals more than 05 ha., In order to cover the minor minerals also into the preview of EIA, the MoEF&CC issued EIA notification SO 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance (EC) for both major & minor minerals more than 05 ha.
2012	Further, the Hon'ble Supreme Court vide order dated the 27th February, 2012 in I.A. No. 12-13 of 2011 in Special Leave Petition (C) no. 19628-19629 of 2009, in the matter of Deepak Kumar etc. V/s State of Haryana and others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF&CC"; and Hon'ble National Green Tribunal, order dated the 13 th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor minerals.
2016	The MoEF&CC in compliance of above Hon'ble Supreme Court's and NGT's order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State Governments, detailing the provisions on environmental clearance for cluster, creation of District Environment Impact Assessment Authority, preparation of District Survey Report and proper

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	<p>monitoring of minor minerals. There by issued notification dated 15.01.2016 for making certain amendments in the EIA notification, 2006 and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District Survey Report (DSR) of river bed mining and other minor minerals.</p>
2018	<p>MoEF&CC published a notification S.O. 3611 (E) dated 25th July, 2018 and recommended the format for District Survey Report. The notification stated about the objective of DSR i.e. "Identification of areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area".</p>
2019	<p>The main objective of Sand Mining Policy, 2019 to ensure that sand mining is done in an environmentally sustainable manner, to ensure availability of adequate quantity of sand, to increase the number of settles to ensure generation of employment.</p>
2020	<p>Enforcement & Monitoring Guidelines for Sand Mining (EMGSM), 2020 has been published modifying Sustainable Sand Mining Guidelines, 2016 by MoEF&CC for effective enforcement of regulatory provisions and their monitoring. The EMGSM, 2020 directed the states to carry out river audits, put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, ground surveys and set up dedicated task forces at district levels. The guidelines also push for online sale and purchase of sand and other river bed materials to make the process transparent. They propose night surveillance of mining activity through night-vision drones.</p>

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1.3 METHODOLOGY ADOPTED FOR DSR PREPARATION

The District Survey Report is comprised of primary data and secondary data published and endorsed by various departments & websites in respect of the geology of the area, mineral resources, climate, topography, landform, forest, rivers, soil and transportation etc. All the data has been reviewed, selected, and collated in order to prepare an authentic and reliable District Survey Report. Besides this, procedure as defined in the MoEF&CC notification dated 25.07.2018 has been followed for preparing the various chapters of this District Survey Report.

1.3.1 IDENTIFICATION OF DATA SOURCES

District Survey Report has been prepared based on the primary database through field surveys and secondary data base collected from different sources. Field study involves assessment of the mineral resources of the district by means of pitting/trenching for authentication of sand bar/riverine deposition at specific intervals. This provides a clear picture of the extent and distribution of minor minerals in the river beds and other deposition areas. Potential mineral resources have been identified based on DGPS field survey. All sand bars/other riverine deposit areas identified through satellite images will be accurately surveyed on ground to determine the pre monsoon and post monsoon mineral deposits from which the replenishment rates will be determined. The secondary data sources which are used in the survey report are mostly Government published data or scientific reports published in reputed journals. Mining lease details and the revenue generated from the mining of minor minerals have been determined on the basis of available data from the mining department.

1.3.2 DRAFTING OF DISTRICT SURVEY REPORT

The District Survey Report is prepared to accurately identify the potential mineralized zones with respect to minor minerals including river sand, boulder and gravel, their suitability for mining, and the anticipated environmental impacts on account of the permitted mining operations. The DSR provides details of the minor mineral potential zones after taking into consideration objections, if any, at public hearings.

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CHAPTER 2

OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

2.0 OVERVIEW

The National Mineral Policy, 1993 facilitated the growth of mineral based industries through investment in the private sector. As per the policy, processing units which desire to develop captive mines to secure assured supplies of raw material are allowed foreign equity participation in the manner and to the extent applicable to such processing units. On one hand it is possible to excavate sand and gravel from sources located in or near river or stream channels within acceptable environmental limits provided that proper safeguards and practices are utilized. On the other hand, development of sand and gravel from sources located in or near river or stream channels may create far reaching environmental impacts if proper safeguard practices are not followed.

In Yamunanagar District, the rivers that pass through the district are Yamuna, Pathrala, Boli, Somb, Saraswati and Chautang. Fluvial deposits of boulder, gravel, sand, silt, and clay can be found in these channels.

2.1 MODE OF GRANT OF MINERAL CONCESSION

Before giving details of actual sites/number of sites or mineral concessions it would be appropriate to explain that the mineral concession in respect of minor minerals are granted as per the provisions of the State Mining Rules, framed by the State Government in exercise of powers conferred under section 15 of the Mines and Minerals (D&R) Act, 1957. The State of Haryana at the time of bifurcation opted prevailing Rules namely "Punjab Minor Mineral Concession Rules, 1964". These Rules were amended from time to time as per policy of the State Government. The Hon'ble Supreme Court vide its order dated Feb, 27 2012 directed all State Governments to revise their State Mining Rules making provisions in an accordance with various recommendations contained in a report of the MoEF&CC, GoI on mining of the minor minerals

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and the model draft guidelines issued by the Ministry of Mines, GoI. Accordingly, the State of Haryana framed & notified on 20.06.2012 comprehensively revised Rules namely, the **“Haryana Minor Mineral Concession, Stocking, Transportation of Minerals, and Prevention of Illegal Mining Rules, 2012”**, repealing the prevailing Rules namely **“Punjab Minor Mineral Concession Rules, 1964”**.

The mineral concessions in the Haryana are being granted in the form of **“Mining Contract”** or **“Mining Lease”** through competitive bidding process. The mining contracts are granted for a minimum period of 07 years and maximum period of 10 years whereas the mining leases are granted for a minimum period of 10 years and maximum period of 20 years. In district Yamuna Nagar mineral concessions are/were granted in the form of mining contracts for the period varying between 07 to 10 years. The contracts are being granted through open auction/e-auction mode. The mineral concessions are being granted subject to condition that actual mining operation shall be allowed only after environment clearance is/are obtained from the competent authority as per requirement of EIA notification dated 14.09.2006 of the MoEF&CC, GoI.

The mineral concession holders are required to prepare a detailed **“Mining Plan”** for their specific project through Registered Qualified Person (RQP) and get in approved from authorized officer of the State Government. The exhaustive mining plan are prepared interalia giving details of mineral reserves, method of mining, extent of proposed mining and other related details. Based on these details itself the project proponents/mineral concession holders obtain environmental clearances. After obtaining the environmental clearances, to comply with requirement of Air Act, 1981 the **“Consent to Establish”** and **“Consent to Operate”** from State Pollution Control Board are also obtained before actual mining. The above said provisions mainly relates to mineral conservation and environmental protection. With regards to provisions related to safety in mines and welfare of labours provisions under the Mines Act, 1952 are ensured by the Directorate General Mines Safety, a department under the Ministry of Labour, Government of India.

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2.2 METHOD OF MINING AND CONDITIONS IN WHICH MINING IN RIVER BED AREAS IS TO BE ALLOWED

The river bed areas apart from other related conditions for mining are allowed to excavate minerals (Boulder, Gravel or Sand) to ensure safety of river bed structures and the adjoining areas on the following specific conditions:

- 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;
- 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;
- The maximum depth of mining in the river-bed shall not exceed three meters measured from the un-mined bed level at any point in time with proper bench formation;
- Mining shall be restricted within the central 3/4th width of the river/ rivulet;

Note: The above said conditions have been decided after detailed discussions and recommendations of the PWD (B & R) department and Irrigation department, Haryana.

As the mining in river bed remains restricted in the central 3/4th part of the river bed, the area left on both side of the river bank not only ensures the safety of banks (bank cutting due to water stream) but also ensures that in the central part of river, water stream flows smoothly during rains and process of river meandering does not occur.

The excavator/JCBs are being deployed to remove mineral from river bed up to maximum depth of 03 meters layer from general level of the bed. The mining in the river bed are undertaken in mechanized manner. At times the RQPs do refers the excavation in river bed mining through excavators as "Semi Mechanized Mining".

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The mineral excavated is directly loaded in the vehicles/dumpers and the vehicle owners & drivers take away the mineral directly to the stone crushers or screening plants or consumers. In certain cases mineral concession holders stacks mineral on the river bank in case are not able to sell the material on actual mining itself.

2.3 METHOD OF MINING IN AREAS OUTSIDE RIVER BED

- The excavation of minerals found outside river bed areas are also being permitted. The mining of Boulder-Gravel-Sand from areas outside river bed is similar to that of any kind of open cast mining.
- As the minerals are found in and adjoining river bed areas also, therefore, to ensure that mining from outside do not affect rivers, no mining is being permitted in an area up to a width of 500 meters from the active edges of embankments in case of river Yamuna, 250 meters in case of Tangri, Markanda and Ghaggar and 100 meters on either side of all other rivers/ rivulets.
- The mineral excavation from areas outside river bed is being permitted subject to condition that 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. Further the depth of excavation of mineral shall not exceed nine meters (**9m**) at any point of time.
- The method of excavation is such that the mining contractors deploys earth moving machineries and after removing the top layer of original soil, varying between 01 to 1.5 meters, stack the same separately. Thereafter removes the minor mineral deposits. After undertaking the mining i.e. removing of mineral layer up to a maximum depth of 09 meters, the top stacked soil is again spread back into the pit. The mined out area/land is put to reuse for cultivation after spreading the top soil. The landowners/farmers give their land to the contractors for mining after getting compensation, mutually settled between the landowners and the mining contractor.

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
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2.4 METHOD OF MINING IN RIVER BED AREAS (MANUAL OR SEMI-MECHANIZED/MECHANIZED)

- The Hon'ble NGT with regards to river bed mining has specifically desired to examine the mode of mining – shall the same be manual or semi mechanized/mechanized.
- There is no specific definition of **Semi-Mechanized Mining**. The term semi-mechanized mining in general is used where method of working in general are undertaken mechanically, however, some operations are also undertaken manually. Therefore, the semi mechanized mining or mechanized mining, is the same method of working. Sometime mechanized mining with light machines are also referred as semi- mechanized mining.
- Whereas **Manual** mining operations are undertaken using conventional hand tools and operations are only labor intensive. As per requirement in manual mining lifting of sand and directly loading it in the tractor trolleys etc. is being carried out through labors itself.
- The **Mechanized** mining operations in respect of river bed mining are undertaken with the help of excavator-cum-loaders. In this process mineral is lifted/excavated from the river bed through excavator-cum-loaders and directly loaded in dumpers or other mode of transport. The vehicles carrying the mineral from mines to site of use/site of construction or sale stocks outside lease hold areas (*an independent business than that of mining*).
- In the current scenario it is impractical to undertake manual mining because:-
 - The labours are not easily available;
 - Manual mining cannot be undertaken in systematic and scientific manner as compared to mechanical mining which can be undertaken systematic/scientific and controlled mining. In case of manual mining to achieve desired level of production more number of manpower would be required meaning thereby human interface within river bed area would increase and more ecological damage would be caused.
- The method of mining even otherwise cannot be uniform even for same area and all the methods have their own pros and cons, however, considering the current scenario wherever feasible mechanized (semi-mechanized or mechanized is same thing) mining should be preferred over manual method.

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2.5 AREAS SELECTED FOR MINING IN DISTRICT YAMUNA NAGAR

2.5.1 BACKGROUND

As per rough estimate total area of rivers beds (all rivers and tributaries/rivulets) passing through district Yamuna Nagar is about 28 to 30 sq. km. and approximately about 90 sq. km. area outside river bed is also having mineral deposits; a larger part of which is otherwise under various uses including agriculture & horticulture. As regards selection of area for mining it may be pointed out that:-

- Earlier, (about 16-18 years back) mineral concession/mining contracts were being granted on revenue estate basis (without giving any specific details of areas), subject to various restrictions. The mineral concession holders used to undertake mining in areas after leaving restricted area.
- Initially about **120 villages** were being offered for mining, however, over a period of time the number of villages/quarries reduced to about **67**, as area of some of the villages came under other restrictions either because of construction of some bridges on river bed or due to other development projects including habitation.
- The mode of grant of mining contracts of individual quarries/revenue estates in Yamuna Nagar district was changed in late 90's and instead granting individual quarries on contract, numbers of adjoining quarries were clubbed for the purpose of granting mineral concessions. This mode was further changed and all minor mineral quarries of the district were given "as one unit". In this way they used to be a single contractor for all minor mineral quarries "**district as one unit**". In district Yamuna Nagar last such contract for "district as one unit" was granted on 11.04.2004 for a period up to 31.03.2009.
- Needless to state that such mineral concession areas used to have even the areas having no mineral deposits, the areas otherwise not permissible for mining. The mineral concession holders were under obligation to undertake mining only in the areas free from all restrictions and as per prevailing rules and regulations.

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- Mineral concessions for minor mineral prior to 14.09.2006 were not required to obtain environmental clearance.
- The EIA notification dated 14.09.2006 became applicable for fresh contracts/leases and in the year 2008 for grant of mineral concessions in respect of other areas in the State. The fresh auctions were notified subject to condition that mining will be allowed to be undertaken only after prior environmental clearance is obtained as per requirement of EIA notification dated 14.09.2006 of MoEF&CC, GoI. However, said condition was challenged by some prospective bidders on the plea that the notification dated 14.09.2006 was not applicable for mining of minor minerals.
- The operation of notification dated 14.09.2006 for mining of minor mineral was stayed by the Hon'ble Punjab and Haryana High Court vide its interim order dated 07.04.2008 in CWP No. 4578 of 2008-Chandi Mandir Stone Crusher Consumer Company V/s Union of India and Others.
- The State could not have granted long term contracts during the pendency of said case because operation of the notification was under stay and in case long term contracts were granted the mineral concession holders would have claimed that at the time of grant the notification was not applicable for them or may have sought to cancel the contract.
- Subsequently, the Hon'ble High Court on 15.05.2009 while disposing of the above said writ petition (along with CWP No. 20134 of 2004 Vijay Bansal V/s State) upheld that notification dated 14.09.2006 was applicable for mining of minor minerals also.
- However, as regards the process of obtaining the prior environmental clearance, the Hon'ble High Court directed the process to be followed in two parts. In the first stage, it was directed that the state of Haryana would submit the ToRs to the EAC and the EIA report will be prepared by Expert Appraisal Committee (EAC) in the MoEF&CC, GoI before conducting the auctions. Subsequent to the holding of the auctions, the successful bidder shall obtain the prior environmental clearance from the competent authority.
- The Hon'ble High Court, considering that some time would be required for completing the process as per above, and the general public would face problems due to sudden closure of

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mining, permitted mining without environmental clearance for the period up to 28.02.2010.

- Accordingly, no long term contract in Yamuna Nagar area could be granted due to above litigation and after expiry of the last contract the mining operations was allowed in district Yamuna Nagar (as well as in other part of the state) for the period of up to 28.02.2010 without environmental clearance as per orders of the Hon'ble High Court.
- However, the order dated 15.05.2009 of the Hon'ble High Court relating to preparation of EIA report by the State Government was not acceptable to the MoEF&CC, GoI. The MoEF&CC was of the view that state being regulating agency cannot prepare the said report at its own. Therefore, the applications submitted by State of Haryana for approval of ToRs were not considered.
- The MoEF&CC initially filed a review application before the Hon'ble High Court and thereafter SLP before the Hon'ble Supreme Court. During the pendency of said matter the State of Haryana neither could take further action relating to preparation of EIA report nor could auction its minor mineral areas for grant of mineral concessions subject to condition that environmental clearance shall be obtained by the project proponent.
- The mining in district Yamuna Nagar and other parts of the State came to a grinding halt on 01.03.2010. The mining in the district Yamuna Nagar remained closed. The mining operations prior to 01.03.2010 were either undertaken by the contractors to whom contract was granted prior to 14.09.2006 or under special dispensation granted by the Hon'ble High Court to operate mines without environment clearance till 01.03.2010.
- Subsequently, the Hon'ble Supreme Court on 28.10.2013 while disposing of the SLP No. 729 of 2011 of the MOEF&CC, GoI held that prior environmental clearance is to be obtained by the concerned mining lease holders and not by the State Government. In other words the process for obtaining prior environmental clearance was to be followed as prescribed by MoEF&CC, GoI under its notification dated 14.09.2006 as amended to time to time (uniformly applicable for country).
- In view of above the State of Haryana in November, 2013 issued notifications for grant of

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mineral concessions in various parts of the State including district Yamuna Nagar through open auctions held in December, 2013.

- Recently, 08 mining sites have been auctioned in the Yamuna Nagar District.

2.5.2 AREAS SELECTED FOR MINING IN NOVEMBER/DECEMBER, 2013 AND THEREAFTER (THE AREAS AT PRESENT ON CONTRACTS OR TO BE GRANTED FOR MINING CONTRACTS)

- In November, 2013 it was decided that instead of the auctioning all of minor mineral quarries of a district as a single unit, the same should be granted in the form of big mining units. The mineral concessions for district as one unit were found to be resulting in monopoly of a few in the business of mining in a district.

At the cost of repetition it is stated that mineral concession areas of large size blocks/units used to have even such areas which otherwise were not permissible for mining. The restricted areas were not meant to be used for actual mining operations but otherwise permissible for subsidiary activities like installation of check posts/weighbridges etc.

- In December, 2013 a total of 16 mining blocks having contiguous area were carved out and were auctioned as 06 separate units (one unit was having number of blocks) having total area of 3601.62 hectares. The said mineral concessions were granted subject to condition that mining would be allowed to be commenced only after prior environmental clearance is obtained by the concerned mining contracts/LoI holders.
- The areas of each of these mining units except that of Unit No. 1 & Unit No. 2 are very large. However, subsequently 04 of the LoI holders got their bids cancelled through the Hon'ble High Court. The area of such cancelled 04 large size contracts became available for fresh grant. It was decided to be auctioned afresh by carving our small size blocks as compared to large size areas auctioned in the December, 2013.
- The area available for actual mining out of area of above said 04 units and a few of other areas which earlier could not have been offered due to some issues relating to access road etc., were notified for fresh grant by carving out 33 mining blocks.

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- While auctioning comparatively smaller blocks the total area available for grant of mineral concession got further reduced to 1221.91 hectares and details of the existing mining blocks are attached as **Annexure-I**.
- At present additional 08 proposed mining sites have attracted bids in auction/e-auctions and details of the same are attached as **Annexure-II**.

2.5.3 ANNUAL CAPACITY OF AREAS SELECTED FOR MINING OF MINOR MINERALS

- In order to make estimates of mineral deposits and mineable reserves of any mineral a detailed exploration is required to be undertaken. The economic life of a mine based on the mineral estimates including current mining production plans are made on the basis of study taking into consideration the quantity and quality of the minerals extracted during the reporting time, changes in economic viability due to changes in prices and costs, development of relevant technology and newly imposed environment or other regulations.
- The estimates can be made on the basis of mineral seen at surface or through the area operated in past and on the basis of permissible limits to excavate minerals.
- The minerals are non-renewable resources, however, minor minerals found in the river bed areas have peculiar condition relating to mineral reserves. The minerals removed from the river bed areas get replenished after every rainy season with minerals brought along with water from hilly areas. The mineral reserves for mining on replenishment remain almost same every year after rainy season.
- On the other hand in case of areas outside river bed or any area used for mining, the mineral reserves reduce after every year after mining operations. Hence, total mineable reserves after mining gets depleted and the life of any mine also reduces.
- The mineral reserves for river bed areas are calculated on the basis of maximum depth of 03 meters. The area multiplied with depth gives volume and volume multiplied with bulk density gives the quantity in M.T., in case of river bed areas, maximum availability of mineral for actual mining up to 03 m's is 60,000 M.T. per hectare. However, as explained

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above the mineral excavated from river gets replenished after every year, therefore, the same quantity remains available for mining again and again.

- In case of areas outside river bed, the maximum depth of 09 meters from ground level is considered for calculation of capacity of a mine. The area multiplied with 09 gives the volume and volume multiplied with bulk density gives quantity of total mineral available in M.T. However, on an average half meter to 01 meter layer is of ordinary earth, so actual mineral can be excavated up to maximum depth of about 08 meters per hectares area outside river bed in general provides 1,60,000 M.T. of mineral.

Table 2: Details of proposed mining blocks with estimated production capacity

Sr. No.	Name of Mining Block	Area (in acres)	Area (in sq. m.)	Average Thickness (in m)	Approx. Volume (in MT)*
1.	Tajewala (BGS)	79.07	3,19,985	3	19,19,910
2.	Bailgarh North (BGS)	64.58	2,63,046	3	15,78,276
3.	Ranjitpur-Ranipur (BGS)	290.34	11,74,964	3	70,49,784
4.	Nagli-32-Pirthipur (BGS)	147.02	5,96,264	3	35,77,584
5.	Leda Khadar-Baroli Majra (BGS)	23.61	95,546	3	5,73,276
6.	Bailgarh South (BGS)	62.88	2,54,466	3	15,26,796
7.	Pobari (Sand)	164.10	6,64,089	3	39,84,534
8.	Gumthala North (Sand)	334.98	13,55,616	3	81,33,696
Total Estimated Reserve					2,83,43,856

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Table 3: Details of production of minerals during the last 03 years in the district Yamunanagar

Sr. No.	Financial Year	Sand (in MT)	Boulder-Gravel-Sand (in MT)
1.	2020-21	1,10,94,225	1,14,62,708
2.	2021-22	90,42,103	63,68,830
3.	2022-23	1,70,01,469	67,89,833
	Total	3,71,37,797	2,46,21,371

Table 4: Details of mineral based industry in the district Yamunanagar

Sr. No.	Name of the Unit	Total Number of Units Installed
1.	Stone Crushers	215
2.	Screening Plants	395
	Total	610

Source: Data from departmental e-Rawaana portal; July, 2023.

Table 5: Details of royalty/revenue received in last three years in the district Yamunanagar

Sr. No.	Financial Year	Total revenue (in ₹)
1.	2020-21	222,42,02,933
2.	2021-22	152,93,98,839
3.	2022-23	115,47,54,868
	Total	490,90,56,640

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CHAPTER 3

PROCESS OF DEPOSITION OF SEDIMENTS IN THE RIVERS OF THE DISTRICT

3.0 INTRODUCTION

The deposition in a river bed is more pronounced during rainy season although the quantum of deposition varies from stream to stream depending upon numbers of factors such as catchment, lithology, discharge, river profile and geomorphology of the river course. It has been observed that during rainy season all of the pits created due to excavation of minerals are completely filled up and as such the excavated area is replenished with new harvest of minerals.

In order to calculate the mineral deposits in the stream beds, the mineral constituents have been categorized as Clay, Silt, Sand, Gravel and Boulder. However, during present calculation, the waste material i.e. silt, clay which vary from 10 to 20% in different streams have been included in the total production. The mineral reserves have been included only up to 1.00 meter depth although there are some portions in the river beds such as channel bars, point bars and central islands where the annual deposition is raising the level of river bed thus causing shifting of the rivers towards banks resulting in to cutting of banks and at such locations, removal of this material up to the bed level is essential to control the river flow in its central part to check the bank cutting. While calculating the mineral potentials, the mineral deposits lying in the sub-tributaries of that particular stream/river has not been taken into consideration. Since these mineral deposits are adding annually to the main river, the mineral deposits will be much more.

The important rivers/streams of the district are Yamuna, Pathrala, Boli, Somb, Saraswati, Chautang, Rakshi and Markanda. Yamuna River rises from the snow-clad peaks of the middle Himalayas at Yamunotri, enters the district from its northeastern corner through a narrow corridor in the Siwaliks. River Yamuna enters plain area for the first time from Yamuna Nagar and running through the district which forms the eastern boundary with the neighboring District Saharanpur and this boundary is also known as the state boundary. The Somb River originates in

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Siwalik Hills near Aadi Badri in Yamuna Nagar district on the border of Haryana and Himachal Pradesh State. Boli River joins the Somb near the Dadupur and after combining both the rivers join the Yamuna River at Village Kanalsi. The Rakshi stream takes its birth in the rolling foot hill plains while the Chautang and Saraswati rivers originate in the lower hills. Generally, the slope of the district is from north-east to south-west, in which direction of most of rivers/rainfed torrents flow down. The higher area that is not flooded in rainy season is called Bangar and the lower flood prone area is called Khaddar.

3.1 ANNUAL DEPOSITION FACTOR

Rivers are important geological agents for erosion, transportation and deposition. Deposition and erosion in river valleys can strongly modulate the downstream delivery of sediment (Fan and Cai, 2005; Malmon et al., 2005). A riverine sediment budget provides an effective conceptual framework within which to quantify sediment mobility, transport, deposition, and storage within a drainage basin, as well as sediment output from the basin (Walling et al., 2002).

Annual deposition of river bed materials depends on various factors. Geological erosion and soil erosion are the two basic terms used to describe erosion processes. Geological erosion refers to regular or natural erosion brought on by long-term geological processes that wear down mountains and produce floodplains, coastal plains, and other landforms to develop.

Soil erosion happens gradually or at an alarming rate, but it is a continual process. It leads to various negative effects, including ongoing topsoil erosion, ecological harm, soil collapse, and many more. The soil fragments are loosening or being washed away in the valleys, oceans, rivers, streams, or far-off regions throughout this process. Human activities like agriculture and deforestation have contributed to this situation getting worse. Fluvial erosion is the direct removal of soil particles by moving water. The force of the flowing water and the resistance of the bank material to erosion both affect the pace of fluvial erosion.

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DISTRICT SURVEY REPORT (RIVER BED MINING) DISTRICT YAMUNA NAGAR, HARYANA



3.2 PROCESS OF DEPOSITION

After erosion, the eroded materials get transported with running water. When a river loses its energy and velocity falls, the eroded material is being deposited. A river can lose its energy when rainfall reduces, evaporation increases, friction close to river banks and when enters a shallow area (flood plain) or towards its mouth where it meets another body of water. Hjulström curve showing the relationship between particle size and the tendency to be eroded, transported or deposited at different current velocities.

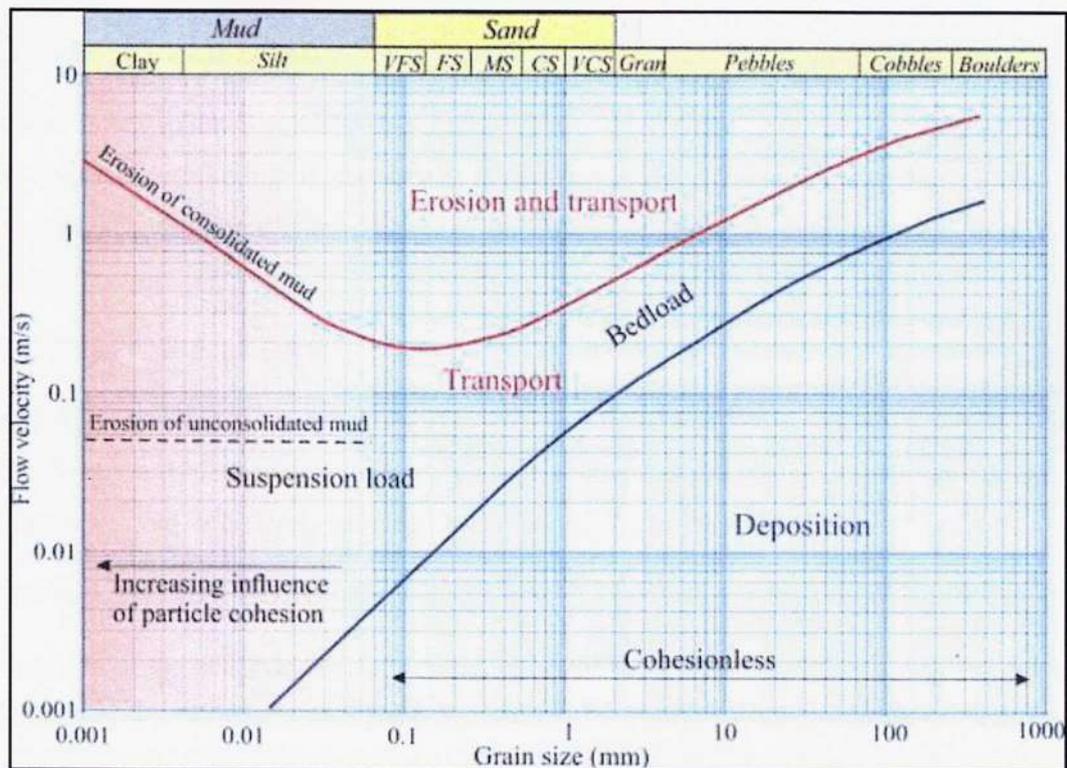


Figure 1: The Hjulström curve diagram (<https://www.geological-digressions.com/flow-shields-and-hjulstrom-diagrams/>)

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3.2.1. MODE OF SEDIMENT TRANSPORT IN RIVERS

Sediment transport is the transportation of detrital particles via air, water, ice, or gravity. When transported by air and water (fluid transport), grains (which may be sand particles) travel as a bed load (by rolling, sliding, and saltation) or in suspension when the turbulence keeps the grains moving. The amount and size of sediment moving through a river channel are determined by three fundamental controls: competence, capacity and sediment supply. The sediment load of a river is transported in various ways such as Dissolved load, Suspended load, Saltation load, Wash load and Bed load.

3.2.1.1 DISSOLVED LOAD

The amount of sediment carried in solution by a stream's total sediment load, particularly ions from chemical weathering, is known as the dissolved load. Along with suspended load and bed load, it makes up a significant portion of the overall amount of debris removed from a river's drainage basin.

3.2.1.2 SUSPENDED LOAD

The term suspended load describes the portion of the total sediment transport that is kept suspended by turbulence in the flowing water for extended periods of time without contact with the stream bottom. It is nearly moving at the same speed as the flowing water.

3.2.1.3 SALTATION LOAD

The portion of the bed load that is moving, either directly or indirectly, as a result of the impact of bouncing, i.e., the intermittent jumping motion of the particles, along the stream bed.

3.2.1.4 WASH LOAD

It is conveyed through the stream without deposition since it is in almost permanent suspension. The discharge of the wash load through a reach is determined solely by the rate at which these particles become available in the catchment area, not by the flow's transport capacity.

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3.2.1.5 BED LOAD

Particles that are too large to be carried as suspended load are bumped and pushed along the stream bed as bed load. Bed load sediments do not move continuously. While streams with high velocity and steep gradients do a great deal of down cutting into the stream bed, which is primarily accomplished by movement of particles that make up the bed load.

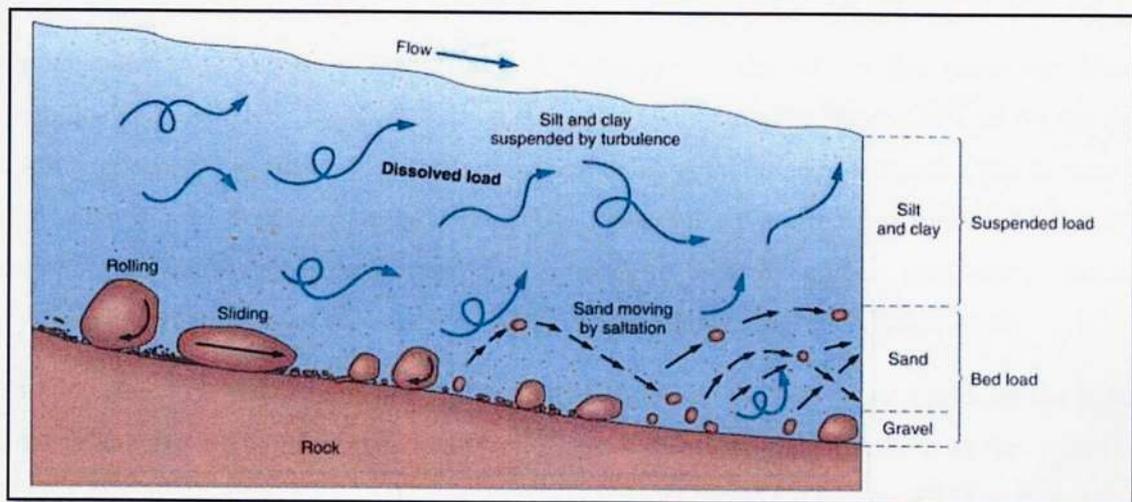


Figure 2: Modes of sediment transport (<https://www3.nd.edu/~cneal/planetearth/Chapt-17-Marshak.pdf>)

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**CHAPTER 4
GENERAL PROFILE OF THE DISTRICT**

4.0 PROFILE OF THE DISTRICT

District Yamuna Nagar came into existence as District on 1st November, 1989. It occupies an area of 1756 square kilometers, in which 03 Sub-Divisions, 04 Tehsils, 03 Sub-Tehsils, 07 Development Blocks (Bilaspur, Sadhaura, Radaur, Jagadhri, Chhachhrauli, Saraswati Nagar and Partap Nagar), 471 Panchayats and 655 revenue villages have existed. Earlier the District Yamunanagar was known to Abdullapur. A large part of the district lies under the Siwalik foothills. Yamuna River flows from the district and Hathnikund barrage is located on the river. Sugarcane, wheat and rice are the main crops and being good potency & fertility, the farmers are also used to seed poplar (*Populus*) trees. The industrial environment is appraisable; it is an important industrial city having metal, conglomerate of brass & stainless steel utensil industry, plywood industry and blessed with Shree Gopal Paper Mills & Saraswati Sugar Mills.

Yamuna Nagar district is bounded by the state of Himachal Pradesh in the north, by the state of Uttar Pradesh in the east & south east, by the districts of Karnal & Kurukshetra in the south north and by Ambala District in the east. Yamunanagar District located at height of 255 m from the sea level. The district is located in Topo Sheet No. 53/F, 2,3,4,7,8,11 and 12 of Survey of India.

At a Glance:

- Latitude: 30.12; Longitude: 77.26
- Yamunanagar is 106 Km's from Chandigarh (Capital of Haryana).
- Linking Road: Situated on the National Highway No. 73
- Postal Code: 135001
- STD Code: 01732

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DISTRICT YAMUNA NAGAR, HARYANA**

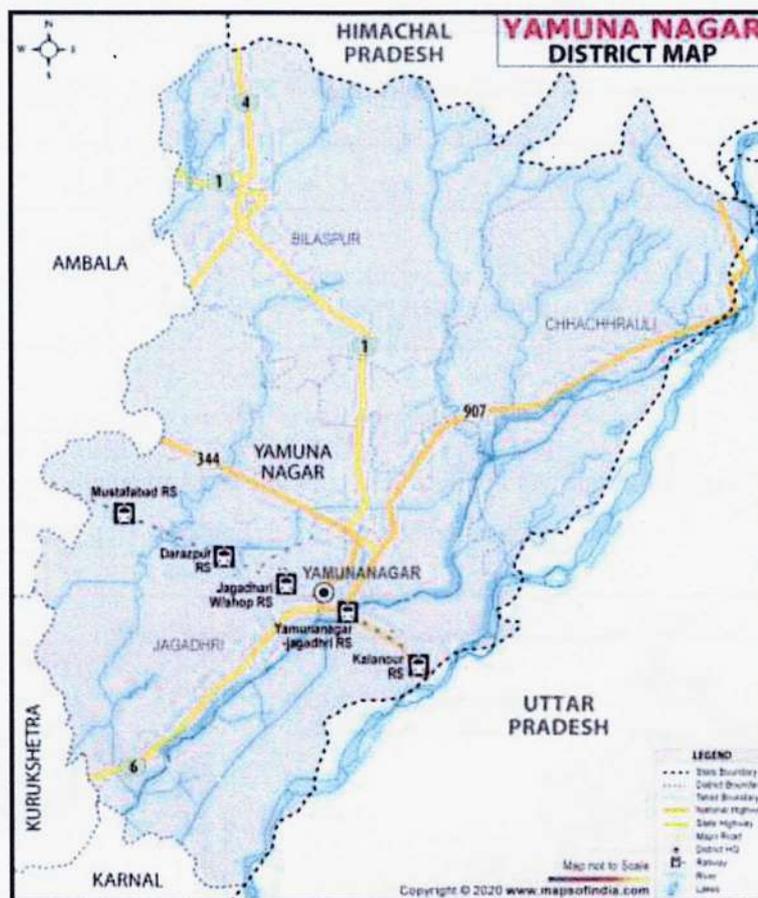


Figure 3: District map of Yamuna Nagar {Yamunanagar District Map (mapsofindia.com)}

Table 6: General profile of the district Yamuna Nagar

Headquarters	Yamuna Nagar
Sub Divisions	Jagadhri, Bilaspur, Radaur
Tehsils	Jagadhri, Chhachhrauli, Bilaspur, Radaur
Sub Tehsils	Sadhaura, Saraswati Nagar (Mustafabad), Partap Nagar (Khizrabad)
Altitude	255 m

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
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Area	1,756 sq. km. (678 sq. mi.)
Total Population	12,14,162 (Census, 2011)
Population Density	687/sq. km. (1,780/sq. mi.)
Sex ratio	877
Literacy Rate	78.90 %
Website	Official website (https://yamunanagar.nic.in/)

4.1 LAND UTILIZATION PATTERN IN THE DISTRICT

In District Yamuna Nagar, most of the areas are utilized for agriculture and horticulture, some area is used for mining activities and rest of land is under forest cover.

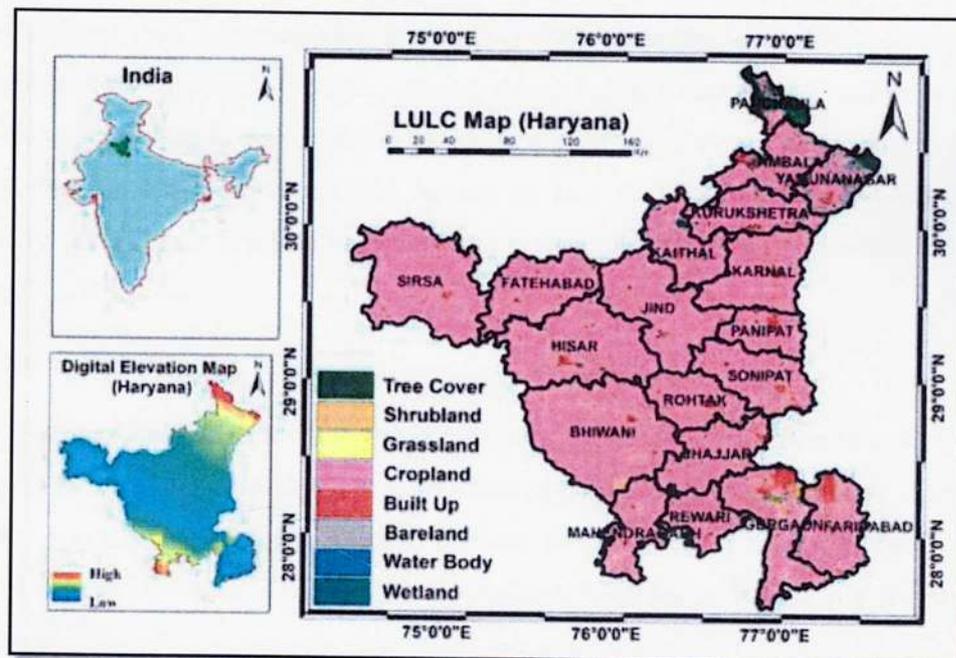


Figure 4: Land use & land cover map of Haryana (Appraisal of Climate Response to Vegetation Indices over Tropical Climate Region in India; Nitesh Awasthi et. al., 2023).

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
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4.2 FLORA AND FAUNA/ECO-SENSITIVITY

Eco-sensitive Zone is the area up to 05 kilometers from the boundary of the protected area of Kalesar Wildlife Sanctuary situated in the district between latitude 30°18' to 30°26' N and longitude 77°25' to 77°37' E.

Kalesar National Park, District Yamunanagar

Kalesar National Park is situated in the foot hills of Siwalik ranges. On map it is located between 30°18' to 30°27' N & 77°18' to 77°35' E. It falls under Yamunanagar District of Haryana, sharing boundary with three States viz., Himachal Pradesh, Uttrakhand & Uttar Pradesh. The Yamuna River form the eastern boundary with Uttar Pradesh, the main Siwalik ridge separates state boundary among Haryana, Himachal Pradesh & Uttarakhand in the north.

Kalesar National Park is named after the Kalesar (Shiva) temple located in the protected area. The whole area is full of bio-diversity having dense Sal & Khair forests and patches of grass lands, which support an amazing variety of plants and animal species. The park was declared as National Park on 8th December, 2003 having an area of 11,570 acres. Just adjacent to the National Park is Kalesar Wildlife Sanctuary and it was notified on 13th December, 1996 having an area of 13,209 acres.

Statement of Significance

Kalesar National Park has got lot of significance in terms of bio-diversity and ecological stability. In terms of bio-diversity, it is store house of numerous medicinal plants. It houses many threatened animals like Leopard, Ghoral, Barking deer, Sambar, Chital, Python, King Cobra, Monitor lizard etc. Occasionally, Tigers and Elephants visit this park from Rajaji National Park, Uttrakhand.

The Siwaliks formed by debris from the older Himalayan ranges, are composed of sedimentary rocks such as sand stone, clays & conglomerates and is a highly fragile system. Extensive erosion takes place due to rapid run off during heavy rains. Gullies and landslides are common and the valley bottoms are mostly strewn with boulders & pebbles. During monsoon, the torrents

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DISTRICT SURVEY REPORT (RIVER BED MINING) DISTRICT YAMUNA NAGAR, HARYANA



carry boulders & muddy water and cause flash floods in the plains. So this protected area plays vital role in preventing that kind of flash floods and helps in maintaining ecological stability. In Haryana, it is the only National Park having good natural forest supporting such a large biodiversity. So it has got a special significance in terms of conservation, education, tourism and research opportunities.

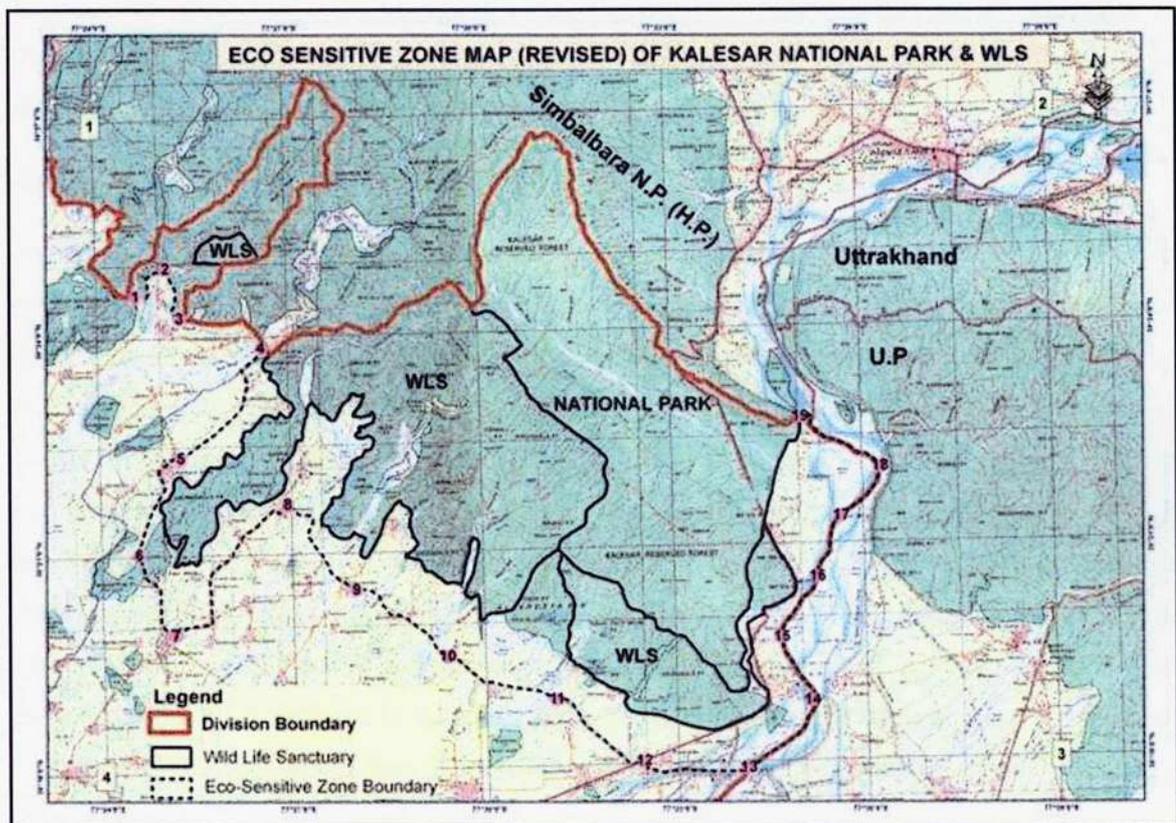


Figure 5: Eco-sensitive zone map of Kalesar National Park and Wildlife Sanctuary, Yamunanagar (Kalesar National Park, District Yamunanagar | Haryana Forest Department | India).

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
DISTRICT YAMUNA NAGAR, HARYANA**



Boundaries

The entire national park and sanctuary area is duly notified and demarcated on the ground with the help of pillars & natural boundaries like rivers and torrents. To the north of national park Simbalwada Wildlife Sanctuary (Himachal Pradesh) is located which is separated by a ridge line and marked by pillars. To the east, Yamuna River makes boundary of park with Uttar Pradesh. To the south agriculture lands of village's viz., Tajewala, Arayianwala, Naggal, Tiberian, Khizri, Baghpat, Khillanwala, Kansli, Darpur, Chicken, Jattanwala and Kot are situated. The western side is bounded by the crop fields of villages Faqir majra and Ibrahimpur.

Animals

Among herbivores, Sambhar is common and Chital is another common herbivore found in open grassy patches and fire lines. Barking deer is found especially in forest areas with ample ground cover. The Goral is found in the park occupying a specialized niche on the relatively bare rocky slope at the top of Siwalik ridges. Antelopes are represented by the Rojh (Blue Bull) which occurs in the more open areas bordering Yamuna plain. Wild boar is also fairly common in the park and it also raids on crops. Elephant is an occasional visitor from Rajaji National Park. If good waterholes are made available, it may stay for longer duration. The Rhesus macaque is most common monkey in the park and these are also feed on eggs of Red Jungle fowl, so there is an apprehension that there is a decrease in Red Jungle Fowl number. Among the carnivores, there are about 20-22 leopard in the entire protected area. The tiger is also an occasional visitor from Rajaji National Park. If there is increase in prey base, it can permanently stay in the park.

Forest Eco-system

- (a) The Siwalik Sal forests of Kalesar Wildlife Sanctuary are characterized by Panther, Cheetal, Wild boar, Sambhar, Red jungle Fowl, Peafowl, Blue jay, Hornbill, Treepie-woodpeckers.
- (b) Northern tropical mixed deciduous forests are characterized by Leopard, Sambhar, Barking deer, Ghoral, Wild boar, Nilgai, Jackal, Hare, Fox Reptiles.

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4.3 PHYSIOGRAPHY OF DISTRICT

The district is divided into four physiographic units i.e. Siwaliks, Dissected Rolling Plains, Interfluvial Plains, Active and Recent Flood Plains and Relict Plains.

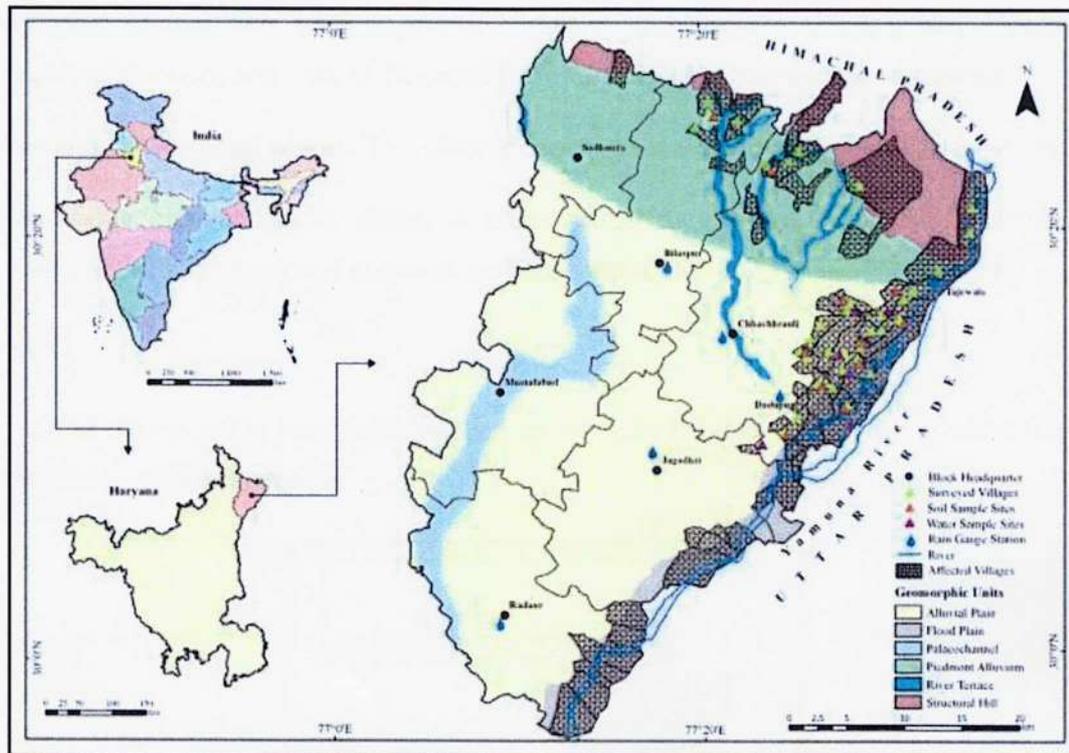


Figure 6: Geomorphological map of Yamunanagar (Sand and gravel extraction from piedmont and floodplain zones of Yamunanagar district in Haryana, India: Environmental Tragedy or Economic Gain?; Omvir Singh et. al., 2017).

Siwaliks: Siwalik Hills ranges occupy the northern fringe of the district and attain the height up to 950 m AMSL. The hills are about 500 m 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.

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Kandi Belt: A dissected rolling plain in the northern parts of district is a transitional tract between Siwalik Hills and alluvial plains. It is about 25 km wide and elevation varies between 250 and 375 m AMSL.

Interfluvial plains: This tract is part of higher ground between Ghaggar and Chautang. It includes high mounds and valleys. In general, the slope is from northeast to southwest.

Active and recent flood plains: This plain is narrow tract along river Yamuna in the district.

Relict wedge plains: This is almost in alignment to the surface water divide between the westward flowing Ghaggar and eastward flowing Yamuna River.

4.4 SOIL

The soil of the district is very fertile and are mainly silty loam (Khadar), clayey loam (Bhangar and Nardak), and loam (Seoti).

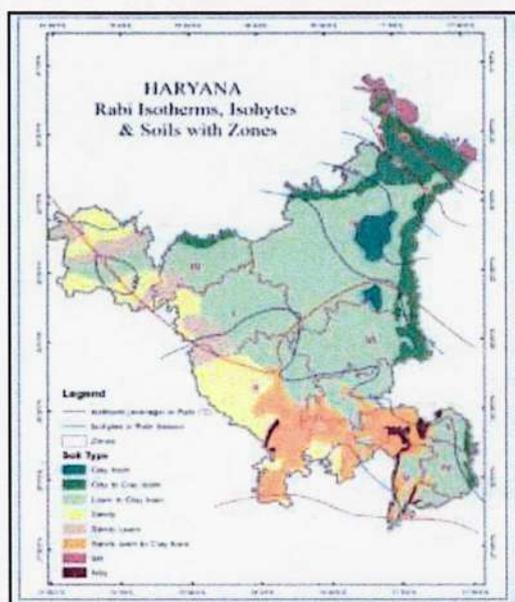


Figure 7: Soil texture map of Haryana (Productivity Zoning of Indian Mustard in Haryana State by Climatic and Physical Factors; Anurag Kumar et. al., 2017).

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4.6 DRAINAGE & CATCHMENT

The district is mainly drained by the river Yamuna and its tributaries. However, the catchment area of rivers Somb & Pathrala totally depends on the seasonal flow. The watershed area of the river Saraswati is 642.16 sq. km. and the catchment is confined mostly to the southern slope of the Siwalik Hills, mainly Yamunanagar and Kurukshetra districts.

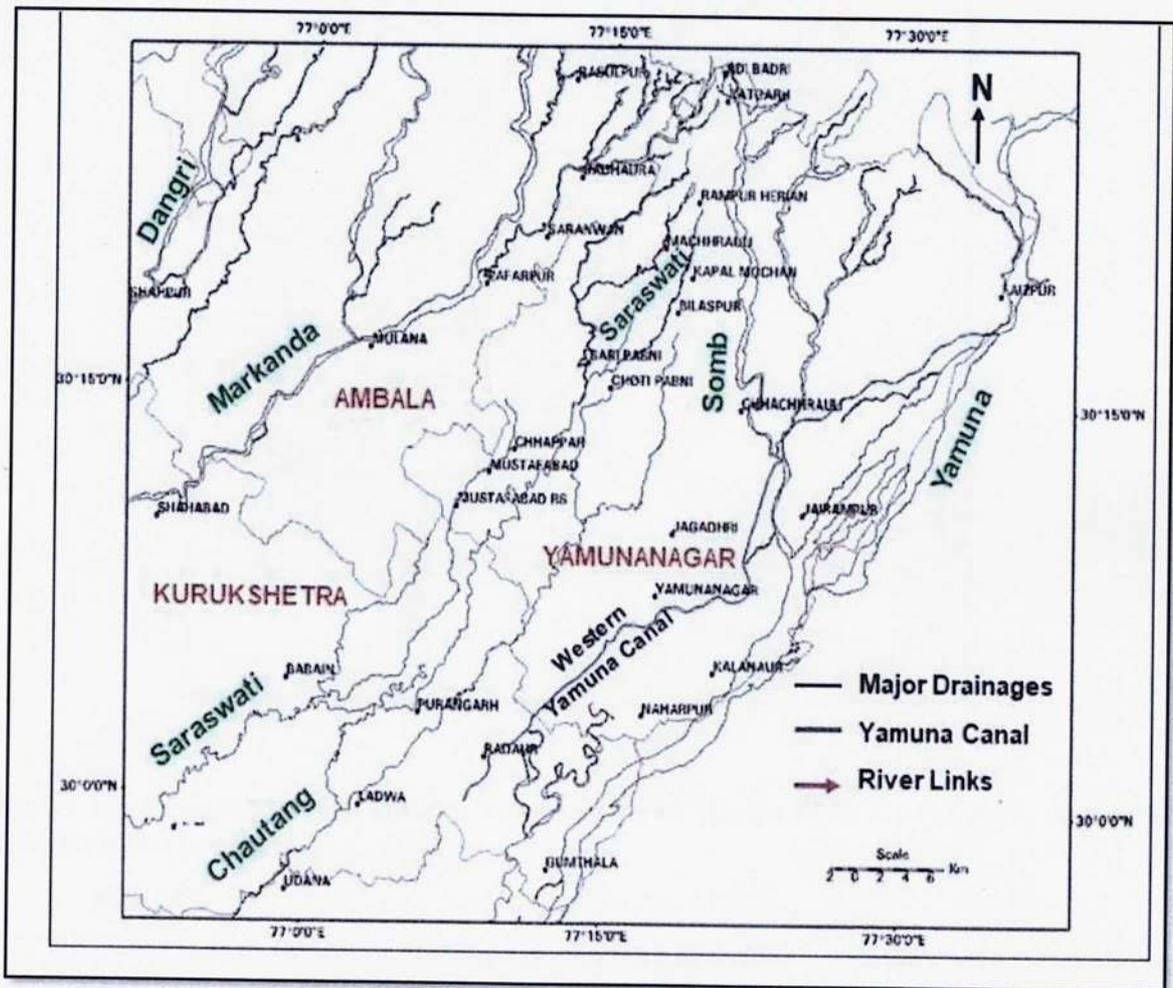


Figure 9: Drainage map of major rivers. (Saraswati: The River Par Excellence; S. K. Acharyya et. al., 2020).

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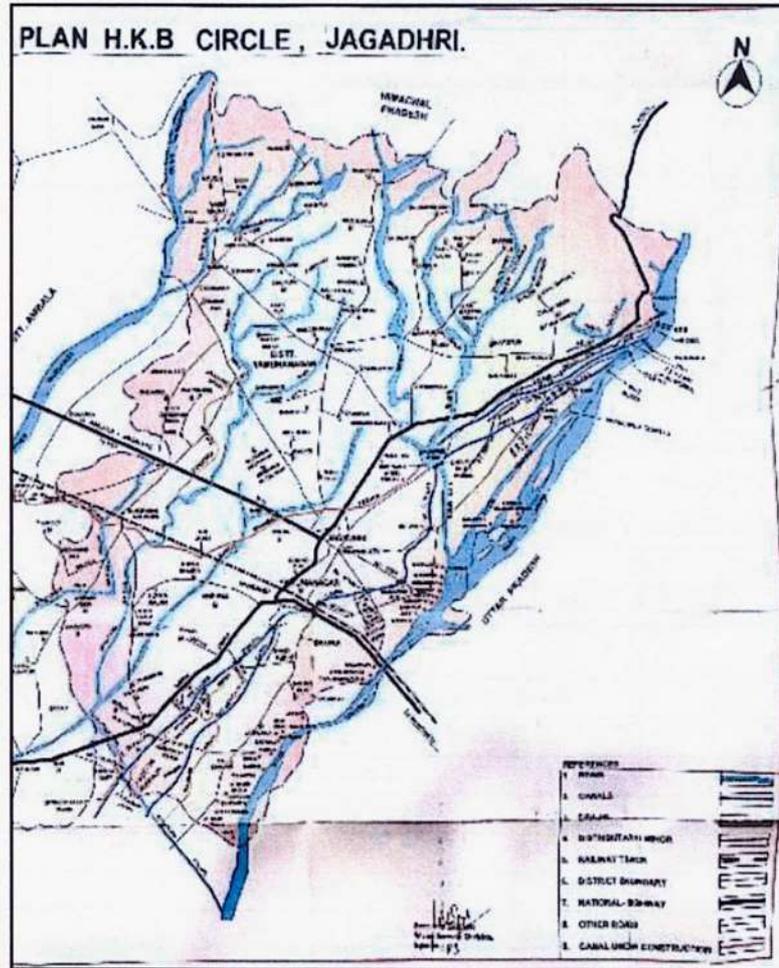


Figure 10: Drainage map of district Yamuna Nagar. (Index Plan, HKB Circle, Jagadhri, District Yamunanagar).

Table 7: Details of drainage system with description of main rivers

Sr. No.	Name of River	Area Drained (in sq. km.)	% Area Drained
1.	Yamuna	21,265	6.5

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Table 8: Details of major rivers/streams in the district Yamunanagar

Sr. No.	Name of River (Type)	Type of River	Place of origin	End in the District	Width in the District (in km)	Length in the District (in km)	Altitude at Origin (in m)
1.	Yamuna	Perennial	Yamunotri Glacier	Gumthala	0.6	70	6330
2.	Somb	Seasonal	Aadi Badri	Kanalsi	0.1	35	550
3.	Pathrala	Seasonal	Siwalik Hills	Dadupur	0.08	35.02	550

Table 9: Details of major drains in the district Yamunanagar

Sr. No.	Name of Drain	Length (in ft.)
1.	Alahar Link Drain	21300
2.	Alahar Sub Link Drain	3250
3.	Chautang Nallah U/S Ambala-Jagadhri Road	64700
4.	Chautang Nallah D/S Ambala-Jagadhri Road	136428
5.	Khurdan Drain No. 1	8910
6.	Pinjora Drain U/S & D/S	60000
7.	Potli Drain	9000
8.	Radaur Drain	18500
9.	Sadhaura Drain	2500
10.	Thaska Drain	8060
11.	Jaidhar Harewa Drain	2100
12.	Dholra Drain	2100
13.	Rakshi Nallah	128500

Source: Flood Control Order-2023, District Yamunanagar (yamunanagar.nic.in)

4.7 CLIMATE & RAINFALL

The climate of the study area is classified as sub-tropical monsoon, dry and mild winter, hot summer and sub-humid, which is especially dry with summer and winter except during the monsoon season.

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The mean annual rainfall of the district is 1107 mm and normal monsoon rainfall of the district is 898 mm; mean maximum temperature of the district is 48.8° C (May and June) and the mean minimum temperature of the district is 6.8° C in January. The southwest monsoon sets in from the last week of June and withdraws in the last week of September, contributing approximately 81% of annual rainfall. July and August are the wettest months. The remaining 19% rainfall is received during the non-monsoon period within the wake of thunderstorms and western disturbances.

Table 10: Distribution of rainfall (in mm), District Yamunanagar

Distribution of Rainfall (in mm)								
Year	Month	Jagadhri	Chhachhrauli	Bilaspur	Sadhaura	Saraswati Nagar	Radaur	Partapnagar
2020	July	357	267	160	144	235	281	266
	August	386	304	278	421	288	303	261
	September	37	17	05	00	04	00	47
	Total	780	588	443	565	527	584	574
2021	July	322	263	228	283	240	249	308
	August	126	116	129	150	68	115	86
	September	267	166	226	114	187	184	158
	Total	715	545	583	547	495	548	552
2022	July	339	287	220	278	324	255	286
	August	128	84	73	44	44	57	222
	September	228	260	151	218	175	217	253
	Total	695	631	444	540	543	529	761

Source: Flood Control Order-2023, District Yamunanagar (yamunanagar.nic.in)

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4.8 SEISMICITY

As per seismic zoning map of India, as incorporated in Indian standard provision for earthquake resistant design of structures IS: 1893 Part I 2002 general provision and buildings, the Yamunanagar district has been assigned to “Seismic Zone IV”.

4.9 FLOOD HAZARD ZONE

Heavy rain falls in the catchment area of river Yamuna, Somb & Pathrala causing flood in the district. It risks the agricultural land and village’s abadi area as well as some urban area.

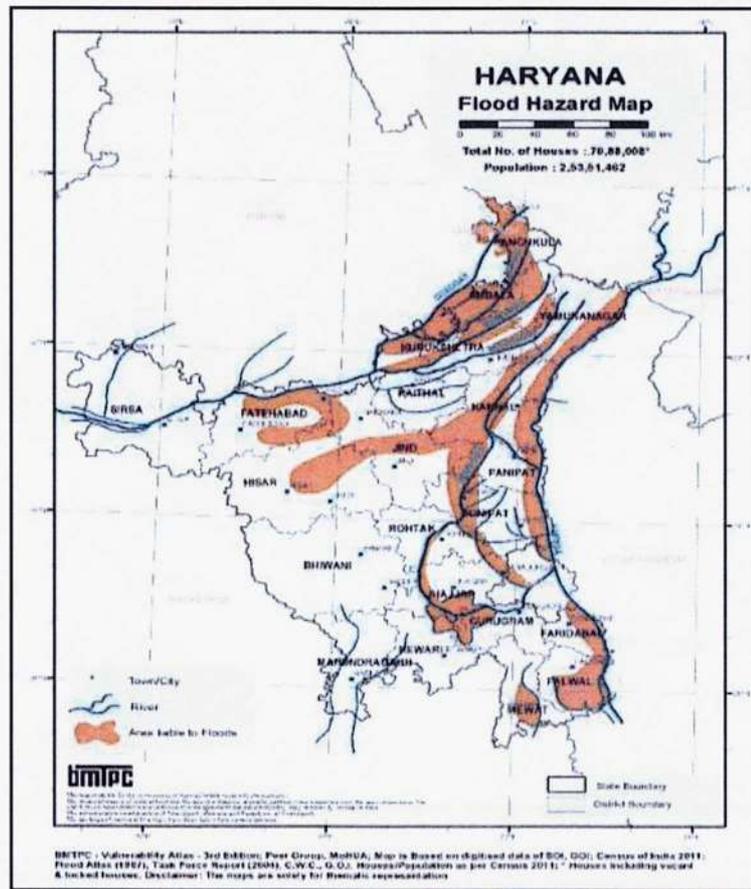


Figure 11: Flood hazard map of Haryana (<https://vai.bmtpc.org/hr.html>).

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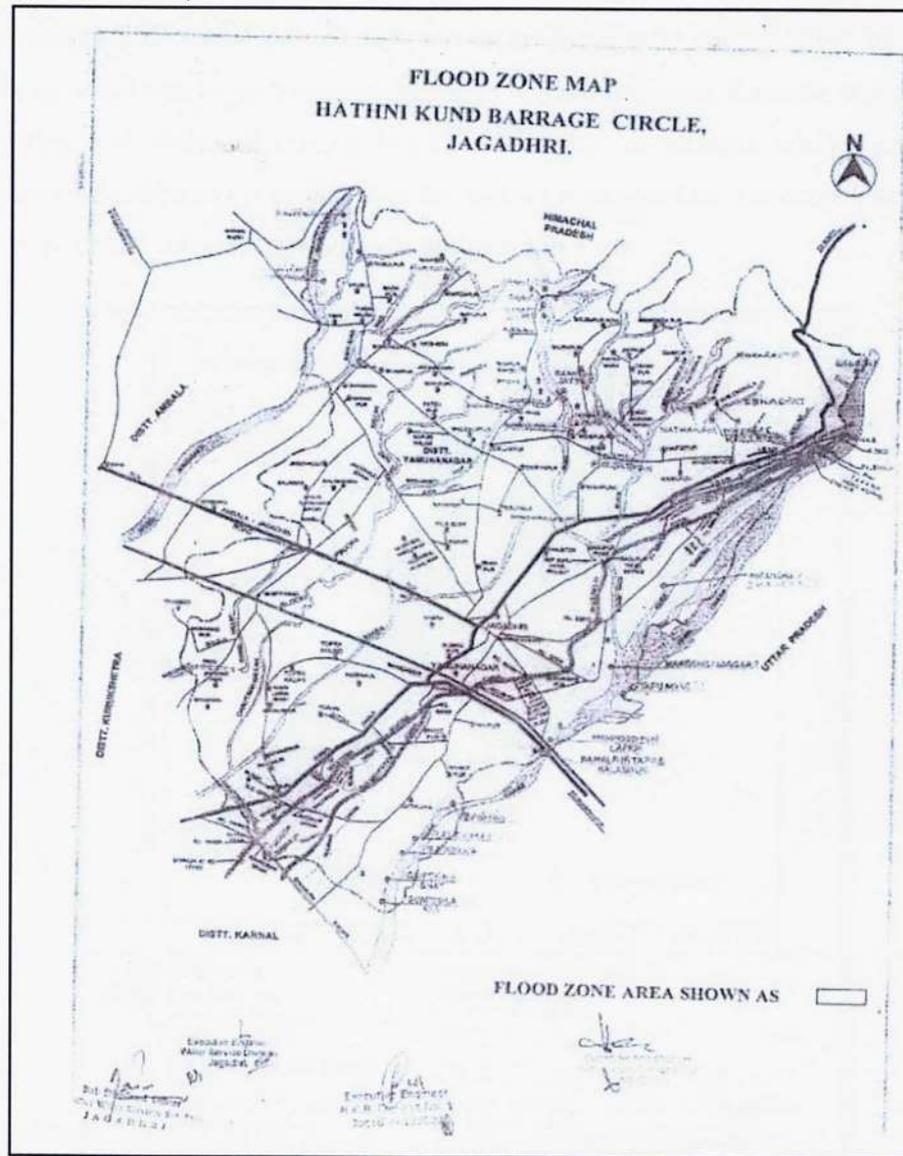


Figure 12: Flood zone map of district Yamuna Nagar (Flood Zone Map, HKB Circle, Jagadhri, District Yamunanagar).

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4.10 GEOLOGY AND MINERAL WEALTH

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. The list of existing and proposed mining blocks with name of villages where minor minerals (Boulder-Gravel-Sand/Sand) is available in the district is attached as Annexure-I and Annexure-II. However, potential mineral bearing areas are given in Table 13.

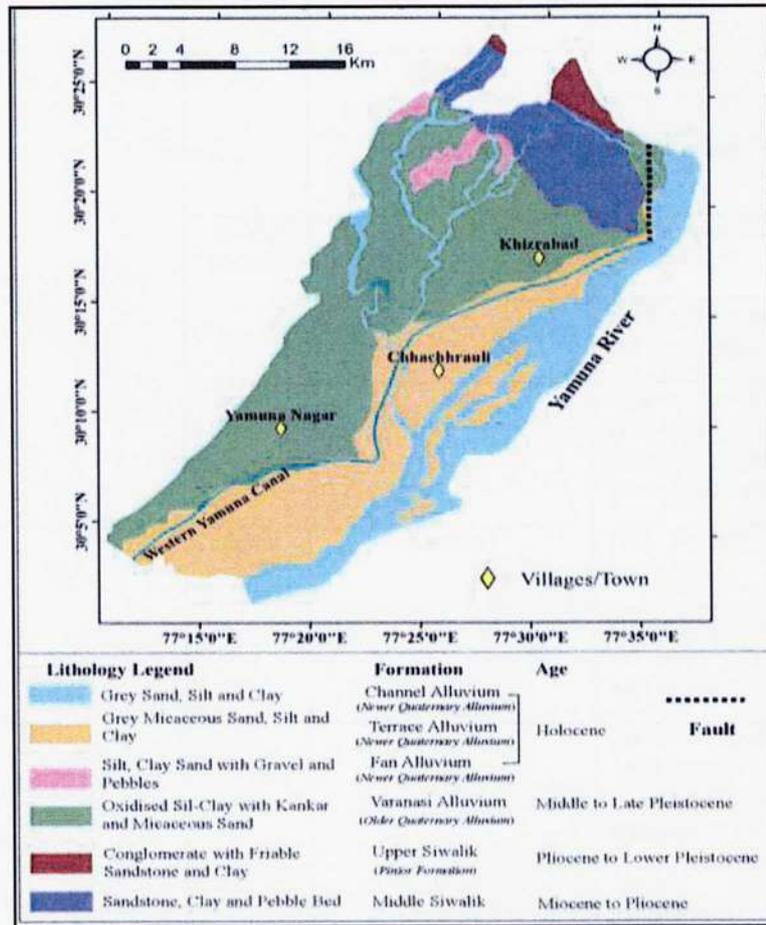


Figure 13: Geological map of district Yamuna Nagar (Assessment of vulnerability zones for ground water pollution using GIS-DRASTIC-EC model: A field-based approach, D Anantha Rao et. al., 2018).

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Table 11: Regional stratigraphic (Tertiary) sequence of Haryana

Age	Super Group	Group	Formation	Lithology
Holocene			Newer Alluvium and Newer Aeolian Deposits	Gravel, sand, silt-clay, limestone, gypsum
Lower to Upper Pleistocene			Older Alluvium and Older Aeolian Deposits	Gravel, grey sand, silt, clay, brown sand, calcrete
Lower to Middle Pleistocene	Siwalik	Upper Siwalik	Boulder Conglomerate	Conglomerate, sand stone, silt-clay
Upper Pliocene			Pinjore	Coarse grit, red sandstone and clay, conglomerate
		Tatrot/Saketi	Friable sandstone and variegated clay	
		Middle Siwalik	Dhokpathan	Brown sandstone and variegated clay
Nagri			Hard grey sandstone, mud stone and minor shale	
	Lower Siwalik	Nahan	Coarse gritty, clay and red sandstone often calcareous, brownish shale with lignite lenticels, greenish white quartzite	
Lower Miocene		Sirmur	Kausauli	Grey sandstone, green shale and grey clay
			Dagshai	Purple and green sandstone, deep red gritty clay, white sand stone with ferruginous concretions
Upper Eocene			Subathu (Nummulitic)	Sandstone with grit clay. Impure fossiliferous limestone calcareous slate, greenish shale and dark brown quartzite
Pre-Proterozoic			Tunda pathar	Thickly bedded, stromatolitic limestone with carbonaceous shale and quartzite

Source: Geology and Mineral Resources of Haryana, Misc. Publication No. 30: Part-XVIII, 2012, GSI.

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4.11 RECLAMATION AND RESTORATION OF MINING AREA AND PROVISION OF FUND FOR THE SAME

- As explained in foregoing paragraphs mining in river bed areas takes place only up to a maximum depth of 03 meters from existing river bed level, that too in central 3/4th of the river bed. The material brought by the river due to fluvial action fills the void created in the process of excavation. In this way the area operated/used for excavation of mineral from rivers gets reclaimed after every rainy season.
- As it is well known that rising of bed level results in river meandering (change of course) and in the present day the change of course of any river results in floods and damages. Though sometimes areas in and adjoining river banks are affected because of unforeseen circumstances/water stream due to heavy rains.
- Further, the area outside river bed requires leveling reclamation and restoration after mining. The land owners take compensation from the mining contractors in lieu of surface rights. The areas after mining are leveled by the contractors or land owners (depending upon mutual settlement between the contractor and land owners) to make the land reusable for cultivation. In order to ensure that areas after mining in case needs reclamation/restoration are properly dealt/restored.
- The State Mining Rules, 2012 appropriately provide provisions of R&R Fund namely **“Mines and Mineral Development, Restoration and Rehabilitation Fund”**. The mineral concession holders are liable to deposit an amount equal to 10% of the dead rent or royalty or contract money paid to the state for Restoration and Rehabilitation works. Further, the state also contributes 5% of the amount received by it on account of the dead rent or royalty or contract money in a financial year to the fund. The fund has been created only for funding of the restoration or reclamation or rehabilitation works in the sites affected by mining operations. The fund can be used for creating common facilities for the benefit of community in and around areas where mining activities are undertaken, development of infrastructure facilities for orderly growth of the mining operations and allied activities and other related works/schemes.

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- In compliance with amendment in the Mines and Minerals (Development & Regulation) Act, 1957, vide which Section 9B has been inserted making it mandatory to form District Mineral Foundation (DMF) in each district, the State has recently (19.12.2017) notified Haryana District Mineral Foundation Rules, 2017. The foundations shall work for welfare and benefit of persons and areas affected due to mining operations. 1/3rd of the amount collected in "**Mines and Mineral Development, Restoration and Rehabilitation Fund**" shall be transferred in the **DMF Fund**. The projects to be carried out under **Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY)** shall be implemented by the District Mineral Foundations.
- The areas operated in past in the district Yamuna Nagar were restored (river bed filled up with sediments brought by fluvial action and areas outside river bed leveled by land owners for cultivation). However, some of the areas used for mining in land falling outside river bed were not put in use by private land owners after mining for the reasons known to them. The private land owners could not have been insisted for undertaking cultivation, in case they don't choose for the same. A few of the patches of such un-reclaimed areas exist in and around crusher zone areas in villages Mandewala, Kohliwala, Ballewala, Diowala, Bhood Majra and Bhood Kalan. In this area over a period of time some rain water get collected and remains wet for quite long every year. The same had no ecological impact on the ecology of the area. As a matter of fact, such areas are acting as water recharge zone as well as wet land.

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CHAPTER 5

ESTIMATION OF DEPOSITS AND REPLENISHMENT STUDIES

5.0 GENERAL INFORMATION

The word replenishment is the fulcrum of river bed sedimentation under different depositional environmental conditions especially during rainy seasons. The rate of gross or absolute silt production (erosion) in the watershed and the ability of the stream system to transport the eroded material in a river have a direct relation with the quantity of sediment delivered into a river. The rate of gross erosion is dependent upon many physical factors like climatic conditions, nature of soil, slope of the area, topography and land use. Hydro-physical conditions of the watershed govern the capability of transporting the eroded material. It has been observed that the average rate of sediment production decreases as the size of drainage area increases. And also, larger the watershed, the lesser is the variation between the rates. The total amount of eroded material, which reaches a particular hydraulic control point, is termed as sediment yield.

The rotational mining is being adopted to facilitate the replenishment of the excavated pits during rainy season. Thus, the mineable area is to be divided in two blocks i.e., the upstream block and the downstream block. The mining of these blocks is suggested on rotation basis in such a way that pit of previous year mining will act as depository for the monsoon season. Boulder-Gravel-Sand/Sand is extracted from the said lot during one year; more than the extracted quantity of the same are automatically replenished by rainfall in the monsoon by the river itself on account of its flow and velocity.

For sustainability of river bed mining, the rate of excavation should be decided in accordance with the rate of replenishment which is the rate at which sand/gravel is deposited on the river flood plain by the river during monsoon season. However, determination of site- specific rate of replenishment is quite difficult as it is dependent on several factors such as geology, topography of the catchment area of the river, breadth of the flood plain, rainfall in that particular year (which is quite variable and not very much predictable much in advance) etc.

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Dandy-Bolton formula is generally used to calculate the sediment yield. But it is to be kept in mind that to prepare the mining plans of the mines, the factor of annual replenishment is to be taken into consideration while calculating the mineral reserves. It has also been observed that during flooding, all the pits replenish with sand/boulder/gravel. Hence, mined out areas in the pre-monsoon season will be completely replenished with sand/boulder/gravel during monsoon. Therefore, it has been assumed that the pits will be replenished after each monsoon.

Usually, replenishment or sediment deposition/depletion quantities can be estimated in the following ways:

- Direct measurement of the sand bar upliftment.
- Monitoring of the new riverine deposits created in the monsoons within the channel.

5.1 COMMON METHODS FOR REPLENISHMENT

5.1.1 CATCHMENT YIELD CALCULATION

The total quantity of surface water that can be expected in a given period from a stream at the outlet of its catchment is known as yield of the catchment in that period. The annual yield from a catchment is the end product of various processes such as precipitation, infiltration and evapotranspiration operating on the catchment. Catchment Yield can be estimated using following formula:

$$\text{Catchment Yield (m}^3\text{)} = \text{Catchment area (m}^2\text{)} * \text{Runoff coefficient (\%)} * \text{Rainfall (mts./annum)}$$

The runoff generated from a watershed is estimated using Strange's Tables Method to get obtain approximate yield results. Runoff from a catchment is dependent upon annual rainfall as well as catchment area and characteristics such as soil types and the type of groundcover/land usage.

5.1.2 PEAK FLOOD DISCHARGE CALCULATION

The term "peak discharge" stands for the highest concentration of run off from the basin area. The accurate estimation of the flood discharge remains one of the major challenges as it depends

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upon physical characteristics of the catchment area and the flood intensity, duration and distribution pattern. As many different models (equations) for peak discharge estimation have been developed and are given as below:

i. As per Dicken's formula: $Q = CA^{3/4}$

Where: Q is maximum flood discharge (m^3/sec)

A is area of catchment in sq. km.

C is constant whose value varies widely between 2.8 to 5.6 for catchments in plains and 14 to 28 for catchments in hills

ii. As per Jarvis formula: $Q = CA^{1/2}$

Where: Q is maximum flood discharge (m^3/sec)

A is area of catchment in sq. km. and C is constant whose value varies between 1.77 as minimum and 177 as maximum. Limiting or 100 percent chance floods are given by the value of C of 177.

iii. As per Rational formula: $Q = CiA$

Where: Q is maximum flood discharge (m^3/sec)

A is area of catchment in sq. km. and C is the runoff coefficient (ratio of runoff to total rainfall) which depends on the characteristics of the catchment area

i is intensity of rainfall (in m/sec)

5.1.3 BED LOAD TRANSPORT CALCULATION

The most difficult problem in river engineering is to accurately predict bed load transport rates in torrential floods flowing from mountainous streams. Three modes of transport namely; rolling, sliding and saltation may occur simultaneously in bed load transport. Most of these equations have some theoretical and empirical bases.

i. Ackers and White Equation: Ackers and White (1973) used dimensional analysis based on flow power concept and their proposed formula is as follows:

$$C_t = C_s G_s (d_{50}/h) (V/U^*) n' [(F_{gr}/A1) - 1] m$$

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The dimensionless particle d_{gr} is calculated by: $d_{gr} = d_{50} \{g (G_s - 1) / v^2\}^{1/3}$

The particle mobility factor F_{gr} is calculated by: $F_{gr} = \{U * n' / (G_s - 1) g d_{50}\}^{1/2} * \{V / (5.66 \log (10 h / d_{50}))\}^{1-n'}$

A_1 = critical particle mobility factor

C_s = concentration coefficient in the sediment transport function

C_t = total sediment concentration

d_{50} = median grain size

d_{gr} = dimensionless particle diameter; F_{gr} = particle mobility parameter

g = acceleration of gravity; S_g = specific gravity; h = water depth

m = exponent in the sediment transport function; n' = Manning roughness coefficient

U = shear velocity; V = Mean flow velocity; v = kinematic viscosity

ii. Meyer – Peter's equation: Meyer-Peter's equation is based on experimental work carried out at Federal Institute of Technology, Zurich. Mayer-Peter gave a dimensionless equation based, for the first time, on rational laws. Mayer-Peter's equations giving an empirical correlation of bed load transport rates in flumes and natural rivers.

The simplified Meyer-Peter's equation is: $g_b = 0.417[\tau_0 (\eta' / \eta)^{1.5} - \tau_c]^{1.5}$ Where,

g_b = rate of bed load transport (by weight) in N per m width of channel per second

η' = Manning's coefficient pertaining to grain size on an unrippled bed and Strickler formula i.e.,

$\eta' = (1/24) \times d^{1/6}$ where

d is the median size (d_{50}) of the bed sediment in m

η = actual observed value of the rugosity coefficient on rippled channels

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τ_c = critical shear stress required to move the grain in N/m^2 and given by equation $\tau_c = 0.687 \text{ } d_{50}$, where d_{50} mean or average size of the sediment in mm. This arithmetic average size is usually found to vary between d_{50} and d_{60}

τ_0 = unit tractive force produced by flowing water i.e., $\gamma_w RS$. Truly speaking, its value should be taken as the unit tractive force produced by the flowing water on bed = $0.97\gamma_w RS$. R is the hydraulic mean depth of the channel (depth of flow for wider channel) and S is the bed slope

5.1.4 SEDIMENT YIELD ESTIMATION

Sedimentation occurs as the stream velocity decreases thus reducing its ability to carry sediment. Coarse sediments deposit first, which may then interfere with the channel conveyance and may cause rivers to meander and to form distributaries. As the area of the flowing water increases, the depth decreases, the velocity is reduced and eventually even fine sediments begin to get deposited. As a result, deltas may be formed in the upper portion of reservoirs. The deposited material may later be moved to deeper portions of the reservoir by hydraulic processes within the water body. There are many sediment transport equations which are suitable for use in the prediction of the rate of replenishment of rivers.

Some of the common equations used to estimate sediment yields are:

- Dandy-Bolton Equation
- Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

Dandy-Bolton Equation:

Dandy and Bolton equation estimates all types of sediment yield i.e., through sheet and rill erosion, gully erosion, channel bed, bank erosion and mass movement etc. Dandy-Bolton determined the combined influence of the runoff & drainage area to compute the sediment yield. They developed two equations i.e., for run off less than 02 inches and for run off equal & more than 02 inches, which are given below:

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For run off less than 2 inches:

$$S = 1280 * Q^{0.46} * [1.43 - 0.26 \log (A)]$$

For run off equal & more than 2 inches:

$$S = 1965 * e^{-0.055Q} * [1.43 - 0.26 \log (A)]$$

Where: S = sediment yield (tons/miles²/yr)

Q = mean Annual runoff (inch)

A = net drainage area in miles²

Modified Universal Soil Loss Equation (MUSLE)

Modified universal soil loss equation (MUSLE) for estimation of sediment yield is also used widely. MUSLE is a modification of Universal Soil Loss Equation (USLE). MUSLE uses storm-based runoff volumes and runoff peak flows to simulate erosion and sediment yield (Williams, 1995). The use of runoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The generalized formula of MUSLE is as below:

$$Y = 95 (Qp_q)^{.56} * K * L_s * C * P$$

Where, Y = sediment yield of stream (t/yr/km²)

Q = average annual runoff (m³)

K = soil erodibility factor

p_q = highest discharge recorded (m³/s)

L_s = gradient/slope length

C = cover management factor

P = erosion control practice

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5.2 ILLUSTRATIVE EXAMPLE FOR CARRYING OUT REPLENISHMENT STUDIES

Though the above empirical formulas can be used for rough estimation of sediment yields, the "Volumetric method" based on the actual DGPS field survey is the only reliable methodology to accurately determine the mineral yield potential for individual mining sites and the rate of replenishment of each such site. Hence, this method is preferred over the other methods. In this report, for volume estimation of deposits (Depth x Area) has been adopted. The mineral deposits are interpreted with the help of satellite imageries and Ground truthing followed by actual DGPS survey is done for all the identified deposits.

Table 12: Estimation of few mineral reserves (Based on replenishment study: Pre-monsoon and Post-Monsoon surveys)

Sr. No.	Name of Mining Block	Area (in acres)	Average Thickness (in m)	Approx. Volume (in Million Tonnes/annum)*
1.	Bailgarh North Block (BGS)	64.9	3	1.57
2.	Gumthala South Block (Sand)	122.74	3	2.98
3.	Dhanaura Block (BGS)	45.45	3	1.10
Total Estimated Reserve				5.65

**Volume estimation has been done based on previous replenishment studies done in the region. The bulk density of the sand has been calculated to be 2.0/m³*

The Bailgarh North Block mining site is located at top/upstream (when River Yamuna enters in the district) whereas the Gumthala South Block mining site is at the bottom/downstream (when River Yamuna leaves the district) and majority of the potential/existing/proposed mining sites fall between this area. The previous replenishment studies carried out for the existing mining sites show an average deposition of 03 m. The rate of replenishment is largely dependent on the water released from the Hathnikund Barrage. The amount of water released from the barrage is further dependent on the rainfall in the upstream region i.e. in the hilly regions. Thus, approx. 3.5-04 lakh cusecs of water are discharged annually from the Hathnikund Barrage. However, the

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replenishment of seasonal rivers like Somb, Pathrala, etc. totally depends on the rainfall in the region.

5.2.1 IDENTIFICATION OF AREAS OF AGGRADATION/DEPOSITION

For the identification of areas of aggradation/deposition where mining can be allowed and proximity to infrastructural structures and installations where mining shall be prohibited, the following methodology has been adopted:

5.2.1.1 FIELD DATA COLLECTION

- i. Physical closed traverse surveys on continuous basis were done for the river stretch and accordingly relative elevation levels of the deposition zones were captured with the DGPS.
- ii. Permanent physical benchmarks were also identified and were established through DGPS. In surveying, a "bench mark" is a post or other permanent mark established at a known elevation that is used as the basis for measuring the elevation of other topographical points.
- iii. Sampling of the mining materials was done at regular intervals for the estimation of average bulk density of the minor materials.

5.2.1.2 CRITERIA FOR IDENTIFICATION OF NO MINING ZONES

- i. Benchmark (BM) with respect to mean sea level (MSL) should be established in mining channel reaches (MCR) below which no mining shall be allowed.
- ii. Mining is to be permitted only in the central 3/4th of the channel where deposition/aggradation of the material has been identified whereas the remaining 1/4th width needs to be kept as no mining zone for the protection of banks.
- iii. Identifying the mining and no mining zones shall be done after determining the area of sensitivity by ascertaining the distance of the mining area from the protected areas, forest areas, bridges, important structures, habitation etc. and based on the sensitivity the area needs to be defined in sensitive and non-sensitive categories.

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iv. As far as possible mining operations should be avoided in the sensitive areas unless local conditions require otherwise. Such deviations may only be of temporary nature and are to be permitted by the DLTF after recording the reasons for the same.

5.2.1.3 DATA COMPILATION

Deposits of minor minerals were mapped from satellite imageries of high resolution such as Cartosat-1 and the latest multispectral satellite imagery obtained from NRC Hyderabad or Open Source available. The satellite image gives the deposits available in the river stretch and their zones of deposition has been marked in the image which was later verified through physical survey (field data collection). Following data were compiled for identification of deposits: -

- i. Elevation levels of the different mineral potential areas.
- ii. Export DGPS and physical measured data and its geo-referencing using software (ArcGIS/ERDAS etc.).
- iii. Aerial extent of each deposit was mapped using satellite imageries of 10 m x 10 m resolution such as sentinel. The satellite image gives the deposits available in the river stretch and their zones of deposition has been verified with DGPS and physical data and is marked in the image with the help of ArcGIS.
- iv. Further, the area falling in the vicinity of various geomorphological and physical structures mentioned in the SSMG, 2016 and EMGSM, 2020 guidelines, main water channel, high level bridges etc., have been marked as no mining zones as per the distances prescribed in the aforementioned guidelines.

Development of cross profiles: Cross section lines are chosen based on the drastic variation of the river widths, proximity of the operating sand blocks and the position of the sand bars. Cross-sectional maps of the deposition blocks are given in **Annexure-III**.

Assessment of sediment load in the river: Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of the sediments in the specific river bed, rainfall data of the area for a period not less than 20 years, and finally the detail monitoring of the bed upliftment with

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time axis. Again, the sediment load estimation is largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

5.3 METHODOLOGY FOR CALCULATING THE TOTAL POTENTIAL OF MINOR MINERAL IN THE RIVER BED ANNUAL DEPOSITION

For estimating the reserve of river bed material [Sand/Gravel (Minor Mineral)], the following parameters were considered:

- a) The volumes of the reserves are calculated on the basis of the established width, thickness and length of the deposit as per actual field data.
- b) The tonnage of the reserve quantity is obtained by multiplying the above volume with the bulk density of 2.0 g/m^3 .
- c) The depth of the reserves has been estimated considering the available deposit thickness of sand the water level/red line.

5.4 NO MINING ZONE

A definition of a protected area was established by IUCN in 1994, which is described as “An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through a legal or other effective means.” Mining has a range of environmental consequences for protected areas, whether operations are undertaken within them or nearby.

The types of impact may be listed as follows:

- Direct land take and loss of vegetation cover in the mined area and other parts directly affected by associated activities such as deposition of tailings, or consequences such as subsidence.
- Pollution affects, especially on water supplies, aggravated by accidents (e.g., to tailing dams).
- Impacts due to access associated with mining (roads, railways, pipelines, power lines etc.) which permit illegal hunting, habitat fragmentation and alien invasions.

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- Impacts on other protected area values from noise and visual intrusion, arising from both mining and secondary activities, including transportation.

The 2020 guidelines for sand mining stress on protecting rivers and habitats of species including turtles and calls for such sensitive areas to be declared as no-mining zones. The environment ministry has come out with, "Enforcement & Monitoring Guidelines for Sand Mining 2020" to regulate sand mining and check illegal mining.

The latest guidelines suggest the use of technologies like drones with night vision for surveillance of sand mining sites, steps to identify sources of sand, procedures for replenishment of sand, post environmental clearance monitoring of sand mining sites, a procedure for environmental audit of such areas and steps to control the instances of illegal mining.

Protect the rivers from illegal mining:

To protect the rivers from illegal mining, the guidelines said that abandoned stream channels on the floodplains should be preferred rather than active channels and their deltas and floodplains.

1. As per guidelines, mining depth has been restricted to 03 meters depth and distance from the bank is $\frac{1}{4}$ th of river width and not be less than 7.5 meters.
2. Also, mining is prohibited up to a distance of 01 kilometer (01 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.
3. Sand bar/riverine deposits acting as potential sites for river bed mining along with other aspects as mentioned above are illustrated in satellite images in **Annexure-IV**.

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5.5 DETAILS OF POTENTIAL SOURCES/SITES OF RIVER BED MATERIAL

Potential sensitive sites for mining near forests, protected areas, habitation, bridges etc., shall be avoided. For this, a sub-divisional committee is formed which after the site visit decides its suitability for mining. Sub divisional level committee shall make recommendations regarding the suitability of all potential mining sites and also record the reason for approving the specific mining leases on the basis of its field inspections.

Table 13: Details of potential mining sites in the district Yamunanagar

Sr. No.	Mineral Deposit Site	Approx. Area (in ha)	Approx. Area (in sq. m.)	Average Thickness (in m)	Approx. Volume (in MT)
1.	Kanyawala (BGS)	15.00	1,50,000	3	9,00,000
2.	Mandoli Ghaggar West (BGS)	21.00	2,10,000	3	12,60,000
3.	Lapra (Sand)	35.00	3,50,000	3	21,00,000
Total Estimated Reserve					42,60,000

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**CHAPTER 6
TRANSPORTATION ROUTE PLAN**

6.0 GENERAL CONNECTIVITY

An efficient transportation system is important because it makes possible for people to communicate, trade and engage in other forms of exchange, which in turn helps to develop civilization. Transportation plays a significant role in economic progress and globalization.

To Reach Yamuna Nagar by Road

Yamuna Nagar is connected to towns, cities and other states by the Haryana Roadways (State Transport), as well as some private transportation services. Yamuna Nagar is about 96 km. by road from Chandigarh. For bus enquiry at Yamunanagar bus stand, dial 01732-227717.

To Reach Yamuna Nagar by Air and Train

Yamuna Nagar is not well connected to other major cities of the country via regular flights. The nearest airport is in Chandigarh. The nearest major Railway station in district is Yamunanagar-Jagadhri (Station Code: YJUD). For railway enquiry, dial 139.

6.1 TRANSPORTATION ROUTE PLAN FOR INDIVIDUAL MINING SITES

For connecting the individual mining sites, following criteria is adopted:

- The route to the mining site should not be trespassing the habitation as the movement of the sand laden heavy vehicles would affect the populace there.
- The tippers/dumpers should be covered with tarpaulin so as to minimize dust particles in the air.
- The haul road should be properly maintained and water should be regularly sprinkled as a measure to dust suppression.
- The vehicles should avoid loud honking while moving around the villages as it would lead to noise pollution.

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CHAPTER 7

REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING

7.0 ENVIRONMENTAL SENSITIVITY

The second most exploited natural resource on earth after water is river bed material. It is preferred for construction due to its quality. But unscientific way of mining from river bed leads to alter river channel morphology, physical habitats and food webs. It also increases the velocity of flow in river which destroy flow-regime eventually erodes the river banks. Removal of vegetation and destruction of soil profile destroys habitat above and below the ground and faunal population decrease. Sand aquifers help in recharging the water table and sand mining causes sinking of water tables in the nearby areas. Mining also leads to Air pollution & Noise Pollution in the nearby areas.

7.1 REMEDIAL MEASURES

In Sustainable Sand Mining Management Guidelines, 2016, Page No. 73 to 78, it is clearly stated that the relevant conditions for the environmental clearance for the specific mining leases, which should be strictly adhered to by all stakeholders, including Project Proponent, Mining Department, Contract labor, other Government Departments and District Administration. Regular monitoring of operational mining sites should be done according to the Hon'ble NGT directions and the inspection report should be sent to SEIAA and other stake holders as also uploaded on their websites. Special attention should be given to ensure compliance with the following important conditions:

7.1.1 SUSTAINABLE MINING PRACTICES

1. Without environmental clearance, no commercial river-bed mining is permissible on the basis of approved DSR/Mining Plan by the concerned authority.
2. The depth of mining in river bed is always less than base flow depth or 03 meters, whichever is less.

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3. Mining shall be done in layers to avoid ponding effect in mining site and haphazard extraction is to be strictly avoided.
4. No mining should be carried out in the designated "No-Mining Zone"/"Eco Sensitive Zone"/"Restricted Zone".
5. Annual replenishment studies, where ever applicable, must be carried out for the river.
6. Stream/any water channel should not be diverted/blocked for the purpose of sand mining.
7. Restricted sand mining operation has to be carried out for mitigation of noise during mining operation.
8. Transportation of mineral shall be carried out through covered trucks only.
9. Mining site has to be maintained in clean and hygienic conditions at all the times.
10. During rainy season mining practices should be stopped.
11. All mines/quarries are to be properly reclaimed before the final closure of the mine.
12. During mining operation green belt development through plantation is most important for environment safe guard, which should be under supervision of mining department.
13. During mining operation, risk factors, viz. accidents during loading and transportation, inundation/flooding and quick sand conditions, should be minimizing. The mining operations are mostly done manually and/or semi-mechanized way.
14. All mining operations will be carried out under the supervision of an experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. The mining site will be supplied with first aid facilities and all the workers will have unrestricted access to these facilities.

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7.1.2 MONITORING THE MINING OF MINERALS AND THEIR TRANSPORTATION

1. Proper check and control of extracted minor minerals is a critically important aspect of the DSR. IT tools as prescribed in the SSMG, 2016 and EMGSM, 2020 are to be utilized to ensure that no illegal mining takes place and transportation is done in an environmentally safe manner.
2. For each mining lease site, the access should be controlled in such a way that all vehicles carrying minerals from that area are tracked and accounted for.
3. Mining activities should be monitored regularly in order to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Govt.

7.1.3 NOISE MANAGEMENT

1. Noise that produced at the time of mining process should be checked and controlled at source.
2. Noise level should be kept within the permissible limits and restricted mining operation has to be carried out between 6am to 7pm.

7.1.4 AIR POLLUTION AND DUST MANAGEMENT

1. Air pollution due to transportation of mining material should be controlled and water sprinkling should be done regularly.
2. Vehicles carrying minerals shall not be over loaded and have to be covered vehicles with tarpaulin. Wheel-washing facility should be installed and used.

7.1.5 BIO-DIVERSITY PROTECTION AND COMPENSATION

1. No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made thereunder.
2. Protection of turtle and bird habitats shall be ensured.

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3. Felling of trees near the quarries is prohibited. For mining lease located in proximity to National Parks/Sanctuaries or in Eco-Sensitive Zones of Protected Areas, latest orders dated 03.06.2022 of the Hon'ble Supreme Court in T. N. Godavarnam case will be meticulously complied with.

4. Spring sources should not be affected due to mining activities. Necessary Protection measures are to be incorporated.

7.1.6 MANAGEMENT OF INSTABILITY AND EROSION

1. The top soil of the mining area should be utilized properly. If the top soil can't be used at that time, it should be stored separately keeping the view that the bacterial organism should not die and should be spread out in the nearby area.

2. The EC should ensure that adequate steps are taken to check soil erosion and control debris flow etc. by constructing engineering structures.

3. Oversized material should be used to control erosion and movement of sediments.

7.1.7 WASTE MANAGEMENT

1. Cleaning and hygienic activity should be maintained in mining areas.

2. Earmarked places approved by mining plan to be used for waste disposal.

3. Rubbish/Debris/Gangue shall not be dumped back in the River/Stream.

7.1.8 BASELINE SURVEYS AND RECLAMATION PLAN ON COMPLETION OF MINING OPERATION

1. All mines/quarries are to be properly reclaimed before the final closure of the mine as per statute.

2. A baseline survey of conditions before commencement of mining operations is to be prepared. This should include the relevant cross-section data between two permanent benchmarks set back

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However, there are some identified risks in the mining activity which are as under:

- A. Accident during sand loading and transportation
- B. Inundation/ Flooding
- C. Quick Sand Condition

7.2.2 MITIGATION MEASURES TO PREVENT ACCIDENT DURING LOADING AND TRANSPORTATION

1. Mining activities should be done during daylight hour only.
2. The truck will be covered with tarpaulin and to prevent any spillage.
3. To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of Lorries should be free of workers as far as possible.
4. All transportation within the main working will be carried out directly under the supervision and control of the management.
5. Overloading should not be permitted and the maximum permissible speed limit should be ensured.
6. Trucks must be maintained regularly and the drivers should have a valid driving license.

7.2.3 MEASURES TO PREVENT ACCIDENTS DURING INUNDATION/FLOODING

To minimize the risk of flooding/ inundation following measures will be under taken:

1. Mining activities should be completely stopped during rainy season.
2. Proper weather information particularly on non-monsoon rainy days should be kept.

7.2.4 MEASURES FOR MITIGATION TO QUICK SAND CONDITION

1. Quick sand zone and deep-water zone will be clearly demarcated and all the mine workers will be made aware of the location.
2. Mining will do strictly as per the approved mining plan.

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
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7.2.5 DISASTER MANAGEMENT PLAN

All mining operations will be carried out under the supervision of an experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, and other laws applicable to mines will be strictly complied with. During heavy rainfall and during the monsoon season, mining operations will be closed. Proper coordination with Irrigation Department should be maintained so that at the time of release of water from any dam upstream of the mining site, suitable warning/information is given in advance. Special attention and requisite precautions shall be taken while working in areas of geological weakness like the existence of slip, fault, etc.

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**DISTRICT SURVEY REPORT (RIVER BED MINING)
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**CHAPTER 8
PUBLIC CONSULTATION**

8.0 PUBLIC CONSULTATIONS

“Public Consultation” is very important in the policy development process. It is a regulatory process by which the public’s (Stakeholder’s) input on matters affecting them is sought. Accordingly, public consultation should encourage stakeholder ownership and buy-in to the policy development process by seeking assistance with data and information collection, analyses and the identification of other persons, businesses, institutes and other organizations that may have valuable data or information.

8.1 PROCEDURE FOR PUBLIC CONSULTATION

The District Survey Report is placed in public domain for one-month period on district website for seeking comments of the general public and various stakeholders.

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1. Abandoned stream channels or terraces and inactive floodplains may be preferred rather than active channels and their deltas and floodplains.
2. Stream should not be diverted to form inactive channel and mining below subterranean water level should be avoided as a safeguard against environmental contamination and over exploitation of resources.
3. Mining area should be demarcated on the ground with pillars having coordinates so as to avoid illegal unscientific mining.

Gurjeet Singh
(GURJEET SINGH)
Mining Officer
Yamunanagar

[Signature]
Regional Officer
HSFCB, Yamunanagar

[Signature]
Executive Engineer
Water Services Division, Jagadhri

[Signature]
Executive Engineer
HKB Div. 1, Jagadhri

[Signature]
Executive Engineer
PWD (B&R), Yamunanagar

[Signature]
District Revenue Officer
Yamunanagar

[Signature]
Divisional Forest Officer
Yamunanagar

Subject to the condition that permission will be taken under FIA 1980 & STA 1927 before any work to be started if applicable.
Utkarsh - 9/10/2023

Mining Officer has informed that the Forest dept. (vide letter dated 10.8.23) & Irrigation dept. (vide letter dated 31.8.23) have submitted observations that have been incorporated in the District Survey Report (DSR), as directed by the undersigned. Submitted to DC YNR for approval.

Additional Deputy Commissioner
Yamunanagar

[Signature]
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DC YNR, 16/10

ANNEXURE-I

List of existing mining contracts of the district with area, location & period for each minor mineral

River Bed Mining Blocks

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
1.	Jathlana Block YNR B12	101.27	<p>Jathlana: 103//11, 19, 20, 21, 22 104//7min, 8min,9min, 10min, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21/1, 21/2, 22, 23 105//6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25/1, 25/2 106//13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 11, 12, 123//1 to 15, 16, 17, 18, 19, 20, 21, 22, 23 124//1, 2, 3, 4/1, 4/2, 4/3, 5/1, 5/2, 5/3, 6/1, 6/2, 7, 8, 9/1/1, 9/1/2, 9/2, 9/3, 10, 11, 12/1, 12/2, 12/3, 13, 14,15,19,20, 21 125//1, 2, 3, 9/1, 9/2, 10,11,20 107//14min, 15min, 16,17, 18, 19min, 20min, 21, 22,23,24, 25 108//25min 121//5min, 6, 7min, 14min, 13min, 15, 16 ,17, 18min, 23min, 24, 25 122//1 to 23, 24, 25 126//1, 2, 3, 4, 8, 9, 10, 11, 12, 21, 20 127//3 to 8,2min,9min,12min, 19min, 13, 14, 15, 16, 17, 18, 19, 25 137//16, 17, 18, 23, 24 ,25 138//2, 3 to 8, 9, 12, 13, 14, 15, 16 139//1, 2min, 8min, 9, 10, 11, 12, 20 136//21min</p> <p>Dhakwala: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19/1,19/2, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43 min, 44, 45, 46, 47, 48 min, 49 min, 50, 51, 52, 53, 54 min, 55 min, 56 min, 221, 222 min, 223 min, 224 min, 225 min, 226, 227, 228, 229, 230, 231, 232, 233/1,233/2, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 249 min, 251 min, 252, 253 min, 254 min, 340 min, 341, 342min, 343 min, 344, 345, 346, 347, 348, 349, 350, 351 min, 352 min</p>	10	Sand	36.00

Anil

Dhanu

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
2.	M T Karhera Block YNR B13	67.79	3//18, 19min, 20min, 21min, 22, 23, 4//25min 11//6, 7, 8min, 12, 13, 14, 15, 16//1, 16//2, 17, 18, 19min, 20//1min, 21min, 22, 23, 24, 25 12//1, 2, 9, 10, 11, 20, 21//1, 21//2 13//1, 10, 11, 20, 21, 22 14//1 to 25 15//5/2, 6, 7, 14//2, 15, 16, 17, 18min, 23, 24, 25 21//1 to 15, 16min, 17, 18, 19, 20, 21, 22, 23 min, 24min 22//1, 2min, 9min, 10, 11 min, 20 min 26//1, 10, 11, 20//2 27//1, 4, 5//1, 5//2, 6, 7, 8, 9//1, 9//2, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20//1, 20//2, 21, 22, 23, 24, 25 28//5min, 6min, 15min, 16min, 25min 31//5, 6, 7min, 14min, 15, 16, 17min, 24min, 25 32//1, 10, 11, 20, 21 37//1, 10, 11, 20, 21 38//5, 6, 15 42//42 32//2, 3, 4, 5min, 6min, 7, 8, 9, 12, 13, 14, 15min, 17min, 18, 19, 22, 23, 24min 37//2, 3, 4min, 8min, 9, 12, 13min, 19, 22	07	Sand	28.50

Bandu

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Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
3.	Nagla Rangraan YNR B14	89.48	<p>Mairi: 31 min, 34, 35, 36, 32 min, 33, 37, 38, 70 min, 71 min, 42 min, 43, 133, 134, 135, 136 min, 142 min, 143, 144, 145, 152, 156, 157, 158 min, 153, 154, 155 min, 165 min, 166 min, 168, 169, 180, 184, 185 min, 177, 181, 182, 183, 206, 207, 208, 209, 210, 215, 219, 220, 221, 216, 218, 230, 231, 217, 229, 232, 233, 234, 238, 44, 36, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 146, 147, 148, 149, 150</p> <p>Nagla Rangrani: 11//17min, 18, 19, 21, 22/1, 23/1, 23/2, 24min 5//1, 2, 3, 4min, 8min, 9, 10, 12, 13/1min, 19min, 22/2min, 6/5, 6, 7, 8, 13, 14/1, 14/2, 19, 20, 21, 22, 23, 24 7//25 8//4/1, 4/2, 5/1, 5/2, 6, 7, 13, 14/1, 14/2, 15, 16, 17, 18, 22, 23/1, 23/2, 23/3, 24, 25 9//1, 2, 3, 4/1, 4/2, 5, 6, 7, 8, 9/1, 9/2, 10, 11/1, 11/2, 12, 13, 14, 15min, 16min, 17, 18, 19/1, 19/2, 20, 21, 22, 23, 24min 17//1, 2, 3, 4min, 7min, 9, 10, 11, 12, 13min, 18min, 19, 20/1, 20/2, 21, 22min 18//2, 3, 4, 5, 6, 7, 8, 9, 12/1, 12/2, 13, 14, 15, 16, 17, 18, 22, 23, 24, 25/1, 25/2 19//2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15/1, 15/2, 16, 19 20//1, 2min, 9min, 10, 11, 20, 35</p> <p>Sandhala: 9//12min, 13, 19, 20min, 21min, 22 18//5min, 6, 7min, 14min, 15, 16, 17, 18min, 23min, 24/1, 24/2, 25 19//1, 10, 11 21//2min, 3, 4, 5/1, 5/2, 6, 7, 8, 9min, 12, 13, 14, 15, 16, 17, 18, 19, 20min, 21min, 22, 23, 24, 25 20//1, 10, 11 34//1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23 33//6min, 15min, 16min, 25min 37//5min, 6, 15, 16, 25 36//1, 2, 3, 8/1, 8/2, 13, 12/1, 12/2, 11, 20, 19/1, 19/2, 18, 21, 22 45//5 46//1, 2</p>	09	Sand	38.60

A 11

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
4.	Nagli Block YNR B15	77.25	1//18min, 19, 21, 22, 23min 5//1, 2, 3min, 8min, 9, 10, 11, 12, 13min, 18min, 19, 20, 21, 22, 23min 6//5, 6, 15, 16, 25 11//5, 6, 14, 15, 16, 17, 18, 19, 20min, 21, 22, 23, 24, 25 12//1, 2, 9, 10, 11, 12min, 19min, 20, 21, 22min 21//1, 2min, 9min, 10, 11, 20, 21 22//1 to 25 23//4min, 5, 6, 7min, 14min, 15, 16, 17min, 24min, 25 28//4min, 5, 6, 7min, 14min, 15, 16, 17min, 24min, 25 29//1 to 25 30//1, 10, 11, 20, 21 37//1, 10, 11, 20, 21min 38//1 to 24, 25 39//4min, 5, 6, 7, 8min, 12min, 13, 14, 15, 16, 17, 18, 19, 20min, 21, 22, 23, 24, 25 40//16min, 17min, 24, 25 41//5 42//1 to 9, 10, 12, 13 to 17, 18, 24, 25 43//1, 2, 3, 4, 8, 9, 10, 11, 12, 20, 19, 21 44//1 45//5	10	Sand	33.30
5.	Gumthala South Block YNR B17	49.67	124//4 min, 5, 6, 7 min, 14 min, 15, 16, 17 min, 24 min, 25, 125//1, 2, 3 min, 8 min, 9, 10, 11, 12, 13 min, 18 min, 19, 20, 21, 22, 23, 136//3 min, 2, 1, 8 min, 9, 10, 11, 12, 13 min, 18 min, 19, 20, 21, 22, 23 min, 137//5, 6, 15, 16, 25, 147//5 min, 6 min, 15 min, 16 min, 25 min, 148//1, 2, 3, 8, 9, 10, 11, 12, 13 min, 18 min, 19, 20, 21, 22, 23, 157//1, 2, 3, 8, 9, 10, 11, 12, 13, 14 min, 17 min, 18, 19, 20, 21, 22, 23, 24 min, 158//5 min, 6 min, 15 min, 16 min, 25 min, 164//5, 6, 15, 16, 25, 165//1, 2, 3, 4 min, 7, 8, 9, 10, 11, 12, 13, 14 min, 17, 18, 19, 20, 21, 22, 23, 24, 172//1 min, 2, 3, 4, 6 min, 7, 8, 9, 10 min, 11 min, 12, 13, 14, 15 min, 16 min, 17, 18, 19, 20 min, 21, 22, 23, 24, 25, 176//2, 3, 4, 5, 177//1, 10, 69//6, 7, 46//8, 9, 10, 11, 1min, 2min, 47//15min, 6min	09	Sand	21.88

Sharma

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
6.	Jairampur Jagir Block YNR B6	33.58	2//20, 21, 22 6//16min, 25 7//3,8/1, 8/2, 3, 4/1, 4/2, 5/1, 5/2, 6/1, 6/2, 6/3, 7/1, 7/2, 7/3, 12/2, 12/3, 13/1, 13/2, 13/3, 14/1, 14/2, 14/3, 15/1, 15/2, 15/3, 16, 17/1, 17/2, 18 to 23, 24 8//1,2, 10/1, 10/2, 10/3, 11//1 to 3, 8, 9 to 12, 13, 19 to 22 12//4,5, 6,7, 14, 15, 16, 17, 24, 25 15//3, 4 to 7, 8, 13, 14, 15, 16, 17, 18, 23, 24/1, 24/2, 24/3, 24/4, 24/5, 24/6, 25/1, 25/2, 25/3, 25/4, 25/5, 25/6 16//1, 2, 9, 10, 11, 12, 20, 21/1, 21/2, 21/3, 21/4, 21/5 19//1, 10 min, 11min, 19min, 20, 21, 22 20//3 to 8, 13 to 16, 17, 25 23//1, 2, 8, 9, 13 min, 17 min.	10	Sand	15.20
7.	Kanalsi Block YNR B5	44.14	41//16, 24, 25 42//16 to 19, 20, 21,22 to 25 43//16, 17 to 24, 25 44//1, 10, 11, 12, 19, 20, 21, 22 45//1, 2, 3 to 8, 9, 10 to 11, 12, 13 to 18, 19, 20 to 21, 22, 23 to 24, 25/1, 25/2 46//1, 2, 3, 4, 5, 6, 7, 8, 9 to 17, 18, 19, 20, 21, 24, 25 47//3,4,5,6,7/1,7/2,8,9 min,11 min,12 to 25 48//16 min, 24 min, 25 52//4 min, 5, 6, 7, 15 53//1, 2, 3,4/1, 4/2, 5, 7, 8 to 13, 19	09	Boulder-Gravel-Sand	19.50
8.	Mandoli Ghaggar East Block YNR B3	20.18	GPS Coordinates: Latitude: N 30°08'10.85" to N 30°08'26.69" Longitude: E 77°25'01.71" to E 77°25'21.23"	10	Boulder-Gravel-Sand	08.58

Sharma

Sharma

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
9.	Dhanaura Block YNR B18	18.18	67, 72 min, 75 min, 74, 73, 72, 71, 68/1, 68/2, 68/3 min, 68/4, 68/5, 68/6, 68/7, 68/8, 68/9, 68/10, 69/3 min, 69/4, 69/5, 69/6, 69/7, 69/8, 69/9, 69/10, 69/11 min, 69/12, 69/13, 69/14, 69/15, 69/16, 69/17, 69/18, 89/1, 89/2, 89/3, 89/4, 89/5, 89/6, 89/7, 89/8 min, 89/9, 89/10, 89/11, 89/12, 89/13, 89/14, 89/15, 89/16, 89/17, 89/18 min, 89/19, 89/20, 89/21, 89/22 min, 89/26 min, 89/27, 89/28, 89/29, 89/30 min, 88/1 min, 86/27, 69/19	10	Boulder- Gravel- Sand	09.38

Pranav

Aradh

Outside River Bed Mining Blocks (in Agricultural land)

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
1.	Malikpur Khadhar Block YNR B28	23.20	47/5 to 16, 17, 18, 19, 20, 22, 23, 24, 25, 48/1 to 15, 17 to 22, 54/3, 4, 5, 41/13, 14, 15, 16, 17, 18, 19, 21, 22/1, 22/2, 22/3, 22/4, 22/5, 23, 24/1, 24/2, 25, 40/11, 20, 21, 49/1, 10	08	Boulder-Gravel-Sand	04.00
2.	Pipli Majra Block YNR B29, 30 & 31	18.20	<u>Pipli Majra B-29:</u> 6/21/1, 21/2, 7/25, 12/4, 5, 6, 7, 8/1, 8/2, 13, 14, 15, 16/1, 16/2, 17, 18, 19/1, 19/2, 21/1, 21/2, 22, 23, 13/1, 10, 11 <u>Pipli Majra B-30:</u> 16/12, 13, 19, 20, 21, 17/16, 17, 23, 24, 25, 20/2, 3, 4, 5, 9 <u>Pipli Majra B-31:</u> 6/15, 16, 17, 24, 25, 5/20, 21, 22, 14/1, 2, 3, 10, 13/4, 5, 6/1, 6/2, 7	07	Boulder-Gravel-Sand	03.70

Small

Sharma

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
3.	Devdhar YNR B24	31.87	23//11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22/1, 22/2, 23/1, 23/2, 24, 25, 22/21, 24//12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 25//16, 23, 24/1, 24/2, 25, 30//3, 4/1, 4/2, 5, 6, 7/1, 7/2, 8, 13, 14, 15, 16, 17, 18, 31//1, 2, 3, 31//4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 32//1, 2/1, 2/2, 3, 4, 5, 6, 7, 8, 9/1, 9/2, 32//10/1, 10/2, 11, 12, 13, 14, 19, 20	08	Boulder-Gravel-Sand	05.10
4.	Jaidhari Block YNR B33	48.60	31//4, 5, 6, 7, 14, 15, 16/1, 16/2, 17, 24, 25, 32//1 to 9, 11 to 16, 18 to 25, 33//1, 2, 3, 4/1, 4/2, 5, 6, 7/1, 7/2, 8, 9, 10, 11/1, 11/2, 12, 13, 14/1, 14/2, 15, 16, 17/1, 17/2, 18, 19, 20, 21/1, 21/2, 22, 23, 24/1, 24/2, 25/1, 25/2, 25/3, 34//1, 2, 9, 10, 11, 12, 19, 20, 21/1, 21/2, 22, 41//4, 5/1, 5/2, 6, 7, 19//21, 22, 20//21, 22, 23, 24, 25, 21//21, 22, 23/1, 23/2, 24/1, 24/2, 25/1, 25/2, 22//24, 25, 38//1/1, 1/2, 2/1, 2/2, 9/1, 9/2, 10, 11/1, 11/2, 12/1, 12/2, 19/1, 19/2, 20, 21, 22, 39//1 to 17, 24, 25, 50//4, 5, 6, 7, 14, 15, 51//1, 2, 9, 10, 11, 12	08	Boulder-Gravel-Sand	09.10

Good

Sharma

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
5.	Mandewala YNR B38	15.00	11//13, 17, 18, 23/1, 23/2, 24, 25/1, 25/2, 15//1, 35/1, 9, 10, 11/1, 11/2, 12, 19, 20/1, 20/2, 21/8, 14//3/1, 3/2, 4/1, 4/2, 5/1, 5/2, 6/1, 6/2, 7, 8, 13, 14, 15/1, 15/2, 16/1, 16/2, 17, 18, 19, 20/1, 20/2, 21, 22, 23, 24/1, 24/2, 25/1, 25/2, 20//4/1, 4/2, 5/1, 5/2, 6, 7, 19//1	08	Boulder-Gravel-Sand	22.80
6.	Jaidhar Block YNR B34	25.60	27//12, 13, 14, 16/1, 16/2, 17, 18/1, 18/2, 19, 20, 21, 22, 23, 24, 25, 26//25/1, 25, 2, 33//5, 32//1/1, 1/2, 2, 3, 4/1, 4/2, 4/3, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 31//1, 2, 3, 6, 7/1, 7/2, 8, 9, 10, 11, 12/1, 12/2, 13/1, 13/2, 14/1, 14/2, 15, 16/1, 16/2, 17, 18, 19, 20, 21, 22, 23, 24, 25/1, 25/2, 43//2, 3, 4/1, 4/2, 5, 6, 30//11, 19, 20/1, 20/2, 21, 22, 23, 44//1, 2, 3	08	Boulder-Gravel-Sand	36.86

Sham

Sham

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
7.	Galauri Block YNR B39	24.00	4/1, 2, 9, 10, 11, 12/1, 12/2, 19/1, 19/2, 20, 21/1, 21/2, 22/1, 22/2, 5/3, 4/1, 4/2, 5, 6/1, 6/2, 7/1, 7/2, 7/3, 8, 13, 14, 15, 16, 17, 18/1, 18/2, 23/1, 23/2, 24, 25, 8/3/1, 3/2, 4, 5/1, 5/2, 6, 7/1, 7/2, 8, 13/1, 13/2, 14/1, 14/2, 15, 16, 17, 18/1, 18/2, 23/1, 23/2, 24, 25, 9/1/1, 1/2, 2/1, 2/2, 9, 10, 11, 12/1, 12/2, 12/3, 19, 20/1, 20/2, 21, 22, 12/1, 2, 9/1, 9/2, 10, 13/3, 4, 5/1, 5/2, 6, 7, 8/1, 8/2.	08	Boulder-Gravel-Sand	04.40
8.	Bhood Kalan YNR B19	12.62	40/11, 12/1, 12/2, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 41/14, 15, 16, 17, 25, 43/1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 44/1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20	07	Boulder-Gravel-Sand	02.59
9.	Bhood Majra YNR B20	9.95	26/1, 18, 19, 20, 21, 22, 23, 27/5, 6, 14/2, 15/1, 15/2, 16, 17, 24, 25/1, 25/2, 25/3, 29/4, 5, 6, 7, 15, 30/1, 2, 9, 10, 11, 12, 13	07	Boulder-Gravel-Sand	02.00

Amal

Sharma

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
10.	Kohliwala YNR B21 & 22	13.59	<u>Kohliwala B-21:</u> 4//1, 2/1, 2/2, 10, 11, 5//6/1/1, 6/1/2, 6/2, 7/1, 7/2, 14/1/1, 14/1/2, 14/2, 15, 16, 17 <u>Kohliwala B-22:</u> 10//1, 2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 23/1, 23/2, 24, 25. 11//21, 14//3, 4, 5, 6, 7, 8	08	Boulder-Gravel-Sand	02.50
11.	Begampur YNR B37	39.50	63//11, 12, 64//11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 65//14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 66// 16/2, 17, 18/1, 18/2, 23, 24, 25/1, 25/2, 70//3/1, 32/2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16 to 25, 71//1, 2, 3/1, 3/2, 4 to 11, 12/1, 12/2, 13, 14, 15/1, 15/2, 16 to 19, 20/1, 20/2, 21/1, 21/2, 22 to 25, 72//1, 2, 3, 7, 8, 9, 10/1, 10/2, 11 to 14, 15, 16/1, 16/2, 17/1, 17/2, 18 to 21, 22, 23, 24, 25, 73//11, 20, 75//4, 5, 76//4, 5, 6, 7, 11, 12, 14, 15, 16, 17 to 20, 21 to 24, 77//1 to 4, 8 to 10, 11, 12, 13/1, 13/2, 14 to 18, 19/1, 19/2, 20, 21/1, 21/2, 22 to 25, 78// 7, 8, 13, 14, 16 to 25, 80//15, 81//1, 2, 3, 4, 5/1, 5/2, 6, 7/1, 7/2, 8 to 10, 11, 12, 13/1, 13/2, 14, 15, 82//1	08	Boulder-Gravel-Sand	56.88

Amal

Dum2

Str. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
12.	Chuharpur Block YNR B26 & 27	50.40	Chuharpur B-26: 15//22/1, 22/2, 23min, 19//10min, 11, 12, 13min, 16min, 17, 18, 19, 20, 21, 22, 23, 24, 25, 20//2, 3, 4, 5min, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 24, 25/1 to 25/4, 32//4, 5, 6, 7, 14, 15, 17/1, 17/2, 17/3, 24, 25, 33//1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 19, 20, 21/1, 21/2, 22/1, 22/2, 43//4, 5/1, 5/2 Chuharpur B-27: 50//2, 3, 4, 5, 6, 7, 8, 9min, 13, 14, 15, 16/1, 51//1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16/1, 16/2, 17, 18, 19, 20min, 22, 23/1, 23/2, 24, 25, 52//1, 2, 3, 4, 5, 6/1, 6/2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16min, 17min, 18, 19, 20, 21, 22/1, 23min, 53//1, 2, 3/1, 3/2, 4, 5min, 7min, 8, 9, 10, 11, 12, 13, 14min, 20min	08	Boulder-Gravel-Sand	74.56
13.	Nandgarh Block YNR B36	29.60	4//9/1, 9/2, 12, 18/1, 18/2, 19, 21/1, 21/2, 22, 23/1, 23/2, 24/1, 24/2, 11/5, 6, 7, 12, 13, 14, 15/1, 15/2, 16, 17, 18/1, 18/2, 19, 20/1, 20/1, 21, 22, 23, 24/1, 24/2, 25, 12//1, 2, 3, 4, 5, 6/1, 6/2, 7, 8, 9, 10/1, 10/2, 11, 12, 13, 14, 15/1, 15/2, 17, 18, 19, 20, 21, 22, 23/1, 23/2, 13//10, 15//1, 2, 9, 10, 11, 16//1, 2, 3/1, 3/2, 4, 5, 6, 7, 8, 9, 10, 11, 12/1, 12/2, 13, 14, 15, 16, 17, 18, 19, 20/1, 20/2, 23, 24, 23//3	08	Boulder-Gravel-Sand	46.22

Sr. No.	Name of Mining Block	Area (in Hect.)	Details of Khasra No's.	Period (in Yrs.)	Name of Minor Mineral	Annual Capacity as per EC/Mining Plan (in lakh MT)
14.	Ismailpur Block YNR B32	50.50	15//14, 15, 16/1, 16/2, 16/3, 17, 18/1, 18/2, 22, 23, 23/1, 23/2, 24, 25, 16//11, 12, 13, 14, 15, 16, 17, 18, 19/1, 19/2, 20, 21/1, 21/2, 22 to 25, 17//11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 22//1, 2, 10, 23//1 to 15, 17 to 23, 24//2/1, 2/2, 3 to 8, 9/1, 9/2, 10/1, 10/2, 11, 12, 13/1, 13/2, 14 to 25, 25//15, 23/1, 23/2, 24, 25, 28//3/1, 3/2, 4, 5, 6, 7/1, 7/2, 8, 9, 13, 14, 15, 16, 17, 24, 25, 29//1/1, 1/2, 2/1, 2/2, 3, 4, 5, 6, 7, 8, 9/1, 9/2, 10, 11, 12, 13, 14, 15/1, 15/2, 17 to 21, 22/1, 22/2, 23/1, 23/2, 35//1, 2/1, 2/2, 9, 10	08	Boulder-Gravel-Sand	76.96
15.	Haldari Gujjar Block YNR B35	46.80	18//1/1, 1/2, 2 to 9, 10/1, 10/2, 11 to 25, 19//11 to 25, 20//2 to 4, 7 to 9, 11 to 14, 18 to 20, 21,22	08	Boulder-Gravel-Sand	70.43

Demer

Good

ANNEXURE-II

List of proposed river bed mining contracts of the district with area, location & period for each minor mineral

Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	Details of Khaasra No's.	GPS reading of all corner point taken by HARSAC by using DGPS			Area as per GPS reading (in acre.)	Remarks
					Pillar	Latitude	Longitude		
1.	Ranjitpur	Ranjitpur	100.24	2// 4 min, 5 min, 6, 7 min 14 min, 15, 16, 17 min 24 min, 25 min 6// 5 min, 6 min 21// min (Big Number)	A1	30°25' 51.966" N	77°21' 1.074" E	27.38	Boulder, Gravel & Sand
	Ranjitpur				A2	30°25' 44.595" N	77°21' 1.783" E		
					A3	30°25' 37.288" N	77°21' 6.833" E		
					A4	30°25' 33.084" N	77°21' 9.669" E		
					A5	30°25' 30.563" N	77°21' 13.011" E		
					B1	30°25' 52.519" N	77°21' 6.306" E		
					B2	30°25' 46.764" N	77°21' 6.655" E		
					B3	30°25' 43.063" N	77°21' 11.273" E		
					B4	30°25' 37.896" N	77°21' 14.190" E		
					B5	30°25' 36.042" N	77°21' 15.267" E		
					Pillar	Latitude	Longitude	27.48	
		Rampur Gaunda		36// 15/1 min, 15/2, 16/1, 17 min, 24/1, 24/4 min, 23 37// 1/1 min, 1/2, 2/1 min, 2/2 min, 3 min, 8, 9, 10/1, 10/2 min, 11, 12, 19 min, 20 min, 21 min 39// 2/1 min, 2/2, 3/1, 3/2 min, 4 min, 5 min, 7 min, 8, 9/1, 10/1, 11/1, 12, 13 min, 14 min, 18 min, 19 min, 20 min, 21, 22 min 40// 16/1, 24 min, 25 min 43// 3 min, 5, 6 min, 7, 8/1, 8/2 min, 9/1 min, 9/2, 11 min, 12/1 min, 12/2, 13 min, 14 min, 18 min, 19/1 min, 20 min Ancillary area 40// 11, 12, 13, 18, 19, 20, 21, 22, 23	A1	30° 25'59.860" N	77° 21'46.777" E		
					A2	30° 25'59.163" N	77° 21'44.258" E		
					A3	30° 25'56.779" N	77° 21'42.455" E		
					A4	30° 25'52.124" N	77° 21'37.226" E		
					A5	30° 25'43.479" N	77° 21'27.797" E		
					A6	30° 25'39.367" N	77° 21'22.933" E		
					A7	30° 25'35.801" N	77° 21'18.544" E		
					B1	30° 26'0.112" N	77° 21'49.044" E		
					B2	30° 25'56.430" N	77° 21'46.674" E		
					B3	30° 25'54.733" N	77° 21'45.449" E		
					B4	30° 25'51.482" N	77° 21'41.375" E		
					B5	30° 25'44.072" N	77° 21'34.950" E		
					B6	30° 25'38.602" N	77° 21'28.535" E		
					B7	30° 25'36.318" N	77° 21'24.307" E		
					B8	30° 25'34.664" N	77° 21'20.675" E	3.96	
		Swabari		1// 7 min, 13 min, 14 min, 15 min, 17 min, 18 min, 22 min, 23 min, 24 min	Pillar	Latitude	Longitude		
					A7	30°25' 35.801" N	77°21' 18.544" E		
					A8	30°25' 32.564" N	77°21' 13.932" E		
					A9	30°25' 30.563" N	77°21' 13.011" E		
					B8	30°25' 34.664" N	77°21' 20.675" E		

Demar

Spd

		B9	30°25' 30.895" N	77°21' 17.370" E	
Ranipur		Pillar	Latitude	Longitude	31.56
	32// 16 min, 17 min, 18 min, 19 min, 23 min, 24, 25 min	A10	30°24' 37.805" N	77°20' 56.086" E	
	35// 3 min, 4, 5 min, 6 min, 7, 8, 9/1 min, 12/2 min, 13, 14 min, 15 min, 17 min, 18, 19/1 min, 22 min, 23, 24 min	A11	30°24' 28.988" N	77°20' 54.712" E	
	44// 2 min, 3/1, 3/2 min, 4 min, 8 min, 9 min, 11 min, 12, 13 min, 18 min, 19, 20 min, 21/1 min, 21/2 min, 22, 23 min	A12	30°24' 25.179" N	77°20' 54.031" E	
	47// 1 min, 2/1, 2/2, 3 min, 6 min,	A13	30°24' 16.141" N	77°20' 50.834" E	
	7 min, 8 min, 9/1, 9/2/1, 10 min, 11 min, 12/1, 12/2 min, 13, 14, 15/1 min, 15/2 min, 17 min, 18 min, 19 min	A14	30°24' 12.497" N	77°20' 51.011" E	
		A15	30°24' 9.559" N	77°20' 53.752" E	
		A16	30°24' 8.435" N	77°21' 0.599" E	
		B10	30°24' 37.345" N	77°21' 2.924" E	
		B11	30°24' 30.474" N	77°21' 0.527" E	
		B12	30°24' 26.149" N	77°20' 59.004" E	
		B13	30°24' 22.494" N	77°20' 57.057" E	
		B14	30°24' 16.733" N	77°20' 55.327" E	
		B15	30°24' 13.908" N	77°20' 55.171" E	
		B16	30°24' 12.766" N	77°20' 56.738" E	
		B17	30°24' 11.747" N	77°21' 0.227" E	
		B18	30°24' 9.813" N	77°21' 2.332" E	
		Pillar	Latitude	Longitude	52.00
	4// 12 min, 13, 14, 16 min, 17 min, 18, 19 min, 20 min, 21 min, 22, 23 min, 24 min	A 9	30° 24' 9.279" N	77°21' 45.571" E	
	5// 17 min, 18 min, 19 min, 20 min, 21 min, 22 min, 23 min, 24 min, 25 min	A 10	30° 24' 6.110" N	77°21' 42.810" E	
	6// 1 min, 2, 3 min, 8 min, 9 min, 10 min, 11 min, 13 min, 14 min, 17 min, 18 min, 23 min, 24 min, 25 min	A 11	30° 24' 4.784" N	77°21' 42.456" E	
	7// 6 min, 7 min, 11 min, 12 min, 13 min, 14 min, 15 min, 17 min, 18 min, 19 min, 20 min, 22 min, 23 min, 24 min, 25 min	A 12	30° 24' 5.258" N	77°21' 39.019" E	
	8// 15 min, 16 min, 17 min	A 13	30° 24' 7.740" N	77°21' 35.466" E	
	11// 3 min, 4, 5 min, 6 min, 7 min, 8 min, 14 min, 15, 16 min, 17 min, 25 min	A 14	30° 24' 8.225" N	77°21' 33.617" E	
	12// 4/1 min, 5/1 min, 10 min, 11 min, 20 min, 21, 22 min	A 15	30° 24' 7.956" N	77°21' 31.808" E	
	13// 1 min, 4 min, 5, 6 min, 7 min	A 16	30° 24' 6.551" N	77°21' 30.036" E	
	14// 1, 2 min, 3 min, 9 min, 10 min	A 17	30° 24' 5.716" N	77°21' 28.435" E	
	20// 1, 2 min, 9 min, 10, 11, 12 min, 19 min, 20, 21, 22 min	A 18	30° 24' 5.592" N	77°21' 26.577" E	
	21// 5 min, 6 min, 15 min, 16 min, 25 min	A 19	30° 24' 7.530" N	77°21' 24.468" E	
	26// 5 min, 6 min, 15 min	A 20	30° 24' 12.946" N	77°21' 23.192" E	
	27// 1, 2 min, 9 min, 10 min	A 22	30° 24' 13.756" N	77°21' 18.669" E	
		A 23	30° 24' 12.617" N	77°21' 16.819" E	
		A 24	30° 24' 11.594" N	77°21' 12.985" E	
		A 25	30° 24' 8.627" N	77° 21' 8.351" E	
		A 26	30° 24' 10.112" N	77° 21' 2.662" E	
		A 27	30° 24' 8.396" N	77° 21' 0.618" E	
		A 28	30° 24' 7.105" N	77° 21' 5.684" E	
		A 29	30° 24' 4.675" N	77° 21' 9.458" E	
		A 30	30° 23' 57.720" N	77° 21' 13.853" E	
		A 31	30° 23' 55.045" N	77° 21' 14.820" E	
		A 32	30° 23' 45.487" N	77° 21' 14.503" E	
		A 33	30° 23' 41.014" N	77° 21' 14.479" E	
		B 9	30° 24' 8.264" N	77° 21' 52.647" E	
		Gadawali			

Demz

Amel

		A12		30°24'29.415'' N 77°22'30.65'' E		8.47	
Sunder Bahadur pur		Pillar		Latitude		Longitude	
13// 25 min		A1	30°24' 45.623'' N	77°22' 50.077'' E			
14// 11 min, 20 min, 21 min		A2	30°24' 43.422'' N	77°22' 50.068'' E			
29// 1 min, 10 min		A3	30°24' 41.893'' N	77°22' 50.640'' E			
30//		A4	30°24' 38.318'' N	77°22' 48.963'' E			
5 min, 6 min, 7 min, 14 min, 15 min, 16 min, 17 min, 18 min, 19 min, 20 min, 21 min, 22 min, 23 min		A5	30°24' 34.299'' N	77°22' 45.936'' E			
31// 16 min, 25 min		A6	30°24' 32.879'' N	77°22' 42.214'' E			
		A7	30°24' 32.568'' N	77°22' 38.112'' E			
		A8	30°24' 32.635'' N	77°22' 36.126'' E			
		B1	30°24' 46.041'' N	77°22' 50.902'' E			
		B2	30°24' 44.079'' N	77°22' 51.886'' E			
		B3	30°24' 42.059'' N	77°22' 51.958'' E			
		B4	30°24' 37.812'' N	77°22' 51.317'' E			
		B5	30°24' 33.329'' N	77°22' 48.127'' E			
		B6	30°24' 31.522'' N	77°22' 41.993'' E			
		B7	30°24' 31.218'' N	77°22' 37.683'' E			
		B8	30°24' 31.353'' N	77°22' 35.737'' E			
2// 23 min		Pillar	Latitude	Longitude		4.00	
3// 3 min, 8 min,		A 8	30° 22' 16.632'' N	77° 20' 52.973'' E			
12 min, 13, 19 min, 21 min, 22 min		A 9	30° 22' 10.506'' N	77° 20' 50.539'' E			
19// 1 min, 2, 10 min		A 10	30° 22' 4.259'' N	77° 20' 47.712'' E			
		A 11	30° 22' 1.887'' N	77° 20' 47.808'' E			
		A 12	30° 22' 1.870'' N	77° 20' 47.828'' E			
		A 12A	30° 22' 14.871'' N	77° 20' 54.450'' E			
1// 13, 14, 16 min, 17 min, 18, 22, 23 min, 24 min		Pillar	Latitude	Longitude		45.00	
5// 21 min		A 12A	30° 22' 14.871'' N	77° 20' 54.450'' E			
6// 2, 3 min, 8 min, 9, 11 min, 12/1 min, 12/2 min, 13 min, 14 min, 16 min, 17 min, 18 min, 19 min, 23 min, 24 min, 25 min		A 12	30° 22' 1.870'' N	77° 20' 47.828'' E			
9// 4 min, 5/1 min, 5/2, 6/1/1 min		A 13	30° 21' 57.214'' N	77° 20' 53.198'' E			
10// 1 min, 2 min, 9 min, 10 min, 11/1 min, 11/2 min, 12/1, 12/2 min, 13/1 min, 13/2 min, 17 min, 18 min, 19 min, 23 min, 24 min, 25 min		A 14	30° 21' 53.977'' N	77° 20' 57.491'' E			
16// 1 min, 9 min, 10 min, 11 min, 12 min, 19 min, 20 min, 21 min, 22 min		A 15	30° 21' 50.685'' N	77° 21' 0.895'' E			
17// 4 min, 5/1 min, 5/2, 6 min, 15 min		A 16	30° 21' 47.018'' N	77° 21' 5.266'' E			
27// 2 min, 9 min, 12 min, 19 min, 22 min, 23 min		A 17	30° 21' 42.291'' N	77° 21' 10.291'' E			
30// 2 min, 3 min, 8 min, 9 min, 12/2 min, 13/2 min, 18 min, 19 min, 21 min, 22 min, 23 min		A 18	30° 21' 39.608'' N	77° 21' 12.487'' E			
38// 1 min, 2/1 min, 2/2 min, 9 min, 10 min, 11 min, 12/1 min, 12/2 min, 19 min, 20 min, 21 min, 22 min		A 19	30° 21' 37.186'' N	77° 21' 13.603'' E			
40// 1 min, 2 min, 9 min, 10/1, 10/2, 11/1, 11/2 min		A 20	30° 21' 35.655'' N	77° 21' 13.950'' E			
41// 5/2 min, 6/1 min, 6/2 min, 15 min 16 min		A 21	30° 21' 32.507'' N	77° 21' 14.085'' E			
		A 22	30° 21' 18.166'' N	77° 21' 13.864'' E			
		A 23	30° 21' 7.411'' N	77° 21' 11.666'' E			
		A 24	30° 21' 2.749'' N	77° 21' 10.634'' E			
		A 25	30° 21' 0.767'' N	77° 21' 10.409'' E			
		B 7A	30° 22' 11.565'' N	77° 20' 54.321'' E			
		B 7	30° 22' 10.079'' N	77° 20' 57.170'' E			
		B 8	30° 22' 6.872'' N	77° 20' 52.949'' E			
Ancillary area 11// 8 to 13, 18 to 20							

Qant

Qant

Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	Details of Khassra Nos.	GPS reading of all corner point taken by HARSAC by using DGPS			Area as per GPS reading (in acre.)	Remarks
					Pillar	Latitude	Longitude		
2.	Nagla-32- Pirthapur	Nagla-32	147.02	141// 19 min, 20 min, 21 min, 22 min 146// 1 min, 2 min, 9 min, 10 min, 11 min, 12 min, 19 min, 22 min 159// 6 min, 15 min, 16 min, 24 min, 25 min 160// 1 min, 10 min, 11 min 164// 4 min, 5 min, 6 min, 7 min, 14 min, 17 min, 24 min, 13 min, 18 min, 22 min, 23, 24 min 169// 2 min, 3, 4 min, 8 min, 9, 10 min, 11 min, 12 min, 13 min	A1	30° 24' 35.830" N	77° 24' 52.620" E	17.00	Boulder, Gravel & Sand
					A2	30° 24' 32.648" N	77° 24' 52.727" E		
					A3	30° 24' 22.910" N	77° 24' 53.204" E		
					A4	30° 24' 0.541" N	77° 24' 48.331" E		
					A5	30° 23' 54.153" N	77° 24' 45.151" E		
					A6	30° 23' 50.179" N	77° 24' 42.186" E		
					A7	30° 23' 48.584" N	77° 24' 42.127" E		
					A8	30° 23' 46.979" N	77° 24' 41.535" E		
					A9	30° 23' 44.078" N	77° 24' 39.185" E		
					A10	30° 23' 41.699" N	77° 24' 36.559" E		
					A11	30° 23' 37.555" N	77° 24' 34.691" E		
					A12	30° 23' 35.695" N	77° 24' 39.321" E		
					B1	30° 24' 36.118" N	77° 24' 53.837" E		
					B2	30° 24' 33.374" N	77° 24' 54.063" E		
					B3	30° 24' 22.964" N	77° 24' 54.446" E		
					B4	30° 23' 59.980" N	77° 24' 49.403" E		
					B5	30° 23' 54.187" N	77° 24' 46.123" E		
					B6	30° 23' 49.323" N	77° 24' 45.189" E		
					B7	30° 23' 47.869" N	77° 24' 43.702" E		
					B8	30° 23' 45.759" N	77° 24' 42.511" E		
					B9	30° 23' 40.435" N	77° 24' 41.247" E		
					B10	30° 23' 38.934" N	77° 24' 41.064" E		
		Gohrahani		2// 21 min 3// 21 min, 22 min, 23 min, 24, 25 8// 6 min, 14 min, 15 min, 16 min, 17/1 min, 17/2 min, 23 min, 24 min 9// 1 min, 2 min, 3 min, 4 min, 5 min, 10 min 12// 2 min, 3 min, 8 min, 9 min, 11 min, 12 min, 19 min, 20 min, 21 min 13// 15 min, 16 min, 24, 25/1 min, 25/2 19// 3 min, 4 min, 5/1 min, 5/2 min, 10 min, 11 min, 19 min, 20 min 24// 1 min, 2 min, 3 min, 4 min, 8 min, 9 min, 10 min, 11 min, 12 min, 20 min 25// 17, 23 min, 24 min 28// 3 min, 4 min, 7 min, 8 min, 13 min, 14 min			28.50		
					A1	30° 23' 35.657" N	77° 24' 32.940" E		
					A2	30° 23' 36.612" N	77° 24' 28.907" E		
					A3	30° 23' 34.435" N	77° 24' 24.146" E		
					A4	30° 23' 27.420" N	77° 24' 17.434" E		
					A5	30° 23' 25.035" N	77° 24' 15.795" E		
					A6	30° 23' 19.559" N	77° 24' 9.714" E		
					A7	30° 23' 17.725" N	77° 24' 7.950" E		
					A8	30° 23' 16.775" N	77° 24' 4.551" E		
					A9	30° 23' 14.224" N	77° 23' 59.55" E		
					A10	30° 23' 12.12" N	77° 23' 57.10" E		
					A11	30° 23' 10.10" N	77° 23' 54.65" E		
					A12	30° 23' 5.46" N	77° 23' 49.555" E		
					A12A	30° 23' 2.051" N	77° 23' 44.292" E		
					A13	30° 22' 57.362" N	77° 23' 38.671" E		
					A14	30° 22' 50.729" N	77° 23' 37.586" E		
					B1	30° 23' 33.449" N	77° 24' 35.820" E		
					B2	30° 23' 34.127" N	77° 24' 29.059" E		
					B3	30° 23' 32.991" N	77° 24' 25.075" E		
					B4	30° 23' 30.759" N	77° 24' 22.357" E		
					B5	30° 23' 26.417" N	77° 24' 18.374" E		
					B6	30° 23' 16.491" N	77° 24' 11.210" E		
					B7	30° 23' 12.724" N	77° 24' 6.051" E		
					B8	30° 23' 12.724" N	77° 23' 59.55" E		

Niraj 09/10/2017
Dfo ind

Sherma

Sr. No.	Total	6	147.02	Total Mineral Concession Area (in acre)	Name of the Village	Details of Khasra Nos.	GPS reading of all corner point taken by HARSAC by using DGPS				Area as per GPS reading (in acre.)	Remarks
							Pillar	Latitude	Longitude			
3.				23.61	Leda Khadar	5// 9 min, 12 min, 13 min, 14 min, 16 min, 17 min, 18 min, 25 min 6// 19 min, 20 min, 21 min, 22 min, 23 min, 24 min, 25 min 7// 15/1 min, 15/2 min, 16 min, 17 min, 18 min, 19 min, 20 min, 21 min, 22 min, 23 min, 25 min 8// 20 min, 21 min 9// 1/1 min, 1/2 min, 10 min 10// 5 min, 6min 18// 17, 18 min, 24 min Ancillary area 17// 16, 17, 24, 25 18// 20, 21	A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B15-a B15-b B15-c B15-d Pillar A16 A17 A18 A19 A20 A21 A22 A22-a A22-b A22-c A23	30° 18' 47.416" N 30° 18' 46.307" N 30° 18' 45.051" N 30° 18' 44.156" N 30° 18' 43.017" N 30° 18' 42.112" N 30° 18' 41.790" N 30° 18' 41.973" N 30° 18' 42.335" N 30° 18' 42.829" N 30° 18' 43.210" N 30° 18' 43.918" N 30° 18' 43.451" N 30° 18' 42.188" N 30° 18' 39.438" N 30° 18' 48.316" N 30° 18' 46.988" N 30° 18' 45.782" N 30° 18' 44.445" N 30° 18' 43.597" N 30° 18' 43.248" N 30° 18' 42.677" N 30° 18' 42.694" N 30° 18' 43.120" N 30° 18' 43.744" N 30° 18' 44.956" N 30° 18' 44.816" N 30° 18' 44.456" N 30° 18' 42.507" N 30° 18' 38.856" N 30° 18' 38.265" N 30° 18' 38.259" N 30° 18' 38.139" N 30° 18' 38.091" N 30° 18' 37.660" N 30° 18' 33.810" N 30° 18' 30.675" N 30° 18' 27.956" N 30° 18' 26.109" N 30° 18' 24.175" N 30° 18' 22.731" N 30° 18' 22.614" N 30° 18' 21.700" N 30° 18' 21.887" N 30° 18' 18.892" N	77° 24' 7.491" E 77° 24' 8.855" E 77° 24' 10.844" E 77° 24' 12.984" E 77° 24' 17.454" E 77° 24' 22.843" E 77° 24' 28.403" E 77° 24' 31.040" E 77° 24' 33.588" E 77° 24' 35.832" E 77° 24' 37.524" E 77° 24' 39.506" E 77° 24' 41.116" E 77° 24' 41.718" E 77° 24' 41.769" E 77° 24' 8.094" E 77° 24' 9.887" E 77° 24' 12.633" E 77° 24' 15.751" E 77° 24' 19.313" E 77° 24' 23.707" E 77° 24' 26.173" E 77° 24' 29.136" E 77° 24' 32.471" E 77° 24' 35.572" E 77° 24' 39.475" E 77° 24' 41.396" E 77° 24' 42.050" E 77° 24' 42.822" E 77° 24' 43.208" E 77° 24' 42.830" E 77° 24' 42.848" E 77° 24' 42.766" E 77° 24' 42.883" E 77° 24' 41.895" E 77° 24' 42.645" E 77° 24' 43.568" E 77° 24' 43.996" E 77° 24' 44.810" E 77° 24' 47.246" E 77° 24' 50.426" E 77° 24' 50.760" E 77° 24' 50.581" E 77° 24' 50.128" E 77° 24' 53.892" E	9.50	Boulder, Gravel & Sand	
					Kotra Khan Singh	5// 10/1 min, 10/2 min, 11 min, 20 min, 21 min 6// 15 min 7// 1 min, 2 min, 9 min, 10 min, 12 min, 13 min, 17 min, 18 min, 24 min, 25 min 15// 1 min 16// 5 min				5.30		

Sharma

Good

Sr. No	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	Details of Khasra Nos.	GPS reading of all corner point taken by HARSAC by using DGPS			Area as per GPS reading (in acre.)	Remarks
					Pillar	Latitude	Longitude		
4.	Belgarh South	Belgarh South	62.88	53// 6 min, 15/1 min, 15/2 min, 16, 17 min, 23 min, 24 min, 25 54// 1 min, 2, 9/1, 9/2, 10 min, 11, 12, 19, 20, 21 55// 1, 10, 11 56// 3 min, 4, 5, 6, 7, 8 min, 9 min, 12 min, 13/1, 13/2, 14, 15, 16, 17, 18/1, 18/2, 19 min, 21 min, 22 min, 23, 24 72// 1 min, 2, 3, 4/1/1, 4/2, 4/1/2, 5, 7, 8, 9, 10 min, 11/2 min, 12, 13/1, 13/2, 14, 18, 19, 20/1 min, 21, 22, 23 71// 25 min 73// 1, 2, 9, 10, 11, 12/1, 12/2, 20, 21 74// 5 min, 6 min, 15 min, 16/1/1, 16/2, 17 min, 24 min, 25 85// 4/1 min, 4/2, 5, 7 min, 8 min, 13 min, 14, 18 min, 21 min, 22 min 86// 1/1 min, 1/2 min, 2, 10 min Ancillary area 84// 6, 7, 14, 15 85// 10, 11	A1	30° 13' 39.964" N	77° 30' 32.127" E		
					A10	30° 13' 4.122" N	77° 30' 12.432" E		
					A11	30° 12' 59.401" N	77° 30' 16.237" E		
					A12	30° 12' 52.659" N	77° 30' 14.229" E		
					A13	30° 12' 51.844" N	77° 30' 13.982" E		
					A14	30° 12' 50.965" N	77° 30' 11.396" E		
					A15	30° 12' 49.650" N	77° 30' 9.580" E		
					A16	30° 12' 48.307" N	77° 30' 7.286" E		
					A2	30° 13' 34.323" N	77° 30' 28.509" E		
					A3	30° 13' 30.222" N	77° 30' 26.160" E		
					A4	30° 13' 28.538" N	77° 30' 24.428" E		
					A5	30° 13' 25.038" N	77° 30' 22.499" E		
					A6	30° 13' 20.454" N	77° 30' 21.448" E		
					A7	30° 13' 15.900" N	77° 30' 20.372" E		
					A8	30° 13' 11.018" N	77° 30' 19.330" E		
					A9	30° 13' 8.859" N	77° 30' 18.706" E		
					B1	30° 13' 40.137" N	77° 30' 35.526" E		
					B10	30° 13' 4.068" N	77° 30' 23.337" E		
					B11	30° 13' 0.020" N	77° 30' 20.070" E		
					B12	30° 12' 55.891" N	77° 30' 15.551" E		
					B13	30° 12' 51.517" N	77° 30' 13.965" E		
					B14	30° 12' 50.579" N	77° 30' 13.118" E		
					B15	30° 12' 49.798" N	77° 30' 12.414" E		
					B16	30° 12' 47.205" N	77° 30' 10.272" E		
					B2	30° 13' 34.159" N	77° 30' 33.991" E		
					B3	30° 13' 28.181" N	77° 30' 32.456" E		
					B4	30° 13' 24.196" N	77° 30' 31.433" E		
					B5	30° 13' 21.120" N	77° 30' 30.972" E		
					B6	30° 13' 18.181" N	77° 30' 29.151" E		
B7	30° 13' 16.157" N	77° 30' 28.018" E							
B8	30° 13' 12.121" N	77° 30' 26.000" E							
B9	30° 13' 8.085" N	77° 30' 23.982" E							
Total	1		62.88				56.50	Boulder, Gravel & Sand	

Belgarh

Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	Details of Khastra Nos.	GPS reading of all corner point taken by HARSAC by using DGPS			Area as per GPS reading (in acre.)	Remarks
					Pillar	Latitude	Longitude		
5.	Pobari	Pobari	164.10	1// 6 min, 15 min, 16 min, 17 min, 23 min, 24 min, 25 min 2// 8, 9, 10, 11, 12, 13, 19 min, 20 min, 21 min, 22 min 3// 1, 2, 3 4// 2 min, 3 min, 4, 5, 6, 7, 8, 9 min, 10 min, 11, 12, 13, 14, 15, 16, 17/1, 17/2, 18, 19, 20, 21, 22, 23, 24 5// 6 min, 7 min, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 6// 25, 7// 4, 5, 6, 7, 8, 13, 14, 15, 16, 17, 18, 19/1, 19/2, 21, 22, 23, 24, 25 8// 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 9// 1, 2, 3, 4, 8, 9, 10, 11/1, 11/2, 12, 13, 18, 19, 20, 21, 22, 23 10// 1, 2, 3, 8 min, 9/1, 9/2, 10, 11 min, 12 min, 13 min 11// 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 min, 17 min, 18 min, 19, 20, 21 min, 22 min, 23 min 12// 1, 2, 3/1, 3/2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13/1, 13/2, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 13// 5, 6, 14, 15/1, 15/2, 16/1, 16/2, 17, 18, 24, 25 14// 5, 15// 1, 2, 3, 4/1, 4/2, 5/1, 5/2, 6 min, 7/1, 7/2, 8, 9, 12, 13 min, 14 min, 15 min, 16// 1 min, 16// 10 min Ancillary area 1// 13, 18, 19, 21, 22 4// 1 min, 2 min	A1	30° 0' 48.823" N	77° 16' 39.645" E	157.90	Sand
					A10	30° 0' 32.905" N	77° 16' 8.882" E		
					A11	30° 0' 31.090" N	77° 16' 5.918" E		
					A12	30° 0' 26.983" N	77° 16' 3.375" E		
					A13	30° 0' 25.203" N	77° 16' 1.631" E		
					A14	30° 0' 21.144" N	77° 15' 58.345" E		
					A15	30° 0' 14.487" N	77° 15' 52.543" E		
					A2	30° 0' 47.363" N	77° 16' 32.216" E		
					A3	30° 0' 42.612" N	77° 16' 30.049" E		
					A4	30° 0' 41.094" N	77° 16' 27.236" E		
					A5	30° 0' 38.493" N	77° 16' 24.770" E		
					A6	30° 0' 37.941" N	77° 16' 21.556" E		
					A7	30° 0' 37.428" N	77° 16' 18.653" E		
					A8	30° 0' 36.640" N	77° 16' 14.574" E		
					A9	30° 0' 34.498" N	77° 16' 11.248" E		
					B1	30° 0' 20.475" N	77° 16' 31.087" E		
					B2	30° 0' 18.648" N	77° 16' 26.393" E		
B3	30° 0' 17.446" N	77° 16' 21.805" E							
B4	30° 0' 15.760" N	77° 16' 18.120" E							
B5	30° 0' 12.907" N	77° 16' 14.176" E							
B6	30° 0' 9.439" N	77° 16' 11.632" E							
B7	30° 0' 6.954" N	77° 16' 7.419" E							
Total	1		164.10				157.90		

Sharma

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Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	Details of Kharsa Nos.	GPS reading of all corner point taken by HARSAC by using DGPS		Area as per GPS reading (in acre.)	Remarks	
					Pillar	Longitude			
6.	Gumthala North	Gumthala	334.98	44// 3, 4, 5 min, 6 min, 7, 8, 9, 11, 12, 13, 14, 15 min, 16 min, 17, 18, 19, 20, 21, 22, 23, 24, 25 min 45// 6, 21, 25 46// 13 min, 14 min, 16, 17, 18 min, 19 min, 20 min, 21, 22, 23, 24, 25 47// 16 min, 17 min, 18 min, 21 min, 22 min, 23, 24, 25 66// 25 min 67// 5 min, 6, 7 min, 12 min, 13/2 min, 14, 15, 16, 17, 18/1, 18/2, 19 min, 20 min, 21, 22/1, 22/2, 23, 24, 25 68// 1 min, 2, 3/1, 3/2, 3/3, 4, 5, 6, 7, 8/1, 8/2, 9, 10, 11, 12, 13/1, 13/2, 13/3, 14, 15, 16, 17, 18, 19/1, 19/2, 20, 21, 22, 23, 24, 25 69// 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 70// 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 71// 1, 2, 3, 4, 5 min, 6 min, 7, 8, 9, 10, 11, 12, 13, 14, 15 min, 16 min, 17 min, 18, 19, 20, 21, 22, 23, 24 min 79// 1, 2/1, 2/2, 3/1, 3/2, 4 min, 8/1 min, 8/2, 9, 10, 11, 12, 13 min, 18 min, 19 min, 20, 21 min, 22 min 80// 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 81// 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 82// 1, 2, 3, 4, 5/1, 5/2, 6/1, 6/2/1, 6/2/2, 7, 8, 9, 10, 11, 12, 13, 14/1, 14/2, 15/1, 15/2, 16/1, 16/2, 17, 18, 19, 20, 21, 22, 23, 24, 25/1, 25/2 83// 1/1, 1/2, 2/1, 2/2, 2/3, 3/1, 3/2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23/1, 23/2, 24, 25 84// 4 min, 5 min, 6/1, 6/2, 6/3, 7 min, 14/1 min, 14/2, 14/3, 14/4, 14/5, 15/1, 15/2, 16/1, 16/2, 17 min, 24 min, 25 99// 4 min, 5/1, 5/2, 5/3, 6, 7/1 min, 7/2 min, 14 min, 15, 16, 17 min, 24 min, 25 100// 1, 2/1, 2/2, 3, 4, 5 min, 6/2 min, 7 min, 8 min, 9/1, 9/2 min, 10, 11, 12 min, 19 min, 20, 21, 22 min, 23 min 101// 1/1, 1/2 min, 2 min, 3, 4, 5, 6 min, 7 min, 8 min 102// 1, 2, 3, 4, 5, 6, 7, 8, 9 min, 10 min, 12 min, 13 min, 14 min, 15 min 103// 1, 2, 3, 4, 5 min, 6 min, 7 min, 8 min, 9, 10, 11/1 min, 11/2 min, 12/1 min, 12/2 min, 13 min 104// 1 min 113// 1/1, 1/2, 2, 3, 4 min, 7 min, 8, 9, 10, 11, 12, 13, 14 min, 17 min, 18, 19, 20, 21 min, 22 min, 23 min, 24 min 114// 4 min, 5/1, 5/2, 6, 7 min, 14 min, 15, 16, 17 min, 24 min, 25 min 125// 3 min, 4 min Ancillary area 84// 21, 22	323.36	Sand			
							Latitude	Longitude	
							A1	29° 56' 48.685" N	77° 12' 43.630" E
							A10	29° 57' 21.860" N	77° 12' 51.229" E
							A11	29° 57' 24.780" N	77° 12' 55.075" E
							A12	29° 57' 30.010" N	77° 13' 2.108" E
							A13	29° 57' 30.743" N	77° 13' 11.466" E
							A14	29° 57' 31.756" N	77° 13' 15.352" E
							A15	29° 57' 33.179" N	77° 13' 19.606" E
							A16	29° 57' 25.539" N	77° 13' 29.716" E
							A17	29° 57' 37.906" N	77° 13' 42.587" E
							A2	29° 56' 53.430" N	77° 12' 44.252" E
							A3	29° 56' 56.323" N	77° 12' 44.223" E
							A4	29° 57' 0.696" N	77° 12' 43.683" E
							A5	29° 57' 5.504" N	77° 12' 43.516" E
							A6	29° 57' 9.813" N	77° 12' 44.106" E
							A7	29° 57' 13.203" N	77° 12' 42.960" E
							A8	29° 57' 15.758" N	77° 12' 42.960" E
							A9	29° 57' 19.198" N	77° 12' 45.714" E
							B1	29° 57' 39.163" N	77° 13' 47.763" E
B10	29° 57' 6.813" N	77° 12' 59.956" E							
B11	29° 57' 5.460" N	77° 12' 53.629" E							
B12	29° 57' 4.362" N	77° 12' 50.228" E							
B13	29° 56' 59.989" N	77° 12' 51.157" E							
B14	29° 56' 58.535" N	77° 12' 51.822" E							
B15	29° 56' 58.466" N	77° 12' 56.056" E							
B16	29° 56' 50.665" N	77° 12' 55.800" E							
B17	29° 56' 48.685" N	77° 12' 55.759" E							
B2	29° 57' 32.446" N	77° 13' 48.590" E							
B3	29° 57' 25.000" N	77° 13' 47.582" E							
B4	29° 57' 11.982" N	77° 13' 41.654" E							
B5	29° 57' 7.644" N	77° 13' 36.820" E							
B6	29° 57' 3.660" N	77° 13' 25.897" E							
B7	29° 57' 6.045" N	77° 13' 9.437" E							
B8	29° 57' 6.632" N	77° 13' 6.743" E							
B9	29° 57' 6.679" N	77° 13' 3.423" E							

Demar

Amel

Total Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acre)	85/25 98/5, 6, 15 99/1, 2, 9 to 12 Details of Khasra Nos.	GPS reading of all corner point taken by HARSAC by using DGPS			Area as per GPS reading (in acre.)	Remarks
					Pillar No.	Latitudes	Longitudes		
7.	Tajewala	Tajewala	79.07	147 min, 148 min, 149 min For ancillary work 63/16 to 19, 22, 23, 24, 25. 64/20 65/8,9,12	A	30° 17' 51.928" N	77° 33' 53.685" E	65.68	Boulder, Gravel & Sand
					B	30° 17' 52.528" N	77° 34' 7.58" E		
					C	30° 17' 44.762" N	77° 33' 57.146" E		
					D	30° 17' 37.585" N	77° 33' 47.009" E		
					E	30° 17' 30.825" N	77° 33' 38.161" E		
					F	30° 17' 27.262" N	77° 33' 32.205" E		
					G	30° 17' 11.383" N	77° 33' 16.824" E		
					H	30° 17' 6.545" N	77° 33' 6.94" E		
					I	30° 17' 14.355" N	77° 33' 14.756" E		
					J	30° 17' 19.281" N	77° 33' 21.379" E		
					K	30° 17' 22.74" N	77° 33' 24.452" E		
					L	30° 17' 22.74" N	77° 33' 26.044" E		
					M	30° 17' 30.439" N	77° 33' 30.479" E		
					N	30° 17' 34.078" N	77° 33' 33.302" E		
					O	30° 17' 40.811" N	77° 33' 37.213" E		
					P	30° 17' 43.842" N	77° 33' 42.228" E		

Dams

Gnd

Sr. No.	Mining Unit	Name of the Village	Total Mineral Concession Area (in acres)	Q	30° 17' 43.439" N	77° 33' 47.406" E	Remarks
Total	1	1	79.07				65.68
8.	Belgarh North	Belgarh North	64.91	Details of Khazra Nos.			Boulder, Gravel & Sand
					<p>5//6 min, 16 min, 23 min, 24 min, 25</p> <p>6//10 min, 11, 20, 21</p> <p>7//1, 10, 11 min</p> <p>8//3 min, 4, 5, 6, 7, 8, 9 min, 12, 13, 14, 15 min, 17 min, 18, 19, 20 min, 21, 22, 23, 24 min</p> <p>6//10, 11, 20, 21</p> <p>9//16 min, 24 min, 25 min</p> <p>17//4 min, 5, 6, 7 min, 8 min, 14 min, 15, 16 min, 25 min</p> <p>18//1, 3, 4 min, 7 min, 8, 9, 10, 12, 13 min, 19 min, 20, 21, 22 min, 23 min</p> <p>20//1, 2, 3 min, 4 min, 7 to 13</p> <p>34//5 min, 6 min</p> <p>35//1, 10 min</p>		
Total	1	1	64.91				1012.89
Grand Total	6	24	1166.91				

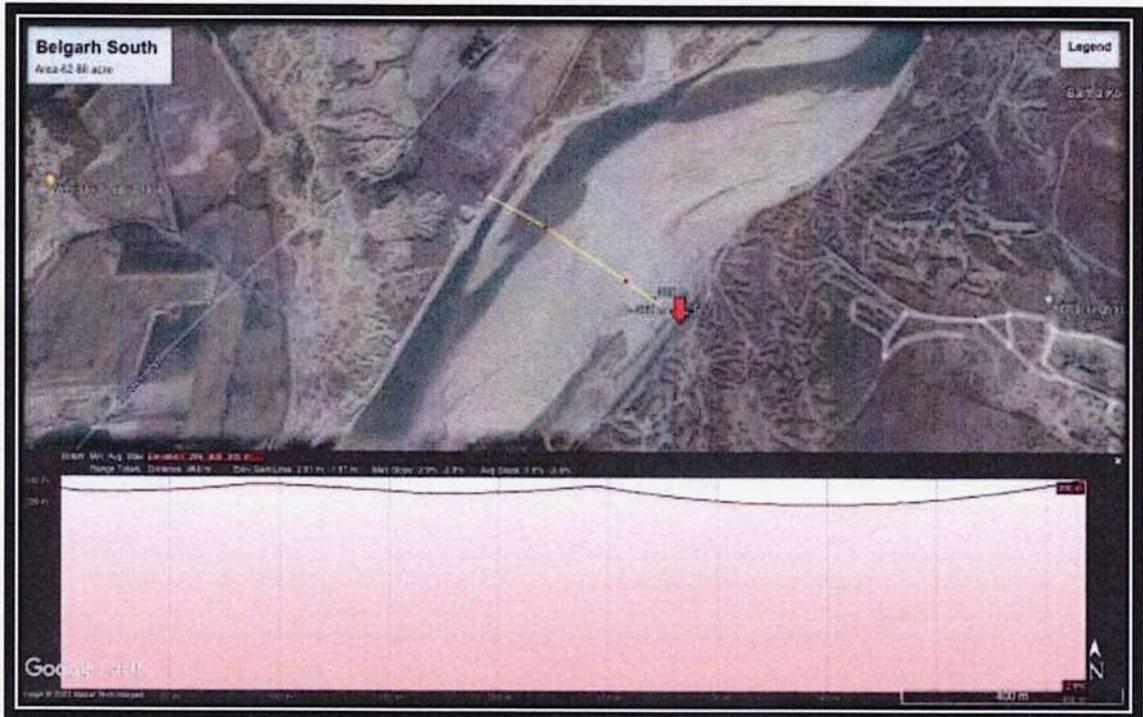
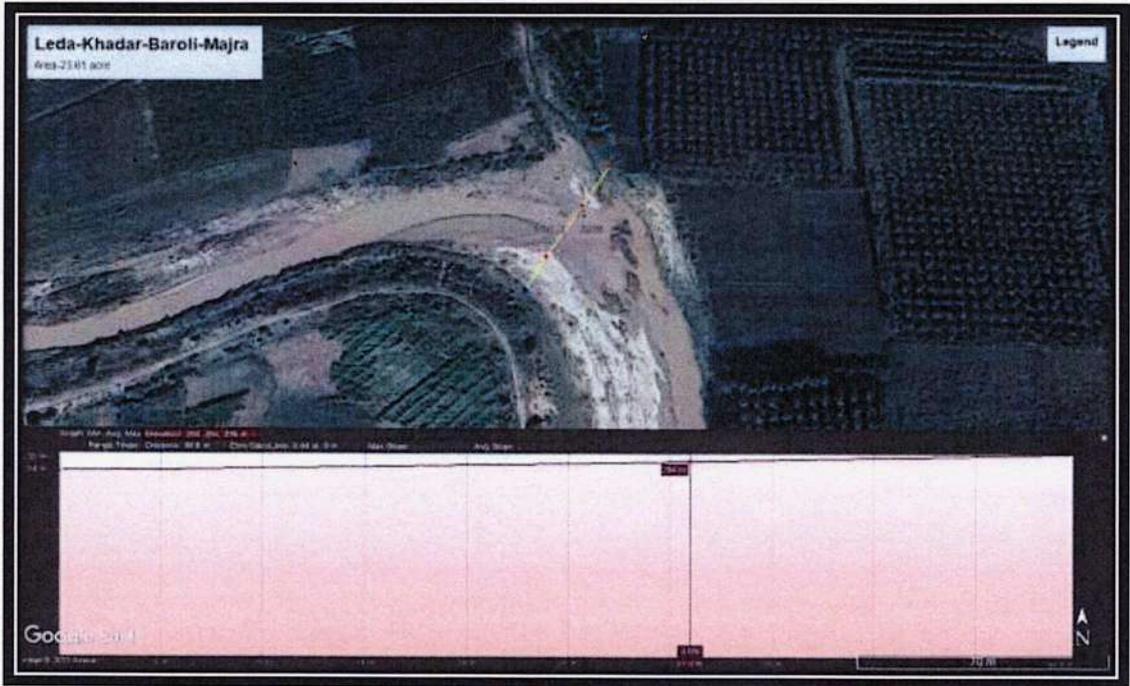
Shamra,
 Date: 11/10/2017
 AFO
 YNR

ANNEXURE-III

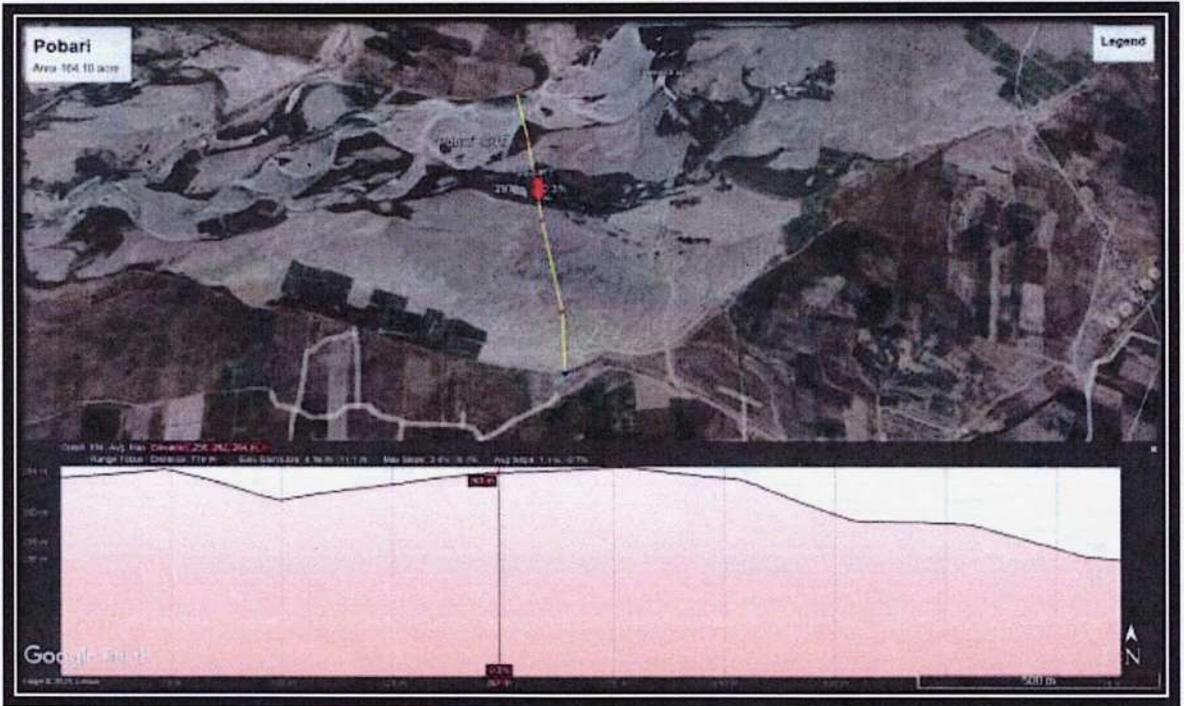
Cross-sectional maps of the deposition blocks/proposed mining sites



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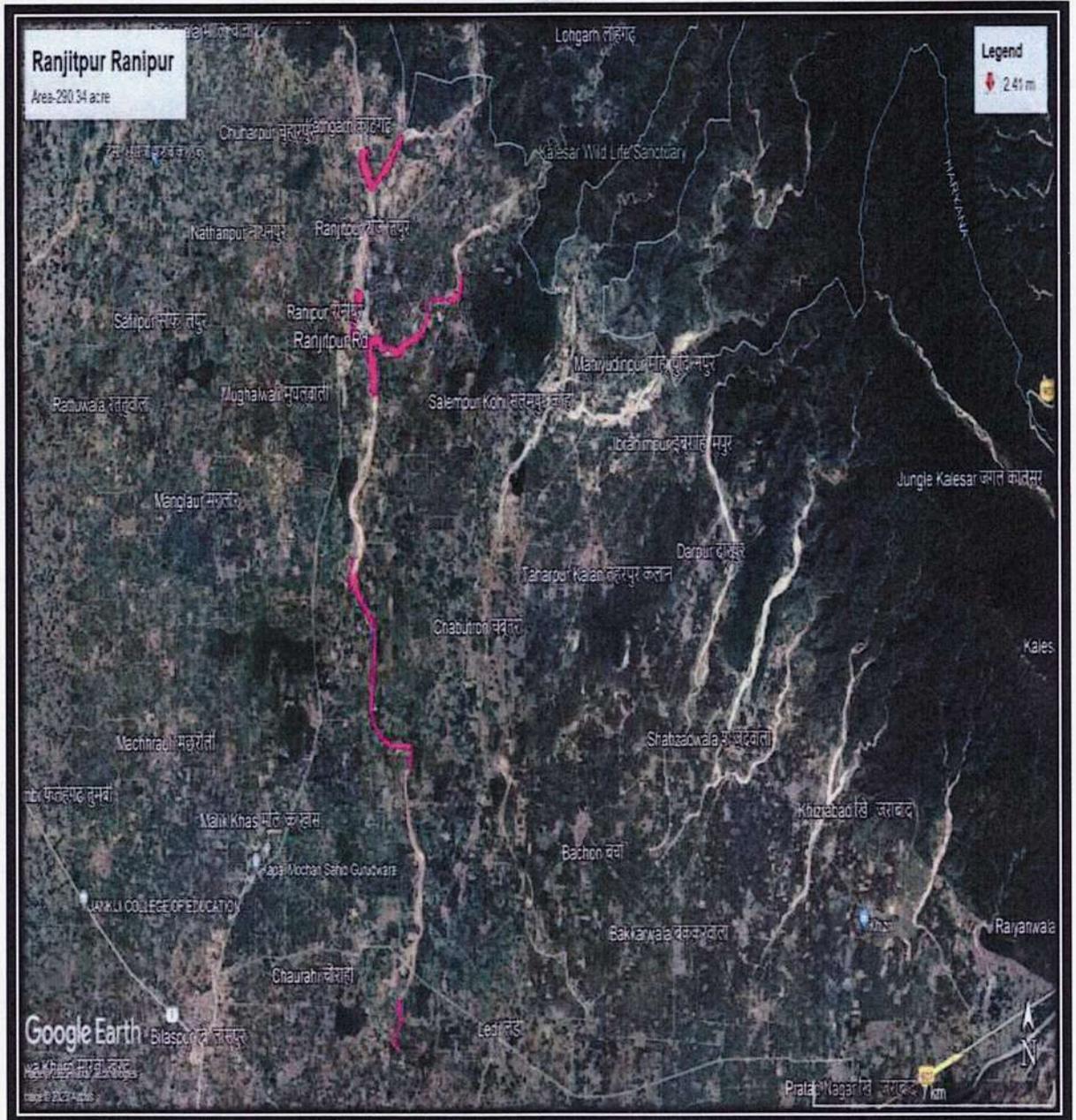
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ANNEXURE-IV

Mineral deposits of proposed mining sites are illustrated in satellite images



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Cancel

ANN. R-8/9

MINING PLAN AND PROGRESSIVE MINE CLOSURE PLAN परकूला
 Department of Mines and Geology
 Haryana, Panchkula
FOR
BOULDER, GRAVEL AND SAND MINE (MINOR MINERAL)

DMS/HY/MP/Bailgarh North Block-1/2023/3083-2686
 वि. लेटर नं. *RC 06/2023*
BAILGARH NORTH BLOCK (MNR B-1)

(Prepared under Rule 70 of Haryana Minor Mineral Concession, Stocking, Transportation of Minerals & Prevention of Illegal Mining Rules, 2012)

राज्य भू-विज्ञान
 State Geologist.

Lease area : 25.96 ha, Lease Period- 07 years; Production -1.16 Million T/Annum)



SUBMITTED TO

THE DIRECTOR GENERAL, MINES & GEOLOGY HARYANA

APPLICANT

M/s Maa Vaishno Minerals,
 Shop No.1, Karnal, Haryana, India -1322001

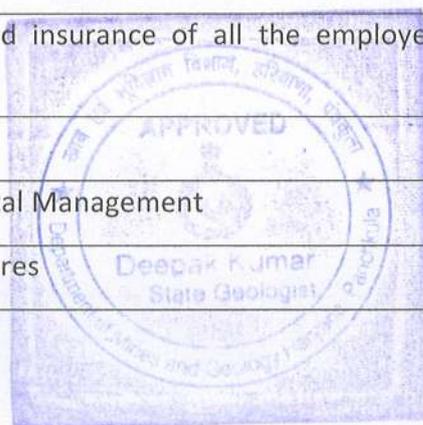
PREPARED BY

D.C.YAdav
 RQP/DMG/HRY/2018/03
 House No. 282, sector 11-D,
 Faridabad (Haryana)

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List of annexure

Sr.no.	Description
1	A copy of LOI
2	Consent letter from applicant to prepare the mining plan
3	RQP Certificate
4	A copy of Replenishment study report




LIST OF PLATES

Plate. No.	Description
1	Location Plan
2	Key plan
3	Surface Geological plan and section
4	Plan showing the position of Mine Workings at the end of Each Year.
5	Reclamation Map
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Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

INTRODUCTION

M/s Maa Vaishno Minerals, Shop No.1, Karnal, Haryana, India -1322001 was the highest bidder (31.50 Crores) for the Boulder, Gravel and Sand of Bailgarh North Block/YNR B-1 for which e-auction was held on 25/26-08-2022. A Letter of Intent has been issued by the Director General, Mines & Geology Department, Haryana vide letter no DMG/Hy/Cont/ Bailgarh North Block/YNR B-1 /2022/ 6182 dated 06-10-2022 for Mining of Boulder, Gravel and Sand (Minor Mineral) in revenue village Bailgarh, over an area of 25.96 hectares in District- Yamuna Nagar, Haryana for a period of 07 years(Annexure-1)

Name of Block	Nme of Village	Area of block in ha	Lease period
Bailgarh North Block/YNR B-1	Bailgarh	25.96	07 years

The applicant is involved in the Construction & infrastructure development business for last many years. They can invest necessary funds for the scientific and systematic development of mines including land rejuvenation and progressive reclamation programme and other measures necessary to protect the quality of the environment and human health etc.

The objective of preparation of this Mining Plan and Progressive Mine Closure Plan is to fulfill the conditions stipulated by the Department of Mines & Geology, Haryana required under Haryana Minor Mineral Concession Rules, 2012. The conditions which are related to the mining plan are reproduced here below.

- The period of contract shall commence i.e. the date of grant of environmental clearance by competent authority as required under EIA notification dated 14.09.2006 and as amended from time to time by the MOEF, G o I or on expiry of a period of 12 months from the date of acceptance of highest bid/issuance of "Letter of Intent", (L o I) whichever is earlier;
- Any site/area can be withdrawn from the Auction without assigning any reason;
- The Block areas are **Tentative** and are being notified on 'as is where is basis' (ref condition no. 21 (iv) of the auction notice. In case of any inadvertent mistake in the area details/khasra

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

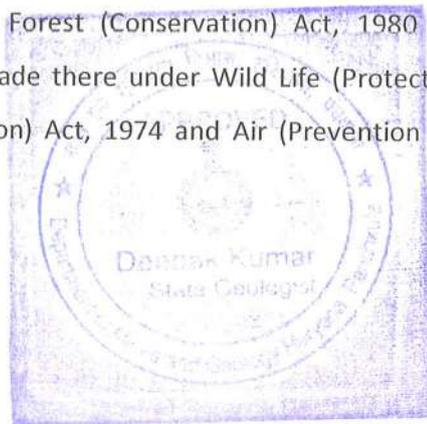
- no's etc., the same shall be got rectified/ corrected before execution of the contract agreement.
- No request regarding reduction in bid amount on account of reduction in land/area of the Mining Block, on any account including that of change in description of khasra numbers / location etc. at any stage will be entertained on any ground. This shall also include any loss/reduction of area for actual mining for want of compliance of applicable laws/restrictions for mining or part of the contracted area had already been operated in the past. Needless to state that this also includes the changes, if any, as per condition no. (3) and the prospective bidder shall give their bids taking account of all such eventualities;
 - The contractor shall also deposit/pay an additional amount equal to 7.5 % of the due contract money along with installments towards the '**Mines and Minerals Development, Restoration and Rehabilitation Fund**';
 - Contractor shall also deposit /pay an additional amount equal to 2.5% of the due contract money along with the monthly installments towards the "District Mineral Fund".
 - The mining contractor shall get prepare a "Mining Plan" along with the Mine Closure Plan (Progressive & Final) from the Recognized Qualified Person as per chapter 10 of the "Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012" for mining area granted on contract. The contractor shall not commence mining operations in any area except in accordance with such Mining Plan duly approved by an officer authorized by the Director, Mines & Geology, in this behalf. Further, the actual mining will be allowed to be commenced only after prior Environmental Clearance is obtained by the Lol holder/mining contractor for the Mining blocks area from Competent Authority as required under notification dated 14/9/2006 issued by the MoE&F, Gol or as amended from time to time.
 - The total mineral excavated and stacked by the concession holder within the area granted on mining contract shall not exceed three times of the average monthly production as per approved Mining Plan and/or quantity approved under the Environment Clearance, at any point of time.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- The Mining contractor shall not stock any mineral outside the concession area granted on mining contract, without obtaining a valid mineral dealer license as per provisions contained in Chapter 14 of the "Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012".
- The contractor shall not carry out any mining operations in any reserved/protected forest or any area prohibited by any law in force in India, or prohibited by any authority without obtaining prior permission in writing from such authority or officer authorized in this behalf. In case of refusal of permission by such authority or officer authorized in this behalf, contractor(s) shall not be entitled to claim any relief in payment of contract money on this account.
- That no mining operation shall be allowed in the urbansizable zone of area notified by Town and Country Planning Department. Further, in case of the agriculture zone notified by Town and Country Planning Department mining shall be permissible only after obtaining prior permission from the competent authority.
- Following special conditions shall be applicable for excavation of minor mineral(s) from river beds in order to ensure safety of river-beds, structures and the adjoining areas:
 - (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;
 - (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) (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 Department, may be made applicable to the mining operations in river-beds.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- That no mining operation shall be allowed in the urbansizable zone of area notified by Town and Country Planning Department. Further, in case of the agriculture zone notified by Town and Country Planning Department mining shall be permissible only after obtaining prior permission from the competent authority.
- 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.
- No Mining Operations may be carried out from 1st July to 15th September every year(Rainy Season)
- The contractor shall be under obligation to carryout mining in accordance with all other provisions applicable as per Mines Act, 1952, Mines and Minerals (Development and Regulation) Act, 1957, Indian Explosive Act, 1884, Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986 and the rules made there under Wild Life (Protection) Act, 1972, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

1.0. GENERAL:

a) Name and address of the Lessee/applicant:

M/s Maa Vaishno Minerals, Shop No.1, Karnal, Haryana, India -1322001

b) Status of the Applicant;-The applicant is a Proprietary firm.

c) Name, Address and registration number of the RQP preparing the mining plan

The applicant has assigned the work of preparation of mining plan to D.C. YADAV

(Consent letter enclosed as Annexure -2 and copy of RQP certificate as Annexure-3)

Regd. No DMG/HRY/RQP/2018/03

House No. 282 Sector 11-D Faridabad (Haryana)

Mobile no.9416214247

Email- dcyadav747@gmail.com



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamunanagar (Haryana)

2.0 Details of the Mining Lease Area

a) Details of the land covered in the auction notice issued vide notification no. DMG/HY/e Auction/YNR/2021/4772 dated 26.07.2022 and Corrigendum No. DMG/HY/e Auction/YNR/2021/5274 dated 22.08.2022 are as under:-

Mining Contract of Bailgarh North Block/YNR B-1 BGS unit (Minor Mineral) over an area of 64.91 Acres (25.96 ha) is located in District – Yamunanagar , containing one mining block namely(i) Bailgarh North Block/YNR B-1 River bed block ,

Table -1: Village & Khasra wise details of proposed mining area

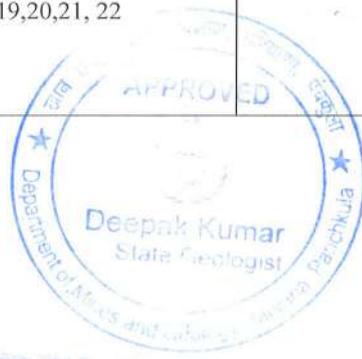
Name of Block	Name of Village	Details of Khasra No/Kila Nos	Area of block in
Bailgarh/Y NR B-1	Bailgarh	1//21min 5// 6min, 15min, 16min, 17min, 23min, 24min, 25. 6//1min,10min, 11,20,21 7//1,10,11 min 8//2min, 3min, 4,5,6,7,8, 9min, 11min,12,13,14,15min, 17min, 18,19,20 min,21,22,23,24min 9//16min,24min,25 min 17// 3min,4min,5,6,7min,8min,14min, 15, 16min,25min 18//1,2,3,4min, 7min,8,9,10,11, 12,13min,19min, 20, 21, 22min, 23min 20//1,2,3 min, 4min,7,8,9, 10,11,12,13,18,19,20,21, 22 21//5min, 6min, 15min, 16min, 25min 34//5min,6min 35//1,10min	64.91 acres or 25.96 ha.

b) Name of Mineral

Boulder,Gravel and Sand (minor mineral)

c) Description report of the mining contract/ quarry license with plan (copy of sanction order/ lease deed/ license)

Based on the details given in the LOI dated 06-10-2022 issued by DMG, Haryana and the Khasra map submitted by the applicant, survey of the area was carried out in the proposed area. The area falls in Bailgarh North Block/YNR B-1 in Bailgarh revenue village. Workings will be restricted within the mining area/ khasra's allotted. Copy of Letter of Intent issued is enclosed as **Annexure – 1**.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuanagar (Haryana)

d) Key plan of the area

Key plan is prepared and enclosed as **Plate – 02**. Showing mining area and 5km surrounding areas.

e) Location map of the mining area showing the details of the approach roads up to the mine (Location plan Shown on Plate no.1)

Mining area is shown on the Key Plan. It forms a part of Topo sheet No's –53F/7, 8,11 &12. Key plan is enclosed as **Plate – 02**.

Co-ordinates of the lease area as under

Co-ordinates of important boundary pillars is as under

Pillar No.	Latitudes	Longitudes
A	30° 14' 6.403" N	77° 30' 48.674" E
B	30° 13' 56.124" N	77° 30' 42.677 " E
C	30° 13' 56.167" N	77° 30' 41.864" E
D	30° 14' 4.500" N	77° 30' 41.000 " E
E	30° 14' 9.600" N	77° 30' 40.800 " E
F	30° 14' 13.100" N	77° 30' 38.700" E
G	30° 14' 17.600" N	77° 30' 35.400" E
H	30° 14' 24.300" N	77° 30' 41.400 " E
I	30° 14' 27.800" N	77° 30' 44.600 " E
J	30° 14' 32.300" N	77° 30' 49.500 " E
K	30° 14' 37.228" N	77° 30' 55.228" E
L	30° 14' 42.200" N	77° 30' 53.600 " E
M	30° 14' 39.600" N	77° 30' 54.700 " E
N	30° 14' 37.100" N	77° 30' 52.200" E
O	30° 14' 25.000" N	77° 30' 54.000" E
P	30° 14' 23.900" N	77° 30' 49.00" E
Q	30° 14' 16.500" N	77° 30' 48.500" E
R	30° 14' 12.200" N	77° 30' 43.600" E
S	30° 14' 10.600" N	77° 30' 45.400" E
T	30° 14' 9.800" N	77° 30' 51.000" E

The area is approachable from various nearest towns as detailed below

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Village Bailgarh is very well connected with Metalled road. Yamuna Nagar is about 31 km from the mining area. Delhi ISBT is about 264 Km in south. State Headquarters Chandigarh is about 113 km in the North West of the mining area.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

f) **Infrastructure facilities:**

Nearest railway station	Yamuna Nagar Railway station
Police station	Jagadhari,
Post office	All the nearby villages
Medical facilities	Yamuna Nagar
Electricity	Electrical supply is available in all nearby villages.
Education facilities	Most of the nearby villages have secondary schools and for higher education institutes are available at Radaur, Jagadhri, Yamuna Nagar and, Kurukshetra,
Mode of transportation of mineral	Mineral Boulder, Gravel and Sand will be transported by trucks. Loaded trucks will travel on Kutcha road made for plying of trucks. No. of such temporary road will provide access to the river bed and the movement of loaded trucks. As the mining area is spread over an area of 25.96 ha working will be carried in River bed. Block has its outlet meeting the tar road on the nearby villages and from where the mineral is sent to various destinations. Similarly, mineral will be transported on the other side through approach roads which finally merge with tar roads for final destinations.
River/ canal/ port	Yamuna.

3) **DETAILS OF EXISTING MINING PITS, THEIR DIMENSION AND LOCATIONS**

Mineral Boulder, Gravel and Sand are the critical component in construction activities. Presently there is no pit available in the proposed area. . Earlier Boulder, Gravel and Sand

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

from this area and other nearby areas used to be transported from the road network ultimately to various destinations in Yamuna Nagar, Chandigarh, Punjab and NCR. Surface & geological plan & sections enclosed as **Plate – 03**

Present Land use Pattern :- (in hectares)

Table: Present Land use Pattern

Sl. No.	Type of Land Use	Total Value (in Hectares)
1	Quarry Area	0.0
2	Infrastructure (road)	0.00
3	River bed	25.96
4	Plantation	0.00
5	Habitation	0.00
6	Soil dump	0.00
7	OB dump	0.00
8	Restrict area along lease boundary	2.37
9	Restrict area in ¼ river bank	3.27
10	Restricted area in bed bar	0.73
11	Total Restricted area	6.37
12	Available area for mining	19.59
13	Total	25.96

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

3.1 Physiography, Drainage and Climate

Yamuna Nagar 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, Mustafa bad, Radaur and Sadhaura. Yamuna Nagar is thickly populated district and density of population is 589 persons per Km², which is higher than State average of 478 persons per Km². The population of the district is 12, 14,162 as per 2011 census.

The district is mainly drained by the rivers Yamuna, Markanda and its tributaries. Markanda is tributary of river Ghaggar and drains major part of the district. The high land between Markanda River and small rivulets of River Yamuna acts as basin boundary between west flowing rivers of Indus system and east flowing rivers of Ganga basin. River Yamuna drains eastern part of the district and acts as boundary between Haryana and Uttar Pradesh State.

Yamuna Nagar district is bestowed with rich water resources, both surface as well as ground water resources. The ground water is major sources of irrigation in the district. Nearly 40% of area is irrigated by canal water. Distributaries in the district are 21.45 Km long. Two major canals passing through the district are Western Yamuna Canal and augmentation canal. Length of unlined WJC is 63.64km whereas augmentation canal is 22.54 km long. Net irrigated area is 1130Km² whereas, gross irrigated area 1860Km². Percentage of gross area irrigated to total cropped area is 91.6%. Systematic hydro geological surveys in the district was carried out by Geological Survey of India during 1956-61.Re-Appraisal Hydro Geological Surveys in the district were carried out by Central Ground Water Board, during 1975-77,1981- 82 and 1988-89.detailed hydro geological and water balance studies were carried out under Ghaggar and Upper Yamuna Projects. Ground water exploration has been carried out in various phases and so far 5 exploratory wells, 15 slim holes and 15 piezometers have been constructed in the district.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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.

Hydrogeology

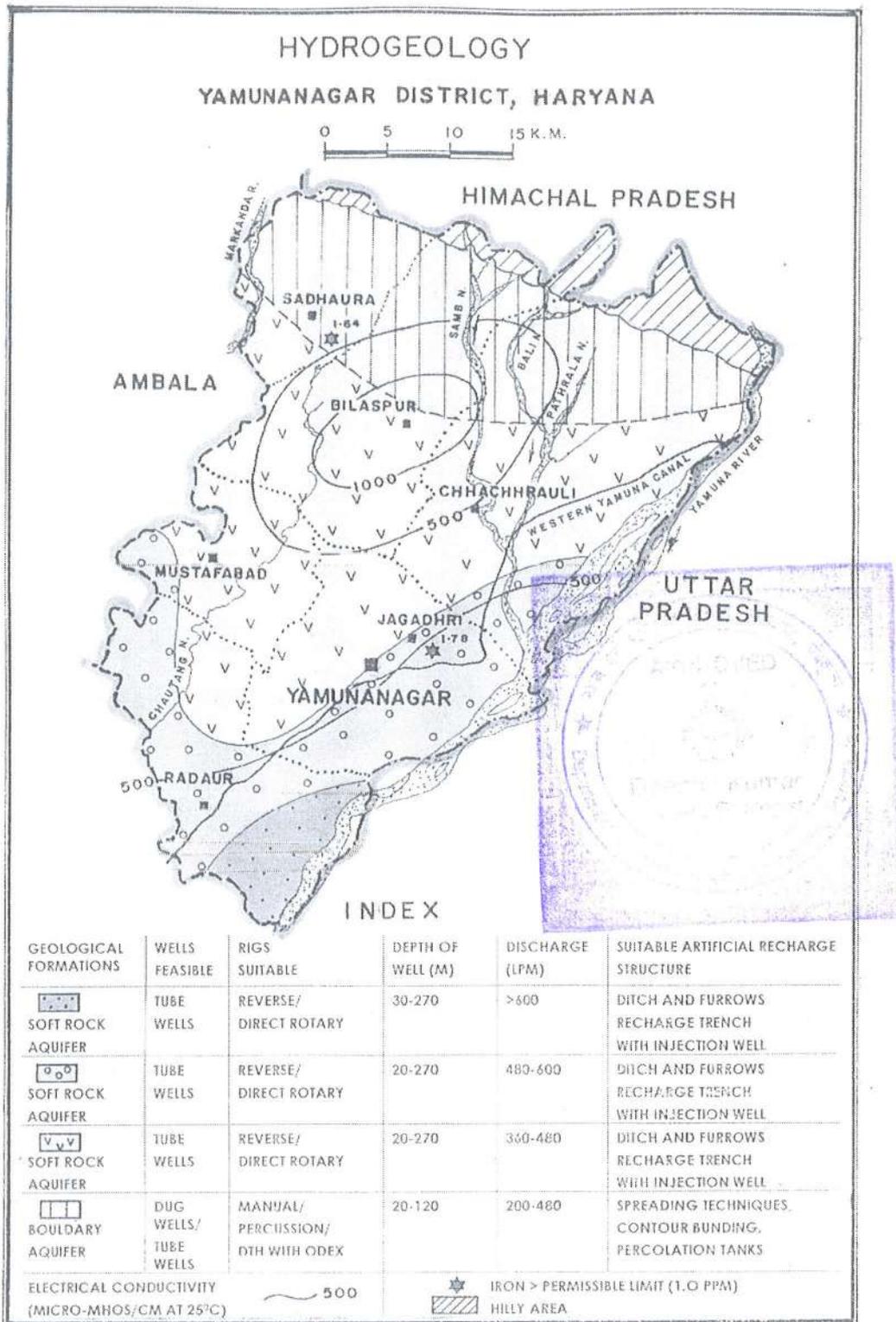
The ground water exploration in the district reveals that clay group of formations dominates over the sand group in the district area. Ground water in the district occurs in the alluvium under water table and semi-confined to confined conditions. These aquifers consist of sand, silt, gravels and kankar associated with clay and form highly potential aquifers. In alluvium, the permeable granular zones comprise fine to medium grained sand and occasionally coarse sand and gravel. Their lateral and as well as vertical extent is extensive. In Kandi belt, which has not been explored fully boulders

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

cobbles and pebbles, constitutes the major aquifer horizon. Siwalik Hills occupy marginal areas in the northeastern parts of the district constitute a low potential zone.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

In Kandi areas, the shallow aquifers are isolated lenses embedded in clay beds whereas aquifers in alluvial areas occur on regional scale and have pinching and swelling disposition and are quite extensive in nature. These aquifers generally consists sands (fine to coarse grained) and gravels and are often intercepted by clay and kankar. These aquifers are under unconfined.

Under ground water exploration programme nine exploratory wells were drilled in the district. On average 3-12 of granular zones were deciphered in the depth range down to 450 m bgl. Exploratory wells drilled in depth range of 130 and 180 m bgl yield discharge in the range of 2700 to 4900 lpm for drawdown of 6.0 m to 12.0 m and Transmissivity of aquifers range between 1500 to 4900 m²/day. The yield potentials of aquifer below 200.0m bgl are yet to be evaluated.

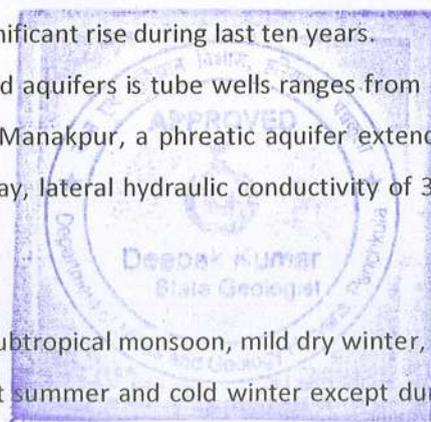
Depth to water level

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 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 last ten years, majority of observation points in the district have shown declining trends ranging from 0.00013 m/yr to 0.389m/yr, however, area as not recorded any significant rise during last ten years.

The discharge of the shallow tubewells tapping unconfined aquifers is tube wells ranges from 100 lpm to 500 lpm with moderate Drawdown values. Near Manakpur, a phreatic aquifer extending down to 88.0m bgl has Transmissivity value of 2500m²/day, lateral hydraulic conductivity of 31m /day, and specific yield of

CLIMATE

The climate of Yamuna Nagar district can be classified as subtropical monsoon, mild dry winter, hot summer and sub-humid which is mainly dry with very hot summer and cold winter except during monsoon season when moist air of oceanic origin penetrate into the district. The hot weather season starts from mid March to last week of the June followed by the south west monsoon which



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

lasts up to September. The transition period from September to November forms the post monsoon season. The winter season starts late in November and remains up to first week of March.

Rainfall: The normal annual rainfall of the district is 1076 mm, and is unevenly distributed over the area. The average rainy days are 44. The south west monsoon sets in from last week of June and withdraws in the end of September, contributing about 81% of normal annual rainfall. July and August are the wettest months. Rest 19% rainfall is received during non-monsoon period in the wake of western disturbances and thunderstorms. Generally rainfall in the district increases from southwest to northeast. The mean maximum temperature is 40.8°C (May & June) and mean minimum is 6.8°C (January) of the district.

Normal Annual Rainfall: 1076 mm

Normal monsoon Rainfall: 879 mm

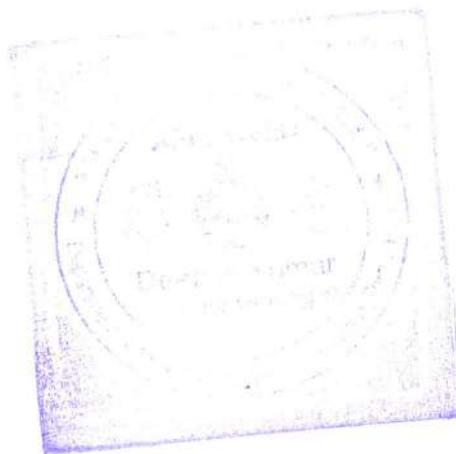
Temperature

Mean Maximum: 40.8°C (May & June)

Mean Minimum: 6.8°C (January)

Normal Rainy days: 44

(Source: District Groundwater Brochure CGWB).



3.2 Geology of the Area

3.2.1 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.

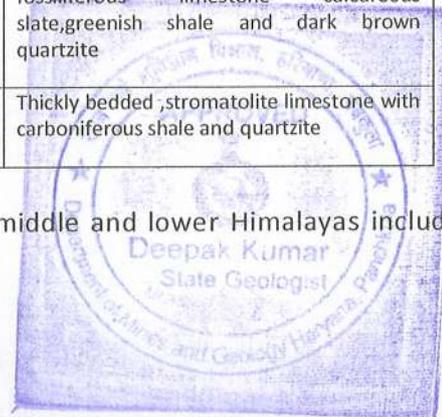
Table: Regional stratigraphic sequence

Age	Super group	group	Formation	litho logy
Holocene			Newer alluvium and Newer Aeolian Deposits	Gravel, Sand, silt, clay, limestone, gypsum
Lower to upper			older alluvium and Older Aeolian	Gravel, grey sand, silt, clay, brown sand,

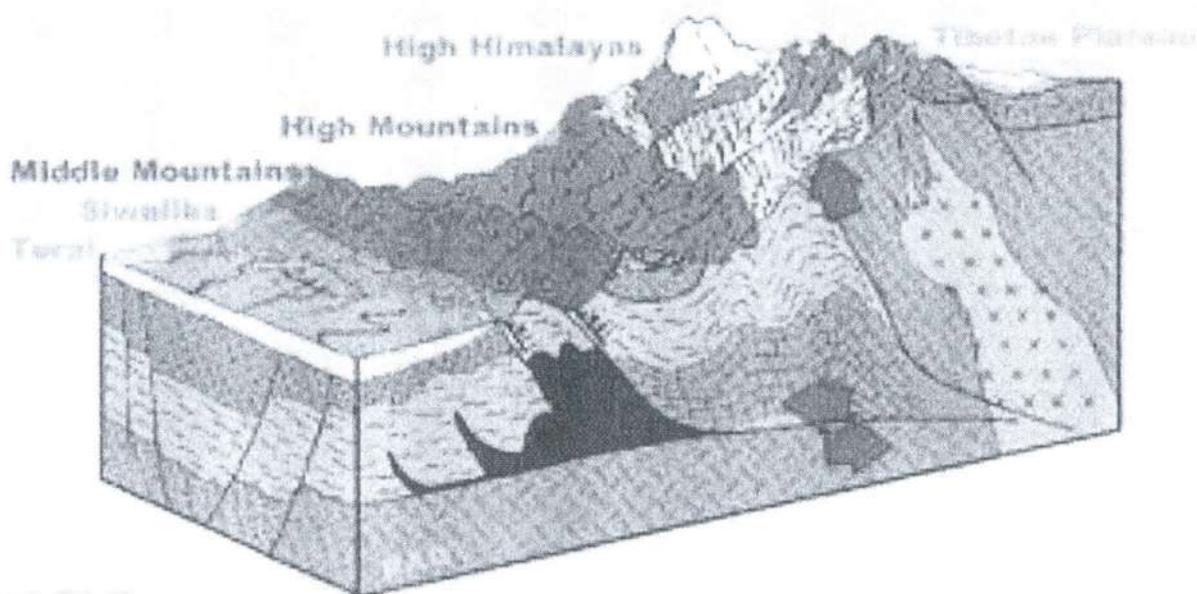
Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Pleistocene			Deposits	calcrete	
Lower to Middle Pleistocene	S	Upper Siwalik	Boulder Conglomerates formation	Conglomerate, sandstone, silt, clay	
Upper Pliocene			I W A	Pinjore Formation	Coarse grit red sand stone and clay, conglomerate
				Tatrot Formation	Friable Sandstone and variegated clay
	L I K	Middle Siwalik	Dhokpathan Formation	Brown sandstone and orange clay	
Middle Miocene			Nagri Formation	Hard grey sand stone, mudstone and minor shale	
			Lower Siwalik	Nahan Formation	Coarse gritty ,clay and red sandstone often calcareous, brownish shale with lignite lenticles, greenish white Quartzite
Lower Miocene		Sirmur	Kausall Formation	Grey and green stone, green shale and grey clay	
			Dagsai Formation	Purple and green sand stone, deep red gritty, clay, white and stone with ferruginous concretions	
Upper Eocene			Subathu formation	Sandstone with gritty clay. Impure fossiliferous limestone calcareous slate, greenish shale and dark brown quartzite	
Pre-proterozoic			Tunda pathar	Thickly bedded ,stromatolite limestone with carboniferous shale and quartzite	

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



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)



3.2.2 LOCAL GEOLOGY

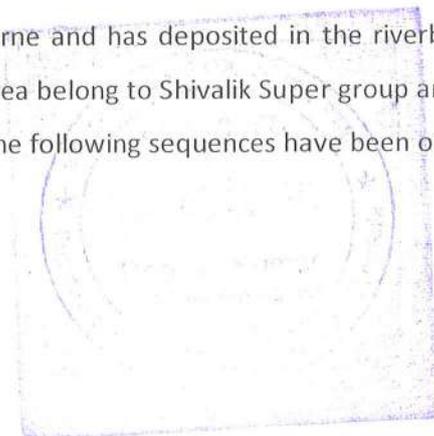
The litho units encountered in the Yamuna River bed and surrounding areas belongs to the Shivalik super groups. The sediments are river borne and has deposited in the riverbed and the flood plains. The different formations of the area belong to Shivalik Super group and are a mixture of boulders, pebbles,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

Soil/Alluvium

Sand

Gravel

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.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Soil/ alluvium varying in thickness from 0.5 -1.50m (Av 1.0m) constitute the top horizons in the area suitable for agriculture. Yamuna River meanders through the area exposing the alluvium and soil at the banks. Boulder, Gravel and Sand is found in the river bed. Boulder, Gravel and Sand is deposited up to great depths. This bed is presently dry and water flows only during the rainy season The Boulder, Gravel and 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**)

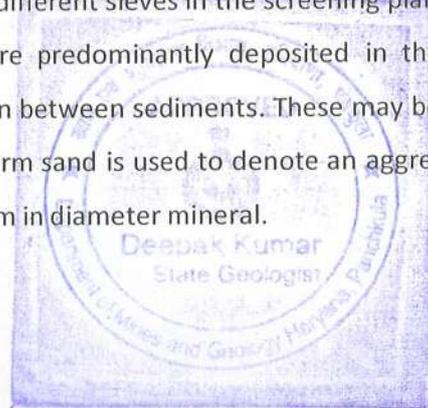
3.2.3 DESCRIPTION OF FORMATION

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

3.2.4 (Boulder, Gravel & Sand)

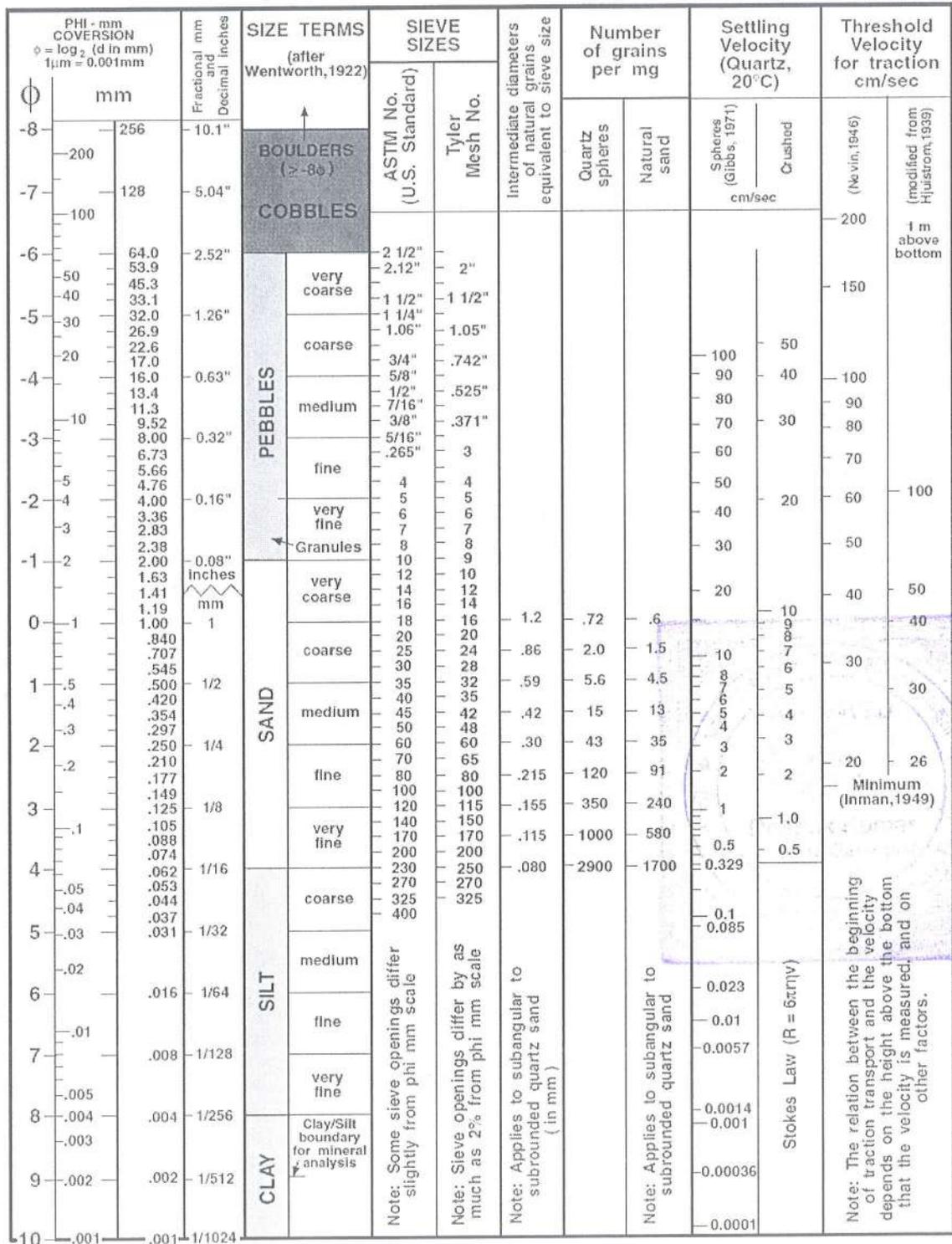
Sediments of various sizes and in mixed form are predominantly deposited in the flood plains of River Yamuna and its tributaries. There is no perfect classification between boulders, cobbles, pebbles and sand. They are deposited in a mixed state. The classification is done by grab mining and the sediments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



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Classification of Sediments (Wentworth -Grain Size-Chart)



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine (25.96 ha). District- Yamuna Nagar (Haryana)

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.

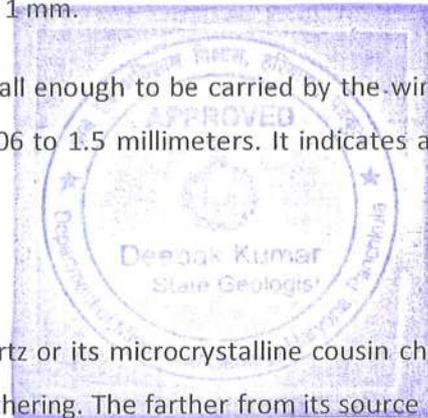
Sedimentologists put sand between 0.062 mm (1/16 mm) and 2 mm on the Wentworth scale, or 4 to -1 unit on the phi scale, or between sieves #230 and #10. In some other nations a metric definition is used instead, between 0.1 and 1 mm.

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 limestone 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

3.2.6 ORIGIN & CONTROL OF MINERALISATION(ANNUAL REPLENISHMENT OF MINERAL IN RIVER BED/flood plains area vis-à-vis SEDIMENTATION)

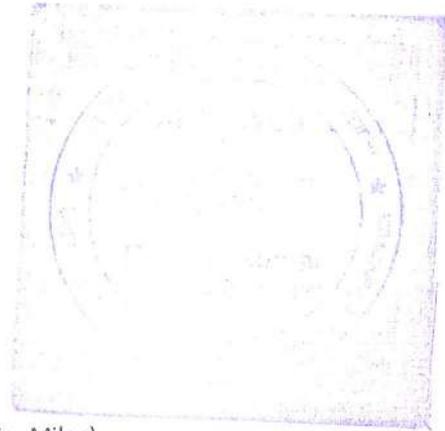
Sedimentation, in the geological sciences, is a process of deposition of a solid material from a state of suspension or solution in a fluid (usually air or water). Broadly defined it also includes deposits from glacial ice and those materials collected under the impetus of gravity alone, as in talus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

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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 Boulder, Gravel and 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 Yamunotri 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 tributaries

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.

Itinerary of Drainage area of Yamuna:

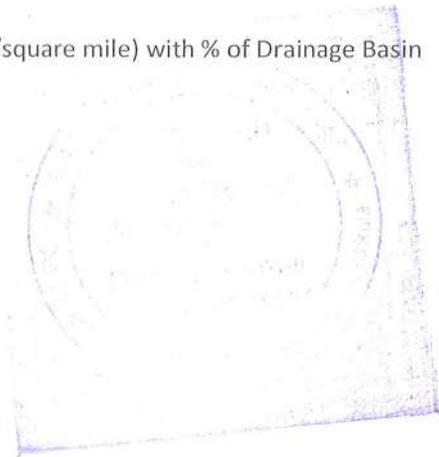
The origin of Yamuna is situated in the Yamunotri glacier at an elevation of 6387 mtrs on SE sides of Banderpooch crests, which are located in the Mussoorie range of lower Himalayan range in Uttrakashi district of Uttrakhand, to the North of Haridwar. From this place Yamuna runs to South around 200 Kms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

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

of Drainage basin (with total area of 217.00 square km) is situated in HP 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 YAMUNA NAGAR 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, Yamuna Nagar 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%)



Dandy & Boltan formula for calculation of Sediment Yield:

Dandy bolton formula is often used to check whether the sedimentation yield exceeds the replenishment rate but the whole question is whether there is adequate monitoring of the river basin, the answer is no as hydrological stations are sparsely spread. The formula uses catchment area and mean annual runoff as key determinants to give a yield value. It does not differentiate in basin wide smaller streams and their characteristics.

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Sediment Yield versus Drainage Area

Dandy and Bolton studied sedimentation data from about 1500 reservoirs, ponds, and sediment detention basins. In developing their formulas, they used data from about 800 of these reservoirs with drainage areas greater than or equal to 1 mi². The smaller watersheds-those of drainage area less than 1 mi²-were excluded because of their large variability of sediments yield, reflecting the diverse effects of soils, local terrain, vegetation, land use, and agricultural practices.

For drainage areas between 1 and 30,000 mi², Dandy and Bolton found that the annual sediment yield per unit area was inversely related to the 0.16 power of the drainage area:

In which S= sediment yield in tons per square mile per year; SR = Reference sediment yield Corresponding to a 1-mi² drainage area, equal to 1645 tons per year; A = drainage area in square miles; and AR = reference drainage area (1 mi²)

Sediments Yield versus Mean Annual Runoff

Dandy and Bolton studied sedimentation data from 505 reservoirs having mean annual runoff data. Annual sediment yield per unit area was shown to increase sharply as mean annual runoff Q increased from 0 to 2 in. Thereafter, for mean annual runoff from 2 to 50 in. annual sediment yield per unit area decreased exponentially.

This led to the following equations.

For $Q < 2$ in.:

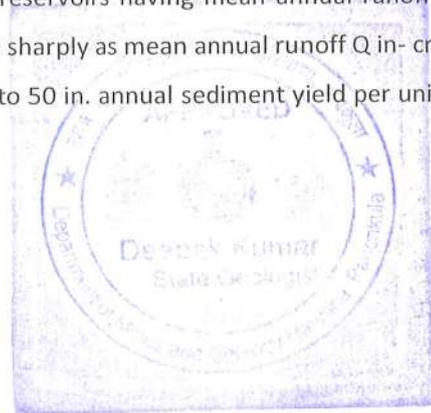
For $Q > 2$ in.:

In which QR = reference mean annual runoff QR = 2 in.

Dandy and Bolton combined Eqs. 15-10 and 15-11 into a set of equations to express sediment yield in terms of drainage area and mean annual runoff.

For $Q < 2$ in.:

For $Q > 2$ in.:



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Sec: 15.2 Sediment Production.

For SR = 1645 tons/mi²/y, QR = 2 in., and AR = 1 mi², Eq. 15-12 reduces to the followings:

For Q < 2 in.: $S = 1280 Q^{0.46}(1.43 - 0.26 \log A)$

For Q > 2 in.: $S = 1965e^{-0.055Q}(1.43 - 0.26 \log A)$

Equations 5-12 and 5-13 are based on average values of grouped data; therefore, they should be used with caution. In Certain cases, local factors such as soils, geology, topography, land use, and vegetation may have greater influence on sediment yield than either mean annual runoff or drainage area. Nevertheless, these equations provide a first approximation to be of sediment yield for watershed planning purposes.

Calculation of Sediment Yield for Yamuna Basin in Haryana

Drainage basin area of river Yamuna and its tributaries in Haryana : 8214 square miles

- Normal Annual Rainfall of Yamuna Nagar district (1978 to 2005) :1076mm or 42.36 inch

With above inputs, the calculation of the sediment yield by the Dandy and Bolton formula is illustrated below :

Sample Set	S.No.	Q (in inches)	A (in square mile)	S
	1	3.5	150	1400.823
	2	27.4	8214	179.4756

$$S = 1965 e^{-0.055Q}[1.43 - 0.26 \log(A)]$$

With above formula the value of S = 76.40 T/mile square/annum

Therefore the Total Sediment Yield for drainage basin of 8214 square mile will be = 8214 x 76.40= 6.27 lac T per annum.

Dandy & Boltan formula also says that actual sediments yield from individual drainage basins may vary 10-fold or even 100 fold from computed yields. Since itinerary of river Yamuna indicates that its basis comprises of sediment rocks with good average rainfall therefore there are fair chances of yield of

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

sediments to be 50 fold of computed results hence Actual Sediment Yield will be : $627000 \text{ T} \times 50 \text{ fold} = 3,13,50,000 \text{ T / Annum}$

The equations express the general relationships between sediment yield runoff and drainage area. They may provide a quick rough approximation of mean sediment yields on a regional basis for preliminary watershed planning. Because Dandy & Bolton have derived the equation from average values computed sediment yields normally would be low for highly erosive area and high for well stabilized drainage basins with high plant density. Factors which have direct bearing on sediments yield & limitations of Dandy & Bolton equation.

Sediment yield of a sediment basin has direct impact of local terrain, climate, vegetation, soils, agricultural practices & land use pattern of catchment area of the sediment basin aforesaid factors varies from basin to basin therefore, Dandy & Bolton has category stated that use of the equation to predict sediment yield for a specific location would be unwise because of the wide variability caused by local factors not considered in the equation development. Actual sediment yield from individual drainage basins may vary 10-fold or even 100-fold from computed yields.

Assessment & Monitoring:

The mining of the mineral from the river bed area would be undertaken over maximum depth of 3 meter from the existing level of the bed, which at present is 222 MRL in extreme north to 216.34 mRL in extreme south end. It will be ensured that at no point of time the mining is undertaken below the 3 metre of the existing bed level. To ensure the compliance of the same regular monitoring of the bed level would be ensured by taking the bed level after fixed intervals, including after the rainy season. It is proposed that the MRL of the river bed area of the contracted area length wise would be taken after every 500 meter after regular intervals i.e at the time of commencement of mining, on 30th June, 15th September (immediately after end of monsoon season),

Therefore it was required to conduct sedimentation study of the project area every year through expert agency so that accordingly production can be monitored regularly.

3.2.6(A) Actual replenishment report of Belgarh area for the year 2022. (Enclosed with Mining plan as annexure 4)

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The replenishment study was assigned to M/s P&M Solutions C-88, Sector-65 Noida by proponent. Actual replenishment study was carried out & Report enclosed separately with mining plan. Replenishment Study for the year 2022 reveals that the replenishment is more than 100% of proposed production (Natural Reclamation Rain fed Water Containing of approximately 13,59,383 MT of boulder, Gravel and sand.

3.2.7 Grade & Use of Boulder, Gravel and Sand

Most Boulder, Gravel and Sand is made of quartz or quartzite/its microcrystalline cousin chalcedony, because that common mineral is resistant to weathering. Boulder, Gravel and Sands contain quartz, feldspar grains, tiny bits of rock (lithics), or dark minerals like illminite and magnetite.

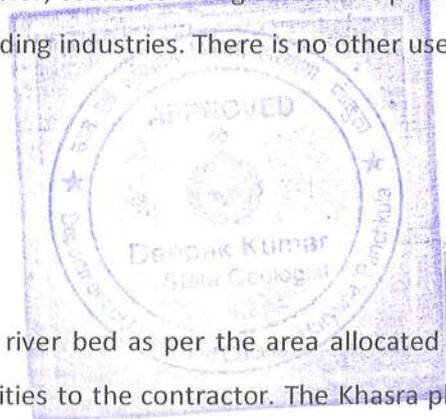
The size of the sediments is variable. The grains whether small or large are rounded in shape. Boulder, Gravel and Sand is yellow brown in color, coarse to fine grained. The present deposits are of good quality and can be used for building industries. There is no other use of this material.

3.3 RESERVE

3.3.1 METHOD OF ESTIMATION OF RESERVE

PROVED RESERVES

- Survey was conducted in the proposed area inside river bed as per the area allocated by DMG, Haryana, a document provided by the authorities to the contractor. The Khasra plan was provided by the applicant. There are certain conditions/restrictions:
- 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) 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, .

Basics of Mineral Reserves Calculation – In River Bed Area

- Mineral Reserves falling in 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 Boulder,Gravel and Sand is considered 2.0
- Bulk density is based on the fact that the Regional Geology of the Sub-Himalyas comprising Subathu,Dhagsais,Kasaulis and Shiwaliks shows that the major mineral constituents in the catchment area of River Yamuna and its Tributries are composed of clay,sand,silt, sandstone,shale,limestone,Marble, quartz, quartzite and ferruginous concretions etc.The bulk density of the constituent minerals is detailed as under.

Mineral	Bulk density(g/cm ²)
Clay	1.63 to 2.60
Silt	1.80 to 2.20
Sand	1.70 to 2.30
Sand stone	2.0 to 2.60
Shale	1.77 to 2.5
Limestone	1.93 to 2.90
Quartzite	2.70 to 2.80
Quartz	2.65
Marble	2.67 to 2.75

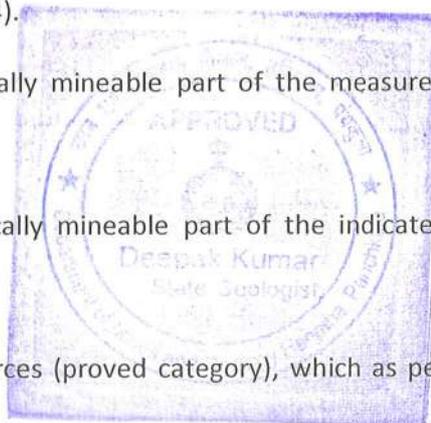
Therefore the average density of River Sediments namely bouder,Gravel and sand which is a mixture of the above mineral constituents is therefore considered as 2.0.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- Volumetric method is adopted for calculating reserves of Boulder, Gravel and 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 Boulder, Gravel and 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

1. 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.
2. 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).
3. Code (111): This code is provided for the economically mineable part of the measured mineral resources (proved category reserves).
4. Code (121): This code is provided for the economically mineable part of the indicated mineral resources (probable category reserves).
5. 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.



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6. 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.
7. 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 Boulder, Gravel and Sand calculated by volumetric method and are summarized here below: **Table: Geological Reserves**

Sr no.	Nature of land	Lease area In ha	Total proved Geological reserves MT=Area x depth x BD (A)	Blocked area /restricted area in ha	Blocked Geological Reserves in blocked area (B)	Total Mineable reserves A-B=C MT	Planned production (Per Year) MT
1	River bed	25.96	15,57,600 MT	6.37	3,82,200 MT	11,75,400 MT	11,60,000 MT

A) GEOLOGICAL PROVED RESERVES AS PER UNFC CODE (111)

Total Reserves = 15, 57,600 MT

B) BLOCKED RESERVES AS PER UNFC CODE (211 & 222) = 10, 77,000 MT

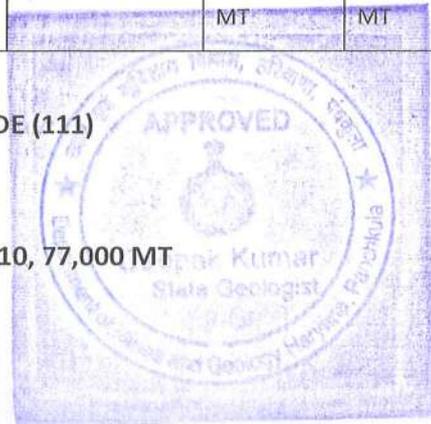
C) MINEABLE RESERVES = A-B = 11, 75,400 MT

D) TARGETED PRODUCTION

11, 60,000 MT per Year

E) Life of the 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 07 years



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4.0 DETAILS OF PROPOSED PRODUCTION OF FIVE YEARS

This is a new mining area allotted to the applicant. Future production programme has been planned as per the details given below:

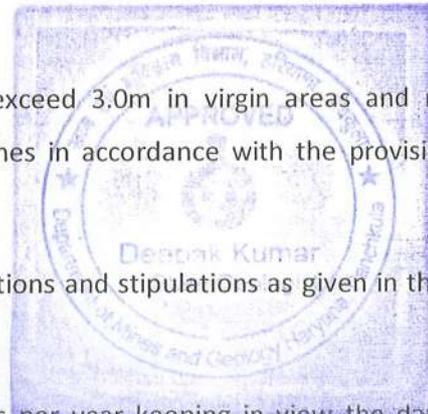
Proposed Method

Mining work will be carried out by semi- mechanized method by forming one bench of 3 m high in river bed. There are no existing pits at present as the mining activities are closed for the last few years. The minor mineral is excavated by backhoe type excavators/JCB directly loading into large trucks for dispatch to crushers/ screening plants /consumers situated in and around Ambala ,Zirakpur, Mohali , Chandigarh etc. Loading of mineral shall be mechanical, while transport of mineral out by the river bed shall be done through private truck owners.

Salient Points of Proposed Scientific Mining are:

- a) First requirement is to ascertain the maximum depth to which mineral is available and safe depth of working which has been fixed as 3.0 m in river bed in virgin areas.
- b) All proposed quarries have been proposed for further deepening and widening up to the above proposed depths.
- c) The depth of pit below the surface shall not exceed 3.0m in virgin areas and mining operations are carried out by formation of benches in accordance with the provisions of MMR 1961.
- d) The lease holder shall comply with all other conditions and stipulations as given in the LOI and Auction documents.
- e) Working days have been considered as 250 days per year keeping in view the days off during the rainy season and other rests/holidays

Production Programme (Plate no.4) .



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Mining Contract has been allotted for a period of 07 years only. Mining area consist of 25.96 ha area in Bailgarh North Block/YNR B-1 village (Khasra) out of which about 6.37 hectares area is under restricted zone. About 19.59 hectare area is free from restriction and the mining is proposed in this area only.

Daily production proposed = 4640 MT /day

Production programme is 186 trips/ day @ 25 ton per trip .

Working days have been taken as 250 days per annum.

Projected Production per Year = 11, 60,000 Tons (1.16 Million MT)

Five Years Proposed Production Details (MT/A)

Year	Production proposed	
	Trips/ day	MT PA
I	186	11,60,000
II	186	11,60,000
III	186	11,60,000
IV	186	11,60,000
V	186	11,60,000



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR-B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

5.0 PHYSICAL AND GEOLOGICAL CHARACTERISTICS OF THE DEPOSIT

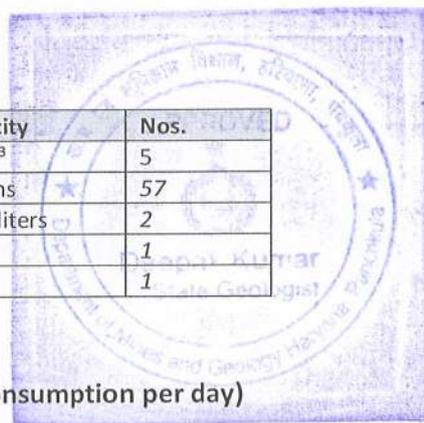
Deposit is moderate to good quality Boulder, Gravel and Sand. It is widely used in construction, buildings, bridges and other infrastructure. It is free from clay and non sticky in nature.

6.0 DETAILS OF MINING MACHINERY DEPLOYED OR TO BE DEPLOYED AND THE DETAIL SPECIFICATIONS

This is a new mining contract. Following equipments are proposed to be deployed for the desired production.

Table: List of Machinery

S. No.	Name of machinery	Capacity	Nos.
1	EXCAVATOR/JCB	2.0 m ³	5
2	Tippers/ Trucks	25 tons	57
3	Water Tanker	4000 liters	2
4	Light vehicles /jeep	--	1
5	Maintenance Van		1



6.1 Fuel Consumption (Quantity of Diesel / Energy fuel Consumption per day)

S. No.	Machine	Details of Diesel requirements	Consumption of Diesel (in ltr.)
1.	Dumper	(Considering diesel consumption by the dumper is 3 km / ltr.) Total Diesel consumption for 57 Dumper = 57 x 50 = 2850 Ltr	2850
2.	EXCAVATOR	- Diesel consumption 15ltr / hr - working of 16 hrs diesel consumption = 5 x 16 x 10 = 800 ltr	800
3.	Water Tankers	Diesel consumption 10 ltr/Hour x 10 hrs x 2 = 200	200
6.	Light Vehicles	Diesel consumption 5 ltr/Hour x 10 hrs = 50 ltr	50
7.	Maintenance Van	Diesel Consumption 10 ltr/hr x 10hrs = 10 ltrs	100
		Total diesel requirements per day	4000

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7.0 METHOD OF MINING

Mining is proposed up to 3.0m in the river bed.

River bed mining is for extracting Boulder, Gravel and Sand from Yamuna River bed. As per Haryana Minor Mineral Concession Rules, 2012 extraction is limited to 3.0 m depth only in river bed Mining area allotted is 25.96 ha in district – Yamuna Nagar . Mining activity will be carried out in allocated areas only, enclosed as **Annexure –I.**

Method of Working

Light weight excavators/JCB will be deployed for extraction. Mineral will be removed in 3.0 m layer only forming one bench. This is as per the digging depth of the equipments and maximum permitted depth. Mineral will be loaded in trucks of 25 tons capacity. There will be no OB or waste generation as the Boulder, Gravel and Sand is exposed in the river bed. Bench will advance parallel to the banks of the river. Height of bench will be 3.0 m. Width of the bench will be around 20.0 m. Workings will be restricted within the mining area/ khasra as per the description report given by Mining Department. 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. The bench will be in the form of slices/ strips parallel to the banks of the river. Roads in the mining area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20. However, movement of trucks after mineral loading will be towards both sides through approach roads connecting to tar roads. Every block will have its own approach roads, well connected to main highways. No processing of mineral will be done.

Total production envisaged is 4640 MT per day i.e. 186 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.

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7.1 Proposed year wise development for five years

Boulder,Gravel and Sand mining contract has been granted for a period of 07 years only. No pre-production development is required except making excess road .

Ultimate limit will be 3.0 m below existing bed level as indicated in the working section.

7.2 Proposed rate of production when the mine is fully developed

Work will be carried out for 250 days in year. Year wise production during the plan period will be as follows:

Table: Proposed Production

Year	Total Targeted Production MT/annum
1	11,60,000
2	11,60,000
3	11,60,000
4	11,60,000
5	11,60,000



7.3 Mineable reserves and anticipated life of the mine

The total mineable reserves are calculated 11, 75,400 MT which are replenished every year.. At the proposed 11, 60,000 MT/Year productions the life of the mine is calculated 07 years.

7.4 Proposed method of mining

Mining activity will be carried out by open cast semi-mechanized method.

- No overburden/ waste material will be produced in river bed. No drilling/ blasting are required as the material is loose in nature.

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- Light weight excavators will be used for loading of mineral in tippers.
- Proper benching of 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 3 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 4640 MT per day i.e. 186 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.

As per MMR 1961, following precautions shall be undertaken during operations of HEMM.

Shovel/ excavator: -

1. Excavators will be provided with efficient warning devices, front & rear lights and efficient brakes.

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2. Excavator will be under the charge of a competent person authorized in writing by the manager designated as operator.
3. No person other than the operator or his helper if any will ride on the excavator or even enter the excavator's cabin.
4. No person will be permitted to ride in the bucket of a Shovel/ excavator.
5. No inflammable material will be stored in the excavator housing or cab.
6. Shovel/ excavator dippers will be lowered to the ground during greasing operation.
7. When a Shovel/ excavator is to be moved from one point to another its boom shall be kept in strict alignment with direction of travel while the bucket/ dipper shall be held m above the ground.
8. No Shovel/ excavator will be operated in the position where any part of the machines, suspended loads or lines are brought closer than 3 m to the exposed high voltage line.
9. Every movement of a Shovel/ excavator shall be preceded by warning signals.
10. When not in use, the Shovel/ excavator will be moved to and stood on stable ground, the bucket shall be kept resting on stable ground and will never be left hanging.
11. The Shovel/ excavator will be so spaced that there will be no danger of accident from flying & falling objects.
12. Safety appliances, booms will be examined thoroughly once in a year.
13. Emergency switches, safety limit switches will be examined and tested once in four months.
14. All brakes will be tested for their operation worthiness once in a week.
15. The following signboards will be carried in and around the machine: -
 - (i) "Warning— Do Not Enter The Working Range Of The Machine".
 - (ii) "Lubricating Prohibited While the Machine in Running Condition".

Duties of Shovel/ excavator operator: -

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1. At the commencement of every shift the operator will personally inspect and test the machine, paying special attention to the following details: -
 - (i) The brakes and every warning device are in working order.
 - (ii) Lights are in working order.
 - (iii) The operator will neither take out the machine for work nor will he work the machine unless he is satisfied that it is mechanically shown and in efficient working order.
 - (iv) The operator will maintained a record of every inspection made in a bond paged book, kept for the purpose and shall sign every entry made there in.
 - (v) The operator will keep the cab window clean so as to ensure clear vision at all times.
 - (vi) The operator will not operate the machine when persons are in such proximity as to be endangered.
 - (vii) Before leaving the machine, the operator will lower the bucket to the ground.
 - (viii) The operator will not leave his machine during the shift. Whenever, he finishes his work, he will hand over the machine to his relief or lock the excavators cab.
 - (ix) The operator will not allow any unauthorized person to ride on the machine.

Dumper: -

1. Every dumper will be provided with efficient brakes.
2. Efficient audible warning devices will be provided with the dumpers.
3. The dumper, if required to work after daylight hours, efficient headlights and taillights will be used.
4. Every dumper will be under the charge of a competent person, authorized in writing by the manager.
5. No person, other than the driver or his helper, if any, will ride on a dumper.

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6. No person will be permitted to ride in the running board of a dumper.
7. The loaded dumpers will not be reversed on gradients.
8. Sufficient stop blocks will be provided at every tipping point and these will be used on every occasion when material is dumped.
9. Standard traffic rules shall be adopted and followed during movement of all dumpers. They shall be prominently displayed at relevant places in the opencast workings and haulm roads.
10. When not in use, every dumper will be moved to and stood on proper parking places.
11. No person will be permitted to work on a chassis of a dumper, with the body in rest position, until after the dumper body has been securely blocked in position.
12. The mechanical wised mechanism will not be depended upon to whole the body of a dumper in a rest position.
13. No unauthorized person will be permitted to enter or remain in any turning points.
14. While inflating tyres, suitable protective cages shall be used.
15. Tyres will never be inflated by sitting either in the front or on the top of the same.
16. While the vehicle is being loaded / unloaded on gradient, the same will be secured stationary by the parking brake, and other means suitably designed stopper block, which could be placed below the tyres.
17. At least once in every two weeks the brakes of every dumper will be tested as below: -
 - (a) Service Brake test: - The brake will be tested on a specified gradient and speed when the vehicle is fully loaded. The vehicle should stop within the specified distance when the brake is applied.
 - (b) Parking brake test: - The parking brake shall be capable to hold the vehicle when it is fully loaded and placed at the maximum gradient.

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Maximum gradient of the roadway which is permitted only for a period of at least 10 minutes.

- (c) A record of such test will be maintained in a bound paged book and will be signed by the competent person carrying out the test. These records will be counter signed by the engineer and manager.
- (d) All vehicles shall be tested and examined once at least in every 6 months.
- (e) A notice shall be displayed outside every vehicle that **"No Unauthorized Travelling Allowed"**.

Duties of dumper operators: -

1. At the commencement of every shift, the operator shall personally inspect and test the machine, paying special attention to the following details: -
 - (i) Tyre pressure, brakes, horn and the Lights are in working order.
 - (ii) The driver will neither take out the machine for work nor will he work the machine unless he is satisfied that it is mechanically shown and in efficient working order.
 - (iii) The driver will maintained a record of every inspection made in a bound paged book, kept for the purpose and shall sign every entry made there in.
 - (iv) The driver will keep the cab window clean so to ensure clear vision at all times.
 - (v) Driver will ensure that the gear is in neutral position before stopping the engine. He will park the vehicle: -
 - (a) In reverse gear, on level roads and down gradients.
 - (b) In low gear, on up gradients.
 - (vi) The driver will negotiate downhill gradients in low gear, so that minimum of braking is required.
 - (vii) The driver will not drive too fast, avoid distractions and drive defensively.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- (viii) Before crossing a road / railway line he will reduce his speed looking both directions along the road or railway line and will proceed across the road or line only if it is safe to do so.
- (ix) The driver will not operate the dumper in reverse unless he has a clear view of the area behind the vehicle.
- (x) The driver will see that : -
 - (a) The vehicle is not overloaded.
 - (b) The material is not loaded in a dumper so as to project horizontally beyond the sides of its body.
- (xi) The driver will not allow any unauthorized person to ride on the vehicle.
- (xii) When there is a poor visibility, the speed of a vehicle will be restricted in a manner that the braking distance is maintained shorter the distance of visibility.
- (xiii) The driver will not leave his machine during the shift. When he finishes his work, he will hand over the machine to his reliever or lock the excavators cab.

7.5 Conceptual Mining Plan

- (i) Mine area will be worked in blocks for ease of operation. However, as the digging depth will be restricted to 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**.
- (iii) **Final Slope Angle To Be Adopted**
 Thickness of the bench is limited to 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.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

(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:

Table: PRESENT LAND USE PLANING

Sr.No.	Particulars	Present Land Use (ha)
1	Restricted Safety Zone/7.5m mining area boundry,	6.37
2	Infrastructure (Office,temp. Shelters etc.	0.00
3	Area available for mining	19.59
	Total	25.96

Table: LAND USE PLANING AT THE END OF lease period

Sr.No.	Particulars	AT THE END OF 5 th YEAR (ha)
1	Safety Zone7.5m mining area boundry, /restricted area	6.37
2	Infrastructure (Office,temp. Shelters etc.	0.020*
3	Reclaimed area	19.59
6	Unworked	0.0
7	Plantation*	3.5*
	Total	25.96

*Plantation in 3.5 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

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

7.7 (i) 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 221.94 mRL in the north end side of the mining area to 216.37 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 Boulder, Gravel and 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.

➤ MINE DRAINAGE

➤ Drainage Around And Within Mine:

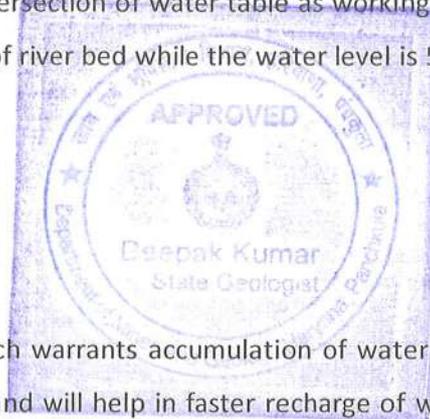
The mining area will become a depression, which warrants accumulation of water during rainy season. The pit will become a depression and will help in faster recharge of water in the aquifer

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

➤ DEWATERING:

Since the depth of mining proposed is only 3.0 meters in 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

7.8 Water Requirement

The requirement of water for the project will be as under

Sr.no	Activity	Requirment in KLD	Source
1	Dust suppression	16.0	Hired Tankers
2	Drinking	4.0	Hired Tankers
3	Green belt	5.00	Hired Tankers
	Total	25.00	

7.9 SITE SERVICE: -

Manager's Office:

One competent Manager and one Assistant Manager will be required to supervise the mining operations. An office for Manager(5 x 3 meters) shall be provided. An additional room for other supervisory staff is also proposed at each mine.

Canteen -cum-rest shelter:

In order to provide the rest shelter for the workers working in the mine and also to provide tea etc. the arrangement shall be made to install a rest shelter-cum-canteen at each quarry and shall be utilized by the workers. The rest shelter will be for having rest during the lunch hours by the workers/ labor. The size of rest shelter shall be about 10 x 3 meter to accommodate the workers.

First Aid Room:

To provide the first aid for any sort of injuries encountered during the mining operation, one small first aid room shall be provided at each sub block. First aid kit and sufficient stock

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

of material/medicines needed for first aid shall be provided as per requirement. As the Mining Engineer/Manager and Mining Mates are qualified first aides, they can provide first aid to the labor on the spot.

Crèche:

No woman employment is proposed in mine operation. However, in case of women workers are employed for other ancillary works like minor road repair, plantation etc, arrangement for a small crèche shall be made as per the requirement.

Electricity Supply:

Electric connection shall be taken for office and security purpose from the near by sub-station of Haryana Electricity Board.

Water Supply:

The water supply for drinking purpose proposed will be made available by hired tanker.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

8.0 YEAR WISE ANNUAL PROGRAMME OF MINING FOR NEXT 5 YEARS

Boulder,Gravel and Sand mineral is targeted for 4640 tons per day i.e. 1.16 million tons per annum (maximum). Production programme is given below:

Table: Production Programme

Year	Targeted Production (in MMTA)	Overburden handling M ³ Per year
1	1.16	Nil
2	1.16	Nil
3	1.16	Nil
4	1.16	Nil
5	1.16	Nil



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

9.0 DETAILS OF EMPLOYMENT

Total estimate Man power would be about 122 persons as per the details given below:

Table: Employment Details

S. No.	Category	Numbers
1	Manager 1 st class	1
2	Assistant Manager	2
3	Foreman/mates	4
4	Skilled personnel	20
5	Semi-skilled personnel	90
	Unskilled	5
Total		122



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

ENVIRONMENT MANAGEMENT PLAN

10.0 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 boundary
 - 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 Boulder, Gravel and 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

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

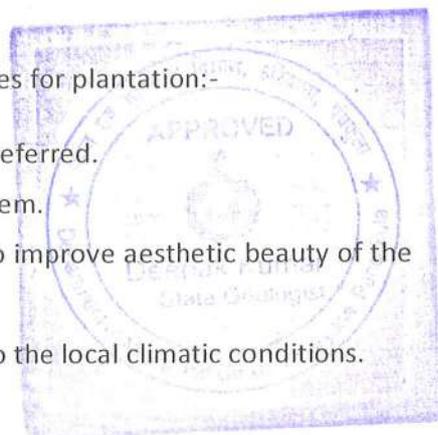
has been proposed in the excavated zone in river bed. River bed will be replenished by sediments during rainy season.

Greenbelt

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.



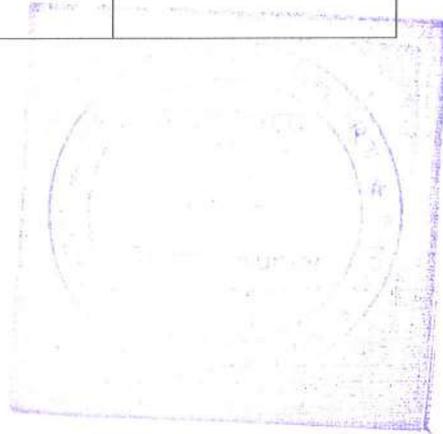
Forestation programme shall be carried out basically, along the mine boundaries and roads as permitted by land owners. The mining area is devoid of any vegetation, will not cause any harm to riparian vegetation cover. It is proposed to have plantation on both sides of the roads as greenbelt to provide 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 3,000 no's of native species along with some fruit bearing and medicinal trees during the plan period.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Table: Greenbelt Programme

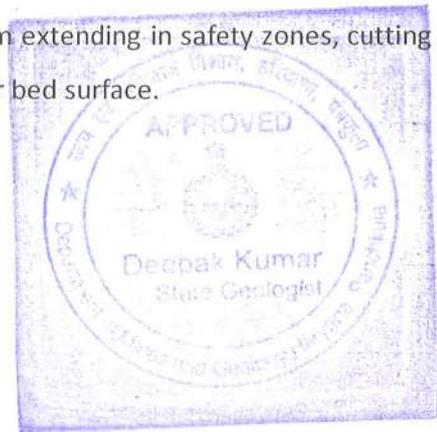
Year	Saplings to be planted	Survival 80 %	Species	Place of Plantation
I	2000	1600	Neem, , Mango, Shisham, Sirish, Babool, Gulmohar	Along the roads, in schools and public building and other social forestry programme.
II	2000	1600		
III	2000	1600		
IV	2000	1600		
V	2000	1600		
Total	10000	8000		



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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.



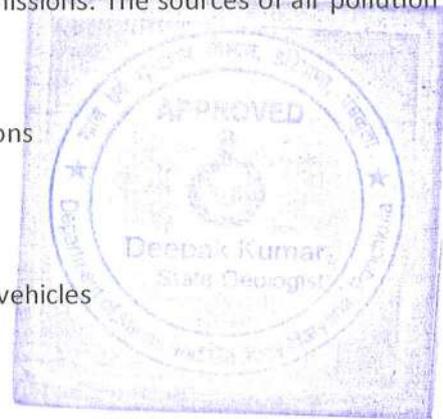
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13.0 MEASURES TAKEN AND TO BE TAKEN FOR THE CONTROL OF WATER, NOISE AND AIR POLLUTION

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

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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:

National Ambient Air Quality Standards

S. No.	Pollutants	Time weighted Average	Concentration of Ambient Air	
			Industrial, Residential, Rural and Other Areas	Ecologically Sensitive Area (notified by central Government)
1.	2.	3.	4.	5.
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20
		24 hours**	80	80
2	Nitrogen Dioxide (NO _x), µg/m ³	Annual*	40	30
		24 hours**	80	80
3	Particulate Matter (Size less than 10 µm) or PM ₁₀ , µg/m ³	Annual*	60	60
		24 hours**	100	100
4	Particulate Matter (Size less than 2.5 µm) or PM _{2.5} , µg/m ³	Annual*	40	40
		24 hours**	60	60
5	Ozone (O ₃), µg/m ³	8 hours**	100	100
		1 hours**	180	180
6	Lead (Pb), µg/m ³	Annual*	0.50	0.50
		24 hours**	1.0	1.0
7	Carbon Monoxide (CO), mg/ m ³	8 hours**	02	02
		1 hours**	04	04
8	Ammonia (NH ₃), µg/m ³ -	Annual*	100	100
		24 hours**	400	400
9	Benzene (C ₆ H ₆), µg/m ³	Annual*	05	05
10	Benzo(O) Pyrene Particulate Phae only ng/ m ³	Annual*	01	01
11	Arsenic (As), ng/ m ³	Annual*	06	06
12	Nickel (Ni), ng/ m ³	Annual*	20	20

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be compiled with 98% of the time in a year. 2% of the time, they may exceed the limits but not on to two consecutive days of monitoring.

(Source: CPCB notification Dated 18th November 2009)

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 P.U.C. certificated 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.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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.

14.0 DEMOGRAPHIC DETAILS OF THE STUDY AREA

Following villages falls within study area. Main occupation is agriculture. The details of these and other nearby village and their population are given below:-

Table: Demographic Details

Name of village	Total House holds	Total Pop	Total Male	Total female
Malikpur Khadir (170)	405	2450	1309	1141
Gulabgarh (169)	105	605	326	279
Chuharpur Kalan (168)	514	3043	1626	1417
Bhud Kalan (67)	277	1575	833	742
Koliwala (68)	52	329	181	148
Mandewala (64)	44	363	197	166
Nainwala (65)	50	294	161	133
Dekriwala (66)	15	141	79	62
Tajewala (3)	390	2360	1228	1132
Bahadurpur (164)	174	1129	612	517
Kishanpura (167)	713	3691	1992	1699
Tahimun (174)	197	1071	552	519
Lahasabad (175)	64	400	207	193
Hafizpur (173)	146	869	462	407
Mahab Aliwala (178)	72	342	191	151
Kot Sarkari (188)	119	717	394	323

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

All workers will be subjected to medical examination as per Mines Rule 1955 both at times of appointment and at least once in five years. Medical camps will be organized for this activity. Insurance of all employees as per the rules will be carried out.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

15.1 Corporate Social Responsibility

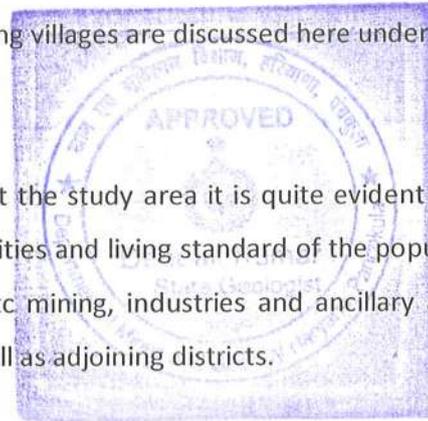
As a corporate responsibility following measures along with budget provision is proposed for improving the conditions of persons in and around the project area:

The Yamuna agar 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.

The Project Affected Persons, if any, will be provided with either compensation or direct employment or indirect employment. They would be mostly recruited in unskilled, semi skilled categories etc. This will improve the economic condition of the local people. The employment of local people in primary and secondary sectors of project shall upgrade the prosperity of the region.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

(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

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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 up liftment 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.

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

Sr No	Description	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
1	Health check up camps	3.0	3.0	3.0	3.0	3.0
2	Insurance cover of workers	3.0	3.0	3.0	3.0	3.0
3	Assistance to local schools, scholarship to students	4.0	5.0	5.0	5.0	6.0
4	Sanitations and drinking water facilities	4.0	4.0	4.0	4.0	5.0
5	Vocational training to persons for income generation	2.0	2.0	2.0	3.50	3.0
6	Assistance to self help groups	4.0	4.50	5.0	5.0	5.0
Total		20.0	22.50	23.0	23.50	25.0

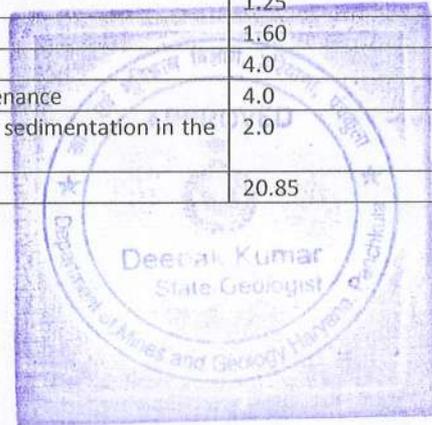
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15.2 Fund Provision for Environmental Management

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.

15.3 Fund Provision for EMP Measures: following provisions are proposed to be taken for improving, control and monitoring of environment protection measures

Sr. No.	Particulars	Amount (in lacs)
1	Pollution monitoring – Air, Water, Noise	3.0
2	Pollution monitoring – Water sprinkling	5.0
3	Wire fencing at plantation sites	1.25
4	Plantation including maintenance	1.60
5	Rainwater harvesting	4.0
6	Haul road and other roads repair and maintenance	4.0
7	Pre-monsoon and post monsoon survey for sedimentation in the river bed	2.0
	Total	20.85



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

PART –II

PROGRESSIVE MINE CLOSURE PLAN

1.0 Introduction

Name & address of the Mining Contractor

M/s Maa Vaishno Minerals, Shop No.1,Karnal, Haryana,India -1322001

(B) LOCATION OF THE MINING AREA

Mining Contract of Boulder, Gravel and Sand (Minor Mineral) over an area of 25.96 ha is located in District – Yamuna Nagar ; Village- Bailgarh Block/YNR B-1 unit.

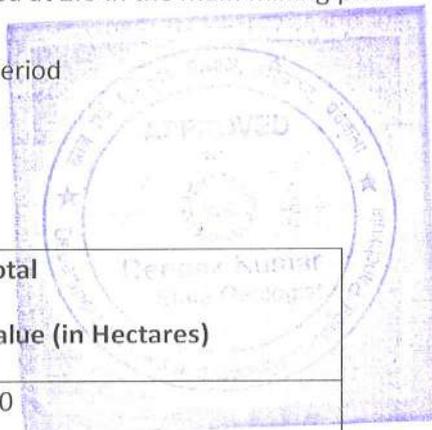
(C) EXTENT OF THE MINING AREA

25.96 ha in Bailgarh village Block/YNR B-1 as explained at 2.0 in the main mining plan

(D) PRESENT LAND USE PATTERN and At the end of lease period

Table: PRESENT LAND USE PLANING

Sl. No.	Type of Land Use	Total Value (in Hectares)
1	Quarry Area	0.0
2	Infrastructure (road)	0.00
3	River bed	25.96
4	Plantation	0.00
5	Habitation	0.00
6	Soil dump	0.00
7	OB dump	0.00
	Total	25.96

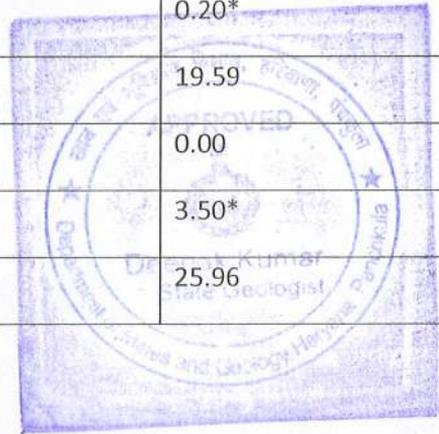


Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

	Restricted area	6.37
	Available area for mining	19.59
	Total	25.96

Table: LAND USE PLANING AT THE END OF lease period

Sr.No.	Particulars	AT THE END OF 5 th YEAR (ha)
1	Safety Zone mining area boundary, restricted area	6.37
2	Infrastructure (Office, temp. Shelters etc.	0.20*
3	Reclaimed area	19.59
6	Un-worked	0.00
7	Plantation*	3.50*
	Total	25.96



*Plantation in 3.50 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

(E) **METHOD OF MINING:**

Mining activity will be carried out by open cast semi-mechanized method.

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Light weight excavators/JCB will be deployed for extraction. Mineral will be removed in 3.0 m layer only forming one bench. This is as per the digging depth of the equipments and maximum permitted depth. Mineral will be loaded in trucks of 25 tons capacity. There will be no OB or waste generation as the Boulder,Gravel and Sand is exposed in the river bed.

Bench will advance parallel to the banks of the river. Height of bench will be 3.0 m. Width of the bench will be around 20.0 m. Workings will be restricted within the mining area/ khasra as per the description report given by Mining Department. 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. The bench will be in the form of slices/ strips parallel to the banks of the river. Roads in the mining area for the movement of loaded trippers/ trucks will not have slopes more than 1 in 20. However, movement of trucks after mineral loading will be towards both sides through approach roads connecting to tar roads. Every block will have its own approach roads, well connected to main highways. No processing of mineral will be done.

Total production envisaged is 4640 MT per day i.e. 186 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.

(F) MINERAL PROCESSING OPERATION:

No mineral processing is envisaged for Boulder,Gravel and Sand (minor mineral) produced during the mining activity.

1.1 Reasons for closure:

The progressive mine closure plan has been prepared in compliance of Haryana Minor Mineral Concession Rules 2012 under MMCR 1986. No immediate closure is planned

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

as sufficient reserves are available to carry on the activities. There is market potential in domestic demands.

1.2 Statutory Obligations:

The mining contractor is bound to submit the Progressive mine closure plan either with Mining plan or Scheme of Mining.

Mining contractor is bound to follow the terms and conditions as will be stipulated in the mining contract.

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.

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

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

1.3 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.

S.N.S Sharma

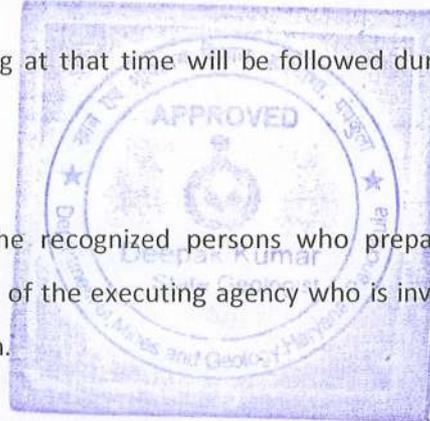
Regd. No DMG/HRY/RQP/2018/03 (Annexure-III)

Lessee will himself implement the closure plan; no outside agency will be involved.

2.0 MINE DESCRIPTION

2.1 General Geology and Local Geology

2.1.1 Regional Geology



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

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

Age	Super group	group	Formation	litho logy
Holocene			Newer alluvium and Newer Aeolian Deposits	Gravel, Sand, silt, clay, limestone, gypsum
Lower to upper Pleistocene			older alluvium and Older Aeolian Deposits	Gravel, grey sand, silt, clay, brown sand, calcrete
Lower to Middle Pleistocene	S I W A L I K	Upper Siwalik	Boulder Conglomerates formation	Conglomerate, sandstone, silt, clay
Upper Pliocene			Pinjore Formation	Coarse grit, red sand stone and clay, conglomerate
			Tatrot Formation	Friable Sandstone and variegated clay
		Middle Siwalik	Dhokpathan Formation	Brown sandstone and orange clay
Middle Miocene			Nagri Formation	Hard grey sand stone, mudstone and minor shale
			Lower Siwalik	Nahan Formation
Lower Miocene		Sirmur	Kausauli Formation	Grey and green stone, green shale and grey clay
			Dagsai Formation	Purple and green sand stone, deep red gritty, clay, white and stone with ferruginous concretions
Upper Eocene			Subathu formation	Sandstone with gritty clay. Impure fossiliferous limestone calcareous slate, greenish shale and dark brown quartzite
Pre-proterozoic			Tunda pathar	Thickly bedded ,stromatolite limestone with carboniferous shale and quartzite

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

2.1.2 LOCAL GEOLOGY

The litho units encountered in the riverbed 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 Shiwsalik Super group and are a mixture of boulders, pebbles, sand, silt and clay. The following sequences have been observed in the area.

Soil/Alluvium

Sand

Gravel

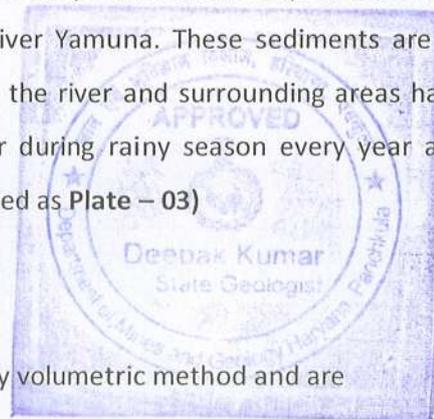
Boulder

There is no clear demarcation between the litho units. They have been deposit in a mixed form. The Litho-units exposed around the riverbed 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 river bed 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 2-4m constitute the top horizons in the flood plain area suitable for agriculture. Yamuna River meanders through the area exposing the alluvium and soil at the banks. Boulder, Gravel and Sand is found in the river bed. Boulder, gravel & 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. Geological map and section are enclosed as **Plate – 03)**

2.2 Reserves

The reserves of Boulder, Gravel and Sand calculated by volumetric method and are summarized here below: s



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuanagar (Haryana)

Sr no.	Nature of land	Lease area In ha	Total proved Geological reserves MT=Area x depth x BD (A)	Blocked area /restricted area	Blocked Geological Reserves in blocked area (B)	Total Mineable reserves A-B=C	Planned production (Per Year)
1	Rriver bed	25.96	15,57,600 MT	6.37 ha	3,82,200 MT	11,75,400 MT	11,60,000 MT

A) GEOLOGICAL PROVED RESERVES AS PER UNFC CODE (111)

Total Reserves = 15, 57,600 MT

B) BLOCKED RESERVES AS PER UNFC CODE (211 & 222) = 3, 82,200 MT

C) MINEABLE RESERVES = A-B =11, 75,400 MT

D) TARGETED PRODUCTION

11, 60,000 MT per Year

E) Life of the mine

At the proposed rate of production the life of the mine is 07 years

2.3 Mining Method

Mining method to be followed is described in chapter of mining at 7.0 in mining plan.

2.4 Mineral Beneficiation

No mineral beneficiation is envisaged.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

3.0 Review of implementation of mining plan including five years progressive closure plan upto the final closure plan

Mining Plan and Progressive mine closure plan are being submitted for the first time. It will be reviewed after five years and review of implementation will be given with next mining scheme.

4.0 CLOSURE PLAN

4.1 Mined - out land

About 19.59 hectare area is available for mining. Land use at various stages is given in the table below:

Table: PRESENT LAND USE PLANING

Sr.No.	Particulars	Present Land Use (ha)
1	Restricted Safety Zone/7.5m mining area boundry,	6.37
2	Infrastructure (Office,temp. Shelters etc.	0.00
3	Area available for mining	19.59
		25.96

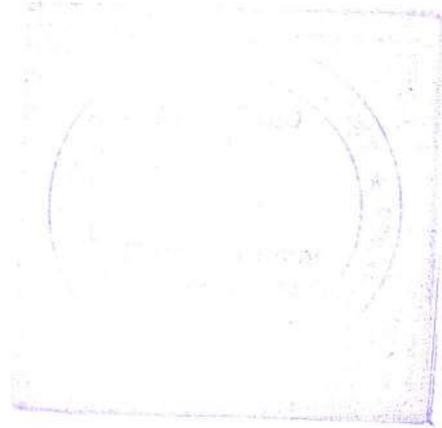
Table: LAND USE PLANING AT THE END OF lease period

Sr.No.	Particulars	AT THE END OF 5 th YEAR (ha)
1	Safety Zone/7.5m mining area boundry,	6.37
2	Infrastructure (Office,temp. Shelters etc.	0.20*
3	Reclaimed area	19.59
6	Unworked	0.00
7	Plantation*	3.50*
	Total	25.96

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

*Plantation in 3..50 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



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

4.2 Water quality management

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 varies from 221.94 to about 216.67 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 up to 3.0 m depth only from surface.

4.3 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.

4.4 Waste Management:

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

4.5 Top Soil Management

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

4.6 Tailing dam management

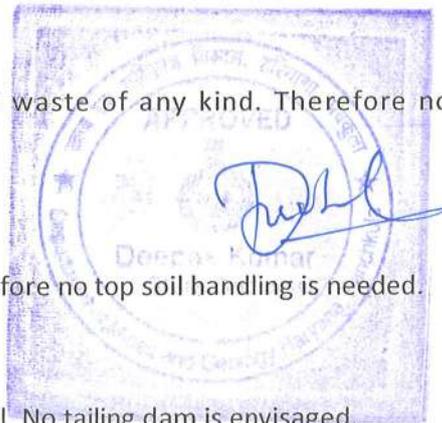
There is no proposal of beneficiation of mineral. No tailing dam is envisaged.

4.7 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..

4.8 Disposal of mining machinery:

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



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine (25.96 ha). District- Yamuna Nagar (Haryana)

proposed.

4.9 Safety & Security:

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

- i. Safety measures will be implemented as per Mine Act 1952, MMR 1961, Mines Rules 1955.
- ii. 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.
- iii. Excavation will be not more than 3 m in river bed.
- iv. Width of bench will be kept around 20.0 m for ease of operations and provide sufficient room for the movement of equipments.
- v. Protective equipment like dust masks, ear plugs/ muffs and other equipments shall be provided for use by the work persons.
- vi. Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- vii. Danger signs shall be displayed near the excavations.
- viii. Security guards will be posted.
- ix. 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.

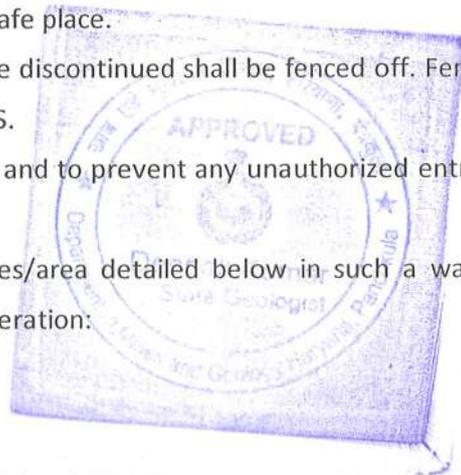
Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- 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 Mines Act 1952, MMR 1961 and Mines Rules 1955, RMMCR 1986 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.

4.11 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.

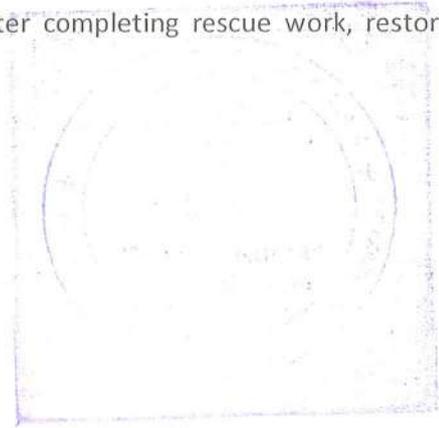
- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

- 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

5.0 ECONOMIC REPERCUSSION OF CLOSURE OF MINE AND MANPOWER RETRENCHMENTS

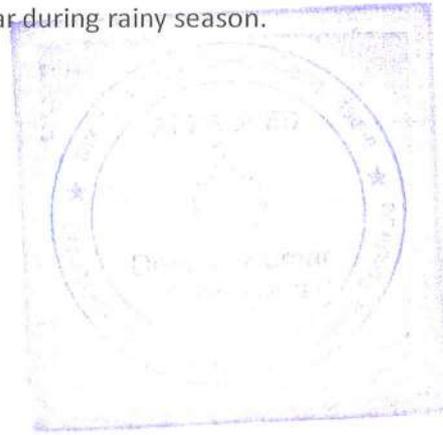
Mining contract area will be granted for a period of 07 years only. As per the production programme envisaged, at the end of contract period, still sufficient un-worked area would be left available for continuing production activities further. Hence, no closure is planned. There will be no affect on 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

6.0 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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

7.0 ABANDONMENT 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:

Abandonment Cost

ACTIVITY	YEAR					Rate	Amount (in Lakhs)
	First	Second	Third	Fourth	Fifth		
Plantation (in no.)	2000	2000	2000	2000	2000	@ 25 Rs per sapling+75 Rs maintenance cost	10.00
Plantation cost in Rs	200000	200000	200000	200000	200000		
Wire fencing (meter)	500	500	500	500	500	@ of 200 Rs per meter	5.0
Wire fencing cost	100000	100000	100000	100000	100000		
						Total	15.00

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

8.0 FINANCIAL ASSURANCE

Total 25.96 ha area will be put to use up to the end of 5th Year. Details of area put to use as given below (As per circular No.4/2006 issued by CCOM, Nagpur following table has been considered for calculation for financial assurance).

Calculation for Financial Assurance

S. No.	Item	Area put on use at start of plan (Ha) (A)	Requirement at the end of plan period (Ha)	Total area put to use (Ha) (B)	Area considered as fully reclaimed & rehabilitation (Ha) (C)	Net area considered for calculation (Ha) D = (B-C)
1.	Area to be excavated	0.0	19.59	19.59	0.0	19.59
2.	Storage for topsoil	0.0	0.0	0.0	0.0	0.0
3.	Overburden/ dumps	0.0	0.0	0.0	0.0	0.0
4.	Mineral storage	0.0	0.0	0.0	0.0	0.0
5.	Infrastructure *(Workshop, Adm. Building & Road)	0.00	0.20	0.20*	0.20	0.00
6.	Green belt*	0.0	3.5	3.50*	3.50*	0.0
7.	Tailing pond	0.0	0.0	0.0	0.0	0.0
8.	Effluent treatment plant	0.0	0.0	0.0	0.0	0.0
9.	Mineral separation plant	0.0	0.0	0.0	0.0	0.0
10.	Township area	0.0	0.0	0.0	0.0	0.0
11.	Others to specify /Restricted area	0.0	6.37	6.37	0.0	6.37
Total		0.0	25.96	25.96	0.0	25.96

- **Outside the lease area.**

Total 25.96 ha area is granted for lease/ contract. As per Haryana Mineral Concession Rules entire area granted is subjected for calculation of Financial Assurance. Therefore entire 25.96 ha area is considered for calculation. Against this Financial assurance (@15,000/- per ha. Comes out to Rs 25.96 x 15000=Rs. 3, 89,400/which is required to be deposited as bank guarantee .

Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (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.



Mining Plan and Progressive Mine Closure plan for Belgarh North Block YNR B-1 for Boulder, gravel and sand mine(25.96 ha). District- Yamuna Nagar (Haryana)

Certificate

I, D.C. YADAV, duly Qualified Person to prepare Mining Plan under Rule 22 C of the Mineral Concession Rules, 1960 (Revised 1987) and Haryana Minor Mineral Concession Rules 2012, has prepared the Mining Plan & Progressive Mine Closure Plan of Boulder, Gravel & Sand (Minor Mineral) mine over an area of 25.96 hectares in Bailgarh North Block/YNR B-1 of M/s Maa Vaishno Minerals, Shop No.1, Karnal, Haryana, India -1322001. The various data and write up enclosed have been complied and verified by us. The working plan and all other details given in the plan have been prepared under my guidance and duly verified by me. The Mining Plan and Progressive Mine Closure Plan complies all statutory Rules, Regulations, orders made by the Central or State Government, statutory organizations etc. have been taken into consideration and wherever any specific permission is required the lessee will approach the concerned authorities

D.C. Yadav
Duli Chand Yadav
DMG/HRY/RQP/2018/03
DMG/HRY/RQP/2018/03



Director, Mines and Geology, Haryana

Speed/Registered

From

The Director,
Mines and Geology Haryana,
Plot No. 9, I.T. Park, Sector-22,
Panchkula.

To

M/s Maa Vaishno Minerals,
Shop No. 1, Karnal, Haryana, India-1322001.

Memo No. DMG/HY/Cont./Bailgarh North Block/YNR B-1/2022/ 6182
Dated Panchkula, the 06-10-22.

Subject: Acceptance of the highest bid in respect of the minor mineral Boulder, Gravel and Sand contract of "Bailgarh North Block/YNR B-1 (BGS) having tentative area of 64.91 Acres in the district Yamuna Nagar, offered in e-auction held on 25/26.08.2022 issuance of Letter of Intent (LoI)- regarding.

On the Subject noted above.

You participated in the e-auction held on 25/26.08.2022 on the e-Auction web portal (<https://minesharyana.c1auctions.com/>) for grant of mining contract of minor mineral Boulder, Gravel and Sand mine after accepting the terms and conditions of the auction notice issued vide notification no. DMG/HY/e-Auction/YNR/2021/4772 dated 26.07.2022 and Corrigendum No. DMG/HY/e-Auction/YNR/2021/5274 dated 22.08.2022 in order to obtain mining contract of minor mineral Boulder, Gravel and Sand mine of the district Yamuna Nagar.

2. You offered the highest bid of Rs. 31,50,00,000/- (Rs. Thirty one Crores fifty lacs only) per annum against the Reserve Price of Rs. 14.10 Crore for obtaining the Mining Contract of Minor Mineral Mine namely 'Bailgarh North Block/YNR B-1' (BGS) for extraction of 'Boulder, Gravel and Sand' having total area of 64.91 Acres. The details of the khasra number of the area under above said Mining is attached as Annexure 'A'.

3. You are hereby informed that the State Government has accepted the highest bid of Rs. 31,50,00,000/- per annum offered by you in respect of 'Bailgarh North Block/YNR B-1 (BGS)' under the provision of Haryana Minor Mineral Concession, Stocking, Transportation of Minerals & Prevention of Illegal Mining Rules, 2012 (State Rules, 2012). Accordingly, you have become the successful bidder in respect of above said mine.

4. The State Government having accepted the aforementioned highest bid of Rs. 31,50,00,000/- per annum offered by you, the Department is pleased to issue this Letter of Intent (LoI) in your favour in respect of the Mining area namely of 'Bailgarh North Block/YNR B-1 (BGS)' subject to the following terms and conditions:

Director, Mines and Geology, Haryana

- 4.1 The period of the contract shall be 07 years and the same shall commence w.e.f. the date of grant of Environmental Clearance by the competent authority and the Consent to Operate (CTO) by the State Pollution Control Board, whichever is later, or on expiry of the period of 12 months from the date of issuance of Lol, whichever is earlier;
- 4.2 As per the terms and conditions of the grant, you are liable to deposit Rs. 07,87,50,000/- i.e. equal to 25% of the annual bid amount as "Security", out of which you have already deposited an amount of Rs. 3,15,00,000/- (Rs. Three Crore fifteen lacs only) i.e. equal to 10% of the annual bid amount as 'initial bid security' after the conclusion of e-auction. The balance amount of Rs. 4,72,50,000/- of the bid security i.e. 15% of the annual bid amount shall be deposited before commencement of the mining operation or before expiry of the period of 12 months from the date of issuance of Letter of Intent (LoI), whichever is earlier;

Provided that in case having taken all steps on your part, if you fails to obtain required environmental clearance and consent to operate(CTO) for undertaking mining operations within the said period of 12 months from the date of issuance of Lol, such letter of intent holder/contractor on a specific application submitted to the Director, at least thirty days prior to the end of the period mentioned above, giving details of the action already taken may seek additional time up to another twelve months, over and above the time of 12 months already allowed for commencement of the period of contract on payment of a non-refundable fee as per the following:-

1	Extension of further period up to six months	On payment of a non-refundable fee at the rate of one percent per month of the annual bid for each month of requested extension period
2	Extension for a second period up to six months	On payment of a non-refundable fee at the rate of two percent per month of the annual bid for each month of requested extension period
Note: Extension shall be allowed only in month (s) and any request for period less/part of the month shall be summarily rejected and shall apply along with advance amount of the fee for such requested period of extension.		

- 4.3 You may note that the detail of the area of the mining is tentative and was notified on 'as is where is' basis (refer condition no. 21 (iv) of the auction notice). In case of any inadvertent mistake in the area detail/Khasra number etc., the same shall be got rectified/corrected before execution of the contract agreement (refer condition no. 21 (iii) of the auction notice);
- 4.4 No request regarding reduction in bid amount on account of reduction in land/area of the Mining Block, on any account including that of change in description of Khasra numbers / location etc. at any stage will be entertained on any ground. This shall also include any loss/reduction of area for actual mining for want of compliance of applicable laws/restrictions for mining or part of the contracted area had already been operated in the past. Needless

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Director, Mines and Geology, Haryana

to state that this also includes the changes, if any, as per condition no. 21 (vi) of the auction notice.

4.5 You offered bid after having gone through the terms and conditions of auction notice and also the applicable Acts and Rules for undertaking mining. The State government shall not be responsible for any kind of loss to you being the highest bidders/contractor at any point of time (before or after grant of contract) on any account including on account of reduction of land/ area/ production/ non grant of permission for mining in part area or otherwise on account of any condition stipulated for undertaking mining by any competent authority.

4.6 The amount of the highest bid i.e. Rs. 31,50,00,000/- (Rs. Thirty one Crores fifty lacs only) per annum shall be the "Annual Contract Money" payable by you as the contractor money in the manner prescribed in the contract agreement to be executed on form MC-1 appended to State Rules.

As per orders dated 01.07.2022 of the State Government you will have to open Escrow Account with the Department wherein all the sale proceed made through E-rawaana portal will required to be deposited.

4.7 The annual contract money shall be increased at the rate of 10% on completion of each block of three years. Accordingly, the year-wise amount of the annual contract money shall be as per details given below:

Sr. No.	Year of the contract Period	Annual Contract Money [in Rs.]
1	First Year	31,50,00,000/-
2	Second Year	31,50,00,000/-
3	Third Year	31,50,00,000/-
4	Fourth Year	34,65,00,000/-
5	Fifth Year	34,65,00,000/-
6	Sixth Year	34,65,00,000/-
7	Seventh Year	38,11,50,000/-

4.8 You are directed to execute the Contract Agreement in Form MC-1 appended to the State Rules, 2012 within a period of 90 days from the date of order of issuance of this Lol.

Note: 90 days period is for execution of Contract Agreement. Therefore, it is advised to submit draft agreement along with all relevant documents preferably within 45 days, so that agreement could be executed within 90 days after completing all the formalities of scrutiny and verification.

4.9 In case of the Partnership Deed (where bidding entity is a partnership firm) or Articles of Association (where bidding entity is a registered Company) or an Affidavit (where bidding entity is a sole proprietorship firm and the bidder is participating as an Individual), no transfer or addition or deletion of the Partners/Directors will be permissible before execution of the agreement;

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Director, Mines and Geology, Haryana

- 4.10 The Contract Agreement executed shall be got duly Registered under relevant laws with concerned Registering Authority and you will be liable to pay applicable stamp duty and registration fee etc. as per the applicable rates and as demanded by the Registering Authority/Revenue Department at the time of Registration.
- 4.11 In case of failure to execute the agreement, after issuance of this acceptance of bid/Lol within the prescribed period of 90 days, this Lol shall be deemed to have been revoked and 10% amount of the highest bid deposited as initial bid security shall be forfeited and you, will be debarred from participation in any future auctions/tenders/competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years.
- 4.12 You shall also furnish a solvent surety for a sum equal to the amount of the annual bid for execution of the Agreement. The documents in support of solvency of the surety shall be submitted dully evaluated by the concerned Revenue Authority along with Non Encumbrance Certificate from the concerned Revenue Authority. In case, the surety offered by the contractor(s) during the subsistence of the contract is not found solvent, the contractor(s) shall offer another solvent surety and a supplementary deed shall be executed to this effect.
- 4.13 After execution of agreement, either before commencement of the mining operation or before expiry of the time allowed, if any, as per condition No. 4.2 above, in case of failure to deposit the balance 15% amount towards security (as required under clause 4.2 above), the acceptance of bid/issuance of Lol/execution of agreement shall be deemed to have been revoked and 10% amount deposited towards as initial bid security after the conclusion of auction shall stand forfeited. Further, such bidder shall be debarred from participation in any future auctions/Tenders/competitive bidding process in respect of any area for obtaining mineral concession in the State for a period of 5 years.
- 4.14 You shall be liable to deposit the contract money in advance at monthly intervals as per provisions of Contract Agreement i.e. from the date of commencement of the contract period.
- 4.15 You shall also deposit/ pay an additional amount equal to 7.5% of the due contract money along with the monthly instalments towards the 'Mines and Mineral Development, Restoration and Rehabilitation Fund.
- 4.16 You shall also deposit/ pay an additional amount equal to 2.5% of the due contract money along with the monthly instalments towards the 'District Mineral Fund'.
- 4.17 You shall also be liable to pay advance Income Tax as per provisions of Section 206(c) of Income Tax Act in addition to contract money, payable as per terms and conditions of contract agreement.

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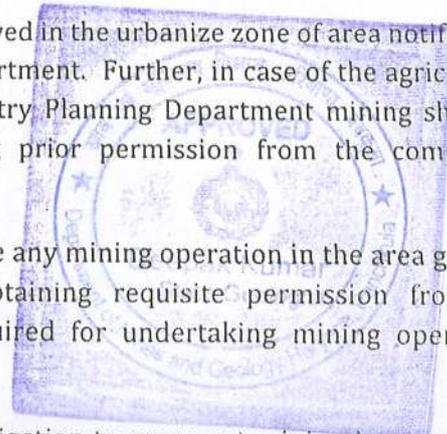
Director, Mines and Geology, Haryana

- 4.18 On enhancement of the contract money with the expiry of every three years period, you shall deposit the balance amount of security so as to upscale the security amount equal to 10% of the revised annual contract money as applicable for one year with respect to the next block of three years. No interest, whatsoever, shall be payable on the security amount deposited under the prescribed security head of the government;
- 4.19 You shall prepare a Mining Plan along with the Mine Closure Plan (Progressive & Final) from the Recognized Qualified Person as per chapter 10 of the State Rules, 2012 for the "Mining Unit" and get the same approved from an officer authorised by the Director, Mines & Geology, in this behalf.
- 4.20 Further, the actual mining will be allowed to be commenced only after prior Environment Clearance is obtained by you as the Lol holder/ Mining contractor for the Mining from the Competent Authority as required under EIA notification dated 14/09/2006 issued by Ministry of Environment, Forests and Climate Change, Government of India or as amended from time to time and also other required approvals for mining including Consent to Establish and Consent to Operate from the Haryana State Pollution Control Board before commencement of actual mining operations.
- 4.21 You will also be liable to pay the following to the landowners to undertake mining operations:
- (a) Annual rent in respect of the land area blocked under the concession but not being operated; and
 - (b) Rent Plus compensation in respect of the area used for actual mining operations.
- 4.22 The amount of annual rent and the compensation shall be settled mutually between the landowner and the mining contractor. In case of non-settlement of the rent and compensation, the same shall be decided by the District Collector concerned in accordance with the provisions contained in Chapter 9 of the "State Rules, 2012";
- 4.23 The total mineral excavated and stacked by the concession holder within the area granted on mining contract, however, the quantity of mineral stacked shall not exceed three times of the average monthly production as per approved Mining Plan and/or quantity approved under Environmental Clearance, at any point of time.
- 4.24 The Mining Contractor shall not stock any mineral outside the concession area granted on mining contract, without obtaining a valid Mineral Dealer Licence as per provisions contained in Chapter 14 of the State Rules, 2012.
- 4.25 The contractor shall not carry out any mining operations in any reserved/ protected forest or any area prohibited by any law in force in India, or prohibited by any authority without obtaining prior permission in writing from such authority or officer authorized in this behalf. In case of refusal of permission by such authority or officer authorised in this behalf,

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Director, Mines and Geology, Haryana

- contractor(s) shall not be entitled to claim any relief in payment of contract money on this account;
- 4.26 Following are the general/ special conditions applicable for excavation of minor mineral(s) from river beds in order to ensure safety of riverbeds, structures and the adjoining areas:
- i. No mining would be permissible in a river-bed up to a distance of five times of the span of a bridge structure on up-stream side and ten times the span of such bridge structure on down-stream side, subject to a minimum of 250 meters on the up-stream side and 500 meters on the down-stream side;
 - 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 authorised by him;
 - iii. The maximum depth of mining in the river-bed shall not exceed three meters 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. 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.
 - vi. No mining operation may be carried out from 1st July to 15th September every year (rainy season).
- 4.27 No mining operation shall be allowed in the urbanize zone of area notified by Town and Country Planning Department. Further, in case of the agriculture zone notified by Town and Country Planning Department mining shall be permissible only after obtaining prior permission from the competent authority;
- 4.28 The contractor shall not undertake any mining operation in the area granted on mining contract without obtaining requisite permission from the competent authority as are required for undertaking mining operations under relevant laws;
- 4.29 The contractor shall be under obligation to carry out mining in accordance with all other provisions as applicable under the Mines Act, 1952. Mines and Minerals (Development and Regulation) Act, 1957, Indian Explosive Act, 1884, Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986 and the rules made thereunder, Wild life (Protection) Act, 1972, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981;
- 4.30 All other terms and conditions shall remain as per auction notice, and the contract agreement to be executed in Model Form MC-1 appended to the



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Director, Mines and Geology, Haryana

State Rules, 2012. Further, the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 and Rules made thereunder shall prevail over all the terms and conditions.

5. In view of above, it is once again stated that the highest bid of Rs. 31,50,00,000/- (Rs. Thirty one Crores fifty lacs only) per annum offered by you in respect of minor mineral mine namely 'Bailgarh North Block/YNR B-1 (BGS)' of district Yamuna Nagar have been accepted by the State Government and the Department is pleased to issue this Letter of Intent (LoI) in your favour for grant of mining contract of said mine subject to the above said terms and conditions. Accordingly, you are advised to execute the Contract Agreement by submitting all requisite documents including a solvent surety(s) for a sum equal to the amount of the annual bid for execution of the agreement, within a period of 90 days from the date of issue of this bid acceptance letter and the LoI.

Nehal Kumar
Director, Mines & Geology,
Haryana

Speed/Registered

Endst. No. DMG/HY/Cont./Bailgarh North Block/YNR B-1/2022/

Dated:

A copy is forwarded to the following for information and necessary action please:-

1. The Additional Chief Secretary to Government Haryana, Mines and Geology Department.
2. The Chairman, Haryana State Pollution Control Board, Panchkula.
3. The Deputy Commissioner, Yamuna Nagar.
4. The Assistant Mining Engineer, Mines & Geology Department, Yamuna Nagar. He is directed to ensure that proper and complete 'Draft Contract Agreement Documents' as required are submitted within stipulated period.

- *sd* -
Director, Mines & Geology,
Haryana

Director, Mines and Geology, Haryana

Annexure 'A'.

Sr. No.	Name of mining Contract Unit with name of Mineral	Name of village	Details of Khasra Nos.	Area as per Revenue record (in Acres)	Period (in years)
1	Bailgarh North Block/YNR B-1 (BGS)	Bailgarh	1// 21min 5// 6min, 15min, 16min, 17min, 23min, 24min, 25. 6// 1min, 10min, 11, 20, 21 7// 1, 10, 11 min 8// 2min, 3min, 4, 5, 6, 7, 8, 9min, 11min, 12, 13, 14, 15min, 17min, 18, 19, 20 min, 21, 22, 23, 24min 9// 16min, 24min, 25 min 17// 3min, 4min, 5, 6, 7min, 8min, 14min, 15, 16min, 25min 18// 1, 2, 3, 4min, 7min, 8, 9, 10, 11, 12, 13min, 19min, 20, 21, 22min, 23min 20// 1, 2, 3 min, 4min, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22 21// 5min, 6min, 15min, 16min, 25min 34// 5min, 6min 35// 1, 10min	64.91	07



(Annexure-2)

CONSENT LETTER FROM APPLICANT

The Mining Plan & Progressive Mine Closure Plan in respect of Bailgarh North YNR B-1 Boulder, Gravel and Sand in Village Bailgarh over an area of 25.96 hectares in District- Yamuna Nagar State –Haryana of M/s Maa Vaishno Minerals, Shop No.1, Karnal, Haryana, India - 1322001 is being prepared by D.C.Yadav bearing registration no. DMG/HRY/RQP/2018/03.

We request The Director Mines and Geology, Haryana to make further correspondence regarding modification of the mining plan with the said RQP on the following address:-

D.C.Yadav

DMG/HRY/RQP/2018/03

First Floor, 282 sector 11 D, DLF, Faridabad -114206 (Haryana)

(9416214247) dcyadav747@gmil.com

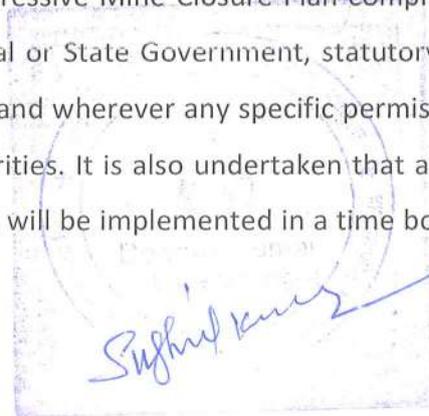
I also authorize Shri D.C.Yadav to make correspondence with your office.

I hereby undertake that the Mining Plan in respect of this area prepared by RQP be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

This is to declare that the Mining Plan & Progressive Mine Closure Plan complies all statutory Rules, Regulations, orders made by the Central or State Government, statutory organizations, court etc. have been taken into consideration and wherever any specific permission is required the lessee will approach the concerned authorities. It is also undertaken that all the measures proposed in the Progressive Mine Closure Plan will be implemented in a time bound manner as proposed.

Place:-

Date :-



SIGNATURE OF APPLICANT

GOVERNMENT OF HARYANA
 DIRECTORATE OF MINES AND GEOLOGY, HARYANA,
 30-BAYS BUILDING, SECTOR 17, CHANDIGARH.

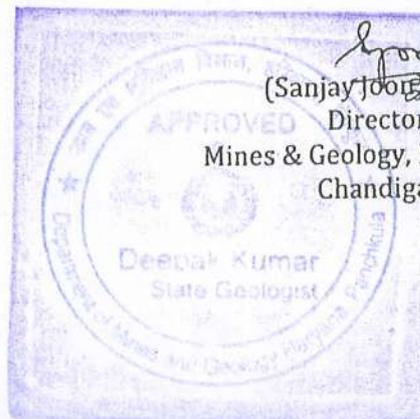
**CERTIFICATE OF RECOGNITION AS A QUALIFIED PERSON TO PREPARE
 MINING PLAN/SCHEME OF MINING FOR MINOR MINERAL MINES**
 (Under Rule 67 of Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and
 Prevention of Illegal Mining Rules, 2012)

Shri Duli Chand Yadav S/o Shri Ramji Lal, resident of village Dhani Bania Wali, PO Nangal Chaudhary, District Mahendergarh having given satisfactory evidence of his qualifications and experience, is hereby granted recognition under Rule 67 of the Haryana Minor Mineral Concession, Stocking, Transportation of Minerals and Prevention of Illegal Mining Rules, 2012, as a "Qualified Person" to prepare Mining Plans/Scheme of Mining in respect of minor minerals mines in the State of Haryana.

2. His registration No. is DMG/HRY/RQP/2018/03.

3. This recognition shall be valid for a period of ten years ending on 26.04.2028

Place : Chandigarh
 Dated : 26.04.2018



(Sanjay Kumar) S.A.S
 Director,
 Mines & Geology, Haryana,
 Chandigarh. ✓

REPLENISHMENT STUDY REPORT
(YEAR 2022) FOR
RIVER BED MINING PROJECT

AT

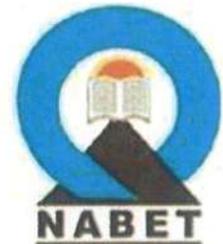
**Sand (Minor Mineral) is located in District
 – Yamuna Nagar village Bailgarh, over an
 area of 25.96 hectares for the extraction of
 sand**

APPLICANT

**M/s Maa Vaishno Minerals, Shop No.1, Karnal,
 Haryana, India -1322001**



CONSULTANT
P&M Solution
C-88, Sector 65, Noida -201301 – U.P
A QCI –NABET Accredited Organization



1.INTRODUCTION

For sustainability of river sand mining, it is necessary that the mine pits formed as a result of sand excavation are refilled with sand by natural process of replenishment in a reasonable period of time so that the area is again available for mining. Replenishment rate is the rate at which sand/gravel is deposited on the river flood plain by the river during monsoon season. It is dependent on several factors such as geology and topography of the catchment area of the river, breadth of the flood plain, rainfall in that particular year (which is quite variable and not very much predictable much in advance), etc.

There are many sediment transport equations which are suitable for use in the prediction of the replenishment rate of rivers/ watershed. Some of the famous sediment transport equations are:-

1. Dandy-Bolton Equation

2. Yang Equations

3. Engelund-Hansen Equation

4. Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt(1977) – it includes only one type of sediment yield (sheet and rill Erosion). Dandy – Bolton formula is often used to calculate the sedimentation yield. The formula uses catchment area and mean annual runoff as key determinants to give a yield value. It does not differentiate in basin wide smaller streams and their characteristics. Dandy and Bolton equation calculates all types of sediment yield i.e. sheet and rill Erosion, gully Erosion, channel Bed and bank erosion and mass movement etc.

The hypothetical derivation of replenishment data is not supported by any ground evidence as the same can be derived only after annual study due to inconsistent rains.

The sediment load (sand and gravel) may represent a natural resource for use by society. The potential usefulness of the sediment load is enhanced when it is composed of particle sizes found in deposits on the river bed that would be replenished by newly transported sediment

after mining. As such, river deposits become renewable resources, periodically replaced by sediment transport in the river

PHYSIOGRAPHIC, DRAINAGE AND CLIMATE

Physiography The district is divided into four Physiographic units

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

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.

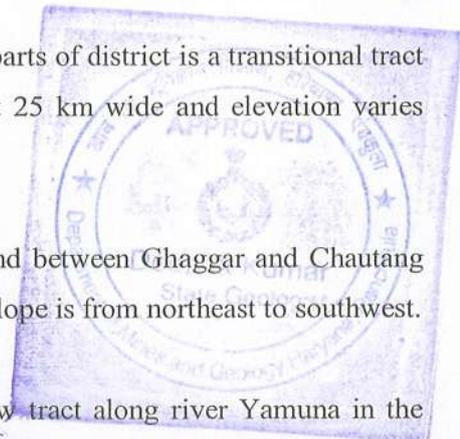
Kandi Belt - A dissected rolling plain in the northern parts of district is a transitional tract between Siwaliks hills and alluvial plains. It is about 25 km wide and elevation varies between 250 and 375m AMSL.

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.

Active and recent flood plains - This plain is narrow tract along river Yamuna in the district.

Relict wedge plain - This is almost in alignment to the surface water divide between the westward flowing Ghaggar and eastward flowing Yamuna River.

CLIMATE & RAINFALL: The climate of Yamuna Nagar district can be classified as subtropical monsoon, mild & dry winter, hot summer and sub-humid which is mainly dry with hot summer and cold winter except during monsoon season when moist air of oceanic



origin penetrates into the district. There are four seasons in a year. The hot weather season starts from mid March to last week of the June followed by the southwest monsoon which lasts up to September. The transition period from September to November forms the post monsoon season. The winter season starts late in November and remains up to first week of March. The normal annual rainfall of the district is 1107 mm, which is unevenly distributed over the area in 43 days. The south west monsoon sets in from last week of June and withdraws in end of September, contributed about 81% of annual rainfall. July and August are the wettest months. Rest 19% rainfall is received during non-monsoon period in the wake of western disturbances and thunderstorms.

Rainfall	
Normal Annual Rainfall	1107mm
Normal monsoon Rainfall	898mm
Temperature	
Mean Maximum	48.8°C (May & June)
Mean Minimum	6.8 °C (January)
Normal Rainy days	43

(Source: District Groundwater Brochure CGWB).

GEOLOGY OF THE AREA

Regional Geology

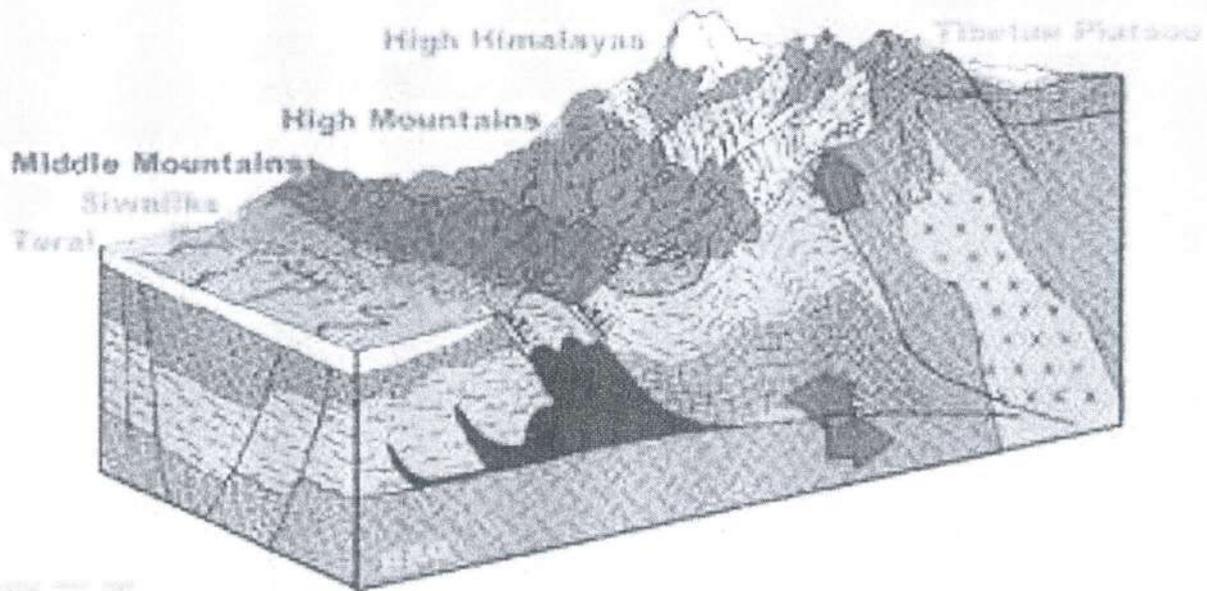
The north-eastern and central part of Haryana is predominantly characterized by sedimentary litho logy in the Sub-Himalayan zone comprising Subathus, Dagshais, Kasaulis and Siwaliks. A general Regional stratigraphic sequence in the area is given in Table.

Table: Regional stratigraphic sequence

Age	Super group	group	Formation	litho logy
Holocene			Newer alluvium and Newer Aeolian Deposits	Gravel, Sand, silt, clay, limestone, gypsum
Lower to upper			older	Gravel, grey sand, silt, clay,

Pleistocene			alluvium and Older Aeolian Deposits	brown sand, calcrete
Lower to Middle Pleistocene	S I W A L I K	Upper Siwalik	Boulder Conglomerates formation	Conglomerate, sandstone, silt, clay
Upper Pliocene			Pinjore Formation	Coarse grit, red sand stone and clay, conglomerate
			Tatrot Formation	Friable Sandstone and variegated clay
	Middle Siwalik		Dhokpathan Formation	Brown sandstone and orange clay
Middle Miocene			Nagri Formation	Hard grey sand stone, mud stone and minor shale
	Lower Siwalik		Nahan Formation	Coarse gritty, clay and red sandstone often calcareous, brownish shale with lignite lenticles, greenish white Quartzite
Lower Miocene	Sirmur		Kausauli Formation	Grey and green stone, green shale and grey clay
			Dagsai Formation	Purple and green sand stone, deep red gritty, clay, white and stone with ferruginous concretions
Upper Eocene			Subathu formation	Sandstone with gritty clay. Impure fossiliferous limestone calcareous slate, greenish shale and dark brown quartzite
Pre-proterozoic			Tunda pathar	Thickly bedded, stromatolite limestone with carboniferous shale and quartzite

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



LOCAL GEOLOGY

The litho units encountered in the Yamuna 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.

Soil/Alluvium

Sand

Gravel

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 1.0m) constitute the top horizons in the area suitable for agriculture. Yamuna River meanders through the area exposing the alluvium and soil at the banks. Boulder, Gravel and Sand is found in the river bed. Boulder, Gravel and Sand is deposited up to great depths. This bed is presently dry and water flows only during the rainy season The Boulder, Gravel and 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.

DESCRIPTION OF FORMATION

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

(Boulder, Gravel & Sand)

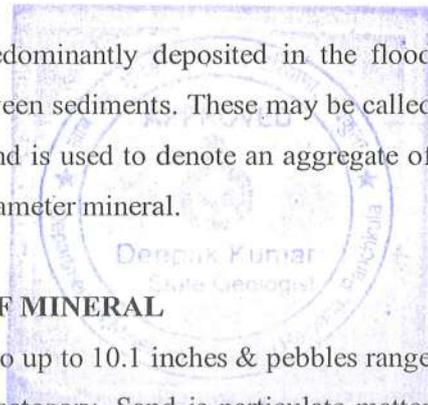
Sediments of various sizes and in mixed form are predominantly deposited in the flood plains of River Yamuna and its tributaries. There is no perfect classification between boulders, cobbles, pebbles and sand. They are deposited in a mixed state. The classification is done by grab mining and the sediments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

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 put 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 limestone 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 sediment logy.

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

The factors which affects the "Computation of Sediment":

- Geomorphology & Drainage Pattern : The following geomorphic units plays important role :
- Structural Plain
- Structural Hill

- Structural Ridge
- Denudation Ridge & Valley
- Plain & Plateau of Gangetic plain
- Highly Dissected pediment
- Un dissected pediment
- Distribution of Basin Area River wise (Area in Sq. Km or Sq. Miles)
- Drainage System/Pattern of the area (Drainage Density =Km/Sq. Km of Yamuna River
- Rainfall & Climate : Year wise Rainfall data for previous 07 years of Yamuna Basin/River
- As per Dandy & Bolton study “Sediment Yield” can be related to

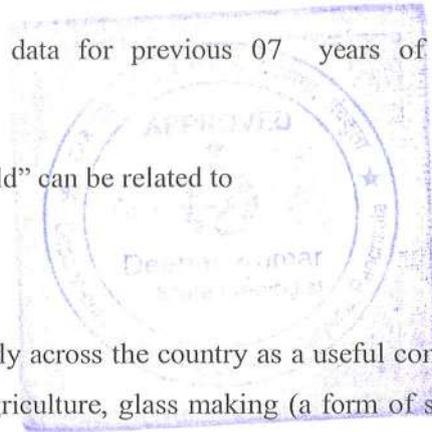
i) Catchment Area and

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 Boulder, Gravel and 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)

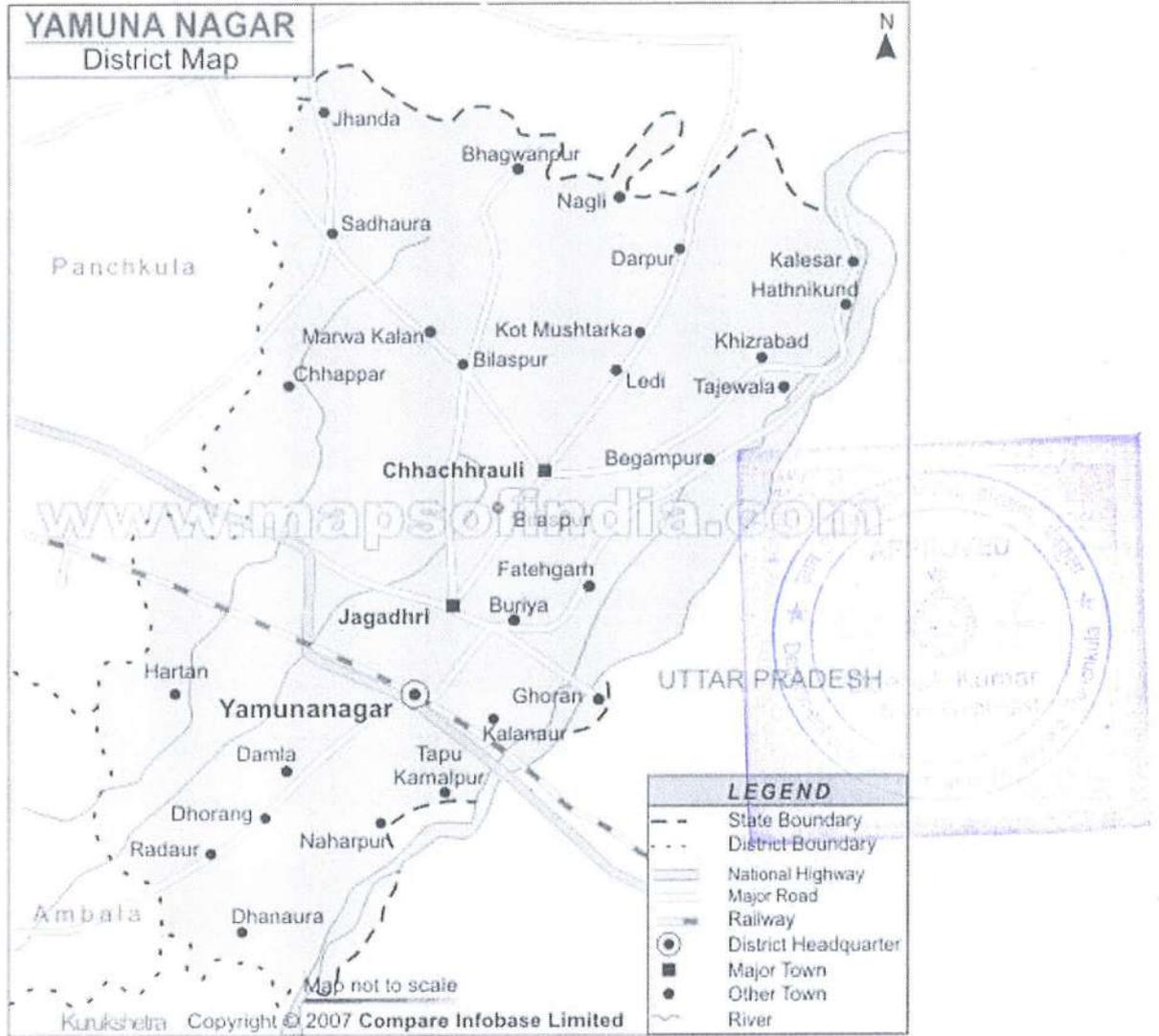


Itinerary of Yamuna River: and its tributaries

The river passes through many states such as Uttarakhand, 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.

Itinerary of Drainage area of Yamuna:

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 Uttarakashi district of Uttarakhand, 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 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 Uttarakhand & 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.



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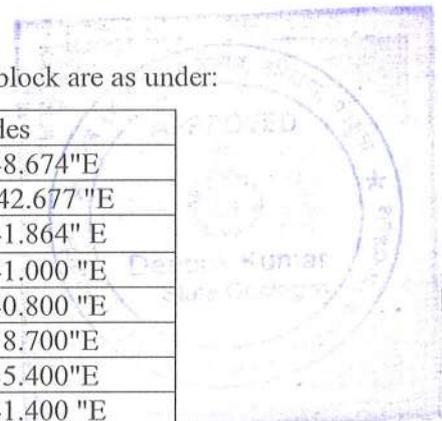
Fig1:-Drainage Map of the Yamunanagar district

Table-1: Details about the Project

Name of Block	Name of Village	Details of Khasra No/Kila Nos	Area of block in
Bailgarh/ YNR B-1	Bailgarh	1//21min 5// 6min, 15min, 16min, 17min, 23min, 24min, 25. 6//1min, 10min, 11, 20, 21 7//1, 10, 11 min 8//2min, 3min, 4, 5, 6, 7, 8, 9min, 11min, 12, 13, 14, 15min, 17min, 18, 19, 20 min, 21, 22, 23, 24min 9//16min, 24min, 25 min 17// 3min, 4min, 5, 6, 14min, 15, 16min, 25min 18//1, 2, 3, 4min, 7min, 8, 9, 10, 11, 12, 13min, 19min, 20, 21, 22min, 23min 20//1, 2, 3 min, 4min, 7, 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22 21//5min, 6min, 15min, 16min, 25min 34//5min, 6min 35//1, 10min	64.91 acres or 25.96 ha.

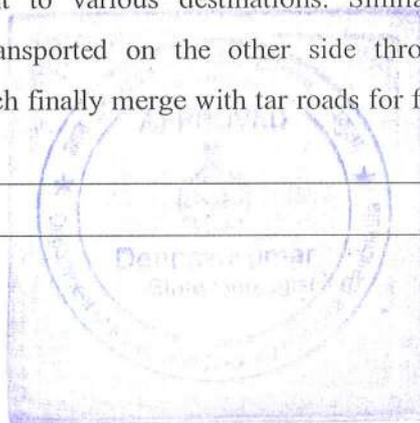
GPS Coordinates of all corner points of the mining block are as under:

Pillar No.	Latitudes	Longitudes
A	30° 14' 6.403" N	77° 30' 48.674" E
B	30° 13' 56.124" N	77° 30' 42.677" E
C	30° 13' 56.167" N	77° 30' 41.864" E
D	30° 14' 9.600" N	77° 30' 41.000" E
E	30° 14' 6.403" N	77° 30' 40.800" E
F	30° 14' 13.100" N	77° 30' 38.700" E
G	30° 14' 17.600" N	77° 30' 35.400" E
H	30° 14' 24.300" N	77° 30' 41.400" E
I	30° 14' 27.800" N	77° 30' 44.600" E
J	30° 14' 32.300" N	77° 30' 49.500" E
K	30° 14' 37.228" N	77° 30' 55.228" E
L	30° 14' 42.200" N	77° 30' 53.600" E
M	30° 14' 39.600" N	77° 30' 54.700" E
N	30° 14' 37.100" N	77° 30' 52.200" E
O	30° 14' 25.000" N	77° 30' 54.000" E
P	30° 14' 23.900" N	77° 30' 49.000" E
Q	30° 14' 16.500" N	77° 30' 48.500" E
R	30° 14' 12.200" N	77° 30' 43.600" E
S	30° 14' 10.600" N	77° 30' 45.400" E
T	30° 14' 9.800" N	77° 30' 51.000" E



Infrastructural Facilities

Nearest railway station	Yamunanagar Railway station
Police station	Jagadhari,
Post office	All the nearby villages
Medical facilities	Yamunanagar
Electricity	Electrical supply is available in all nearby villages.
Education facilities	Most of the nearby villages have secondary schools and for higher education institutes are available at Radaur, Jagadhri , Yamunanagar and, Kurukshetra,
Mode of transportation of mineral	Mineral Boulder, Gravel and Sand will be transported by trucks. Loaded trucks will travel on Kuccha road made for plying of trucks. No. of such temporary road will provide access to the river bed and the movement of loaded trucks. As the mining area is spread over an area of 25.96 ha working will be carried in River bed. Block has its outlet meeting the tar road on the nearby villages and from where the mineral is sent to various destinations. Similarly, mineral will be transported on the other side through approach roads which finally merge with tar roads for final destinations.
River/ canal/ port	Yamuna.



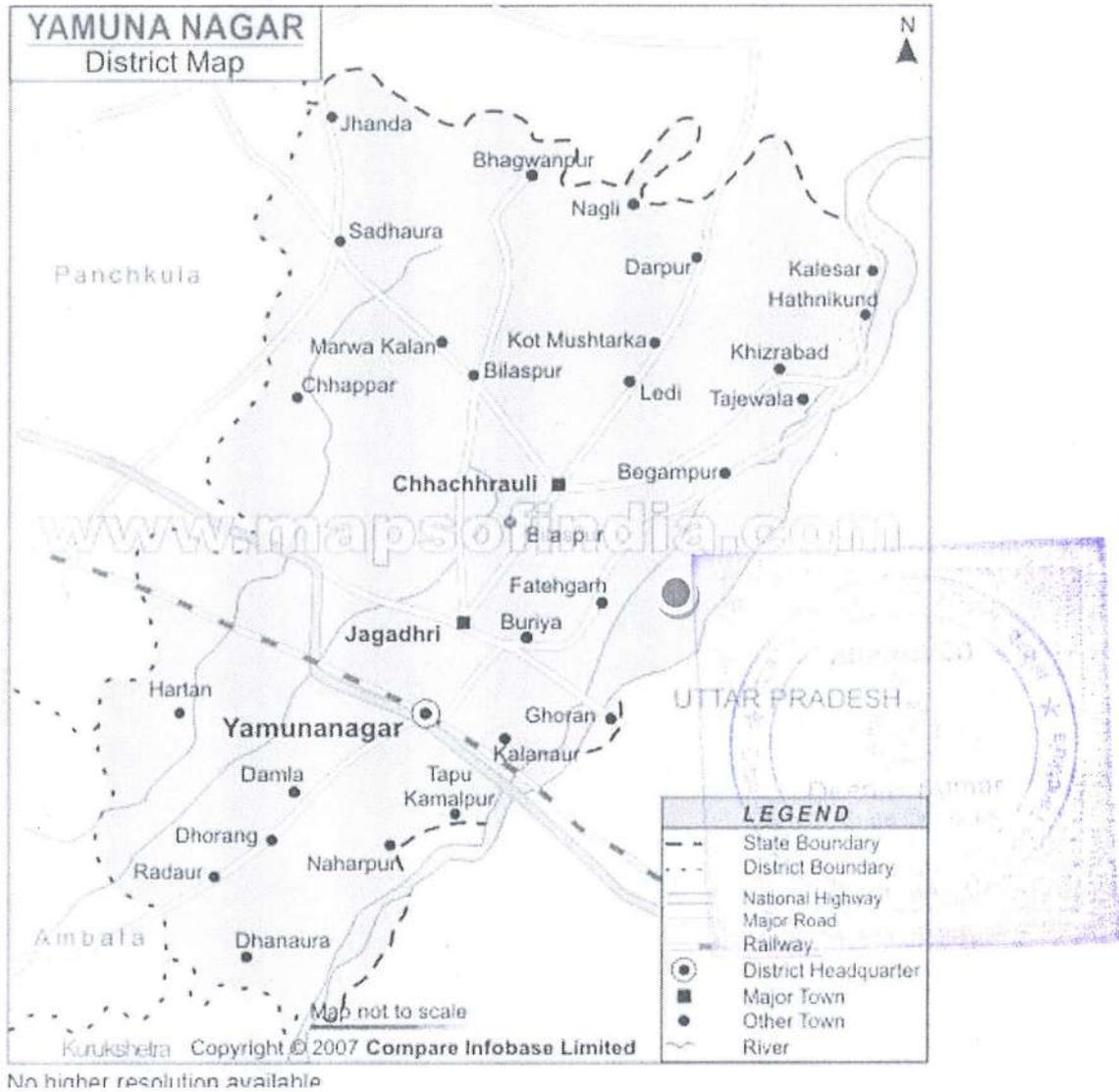


Fig2:-Location Map of the project tsite

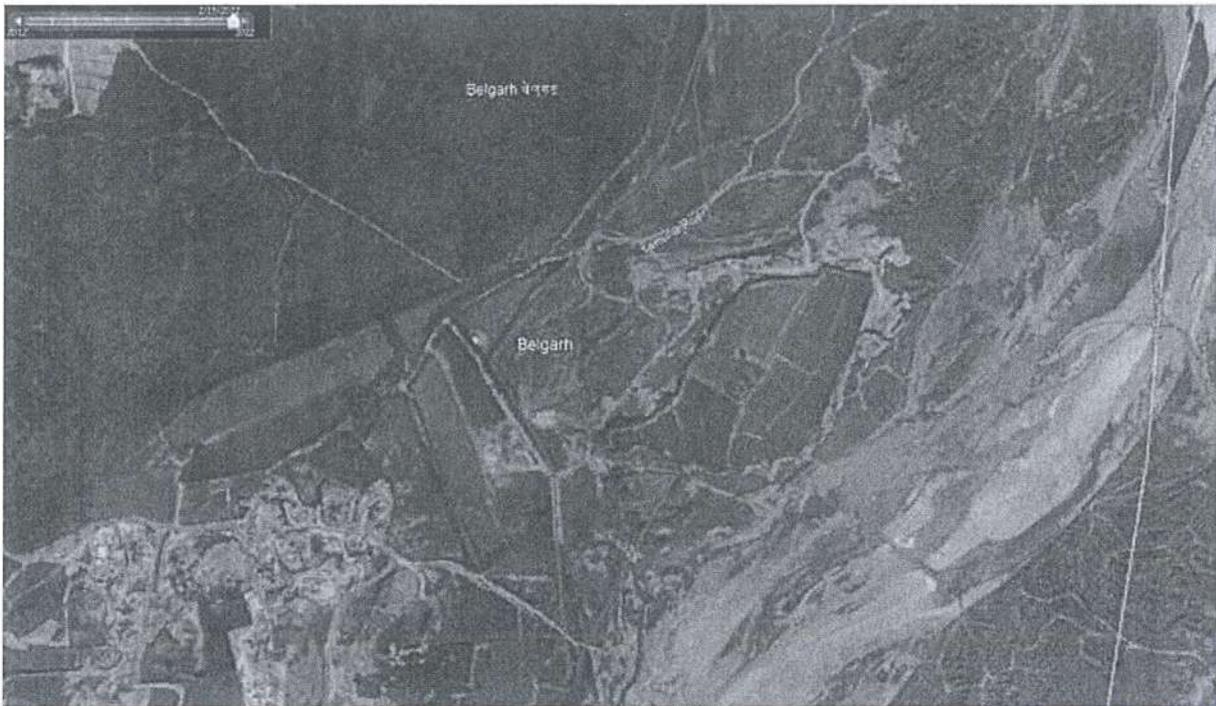
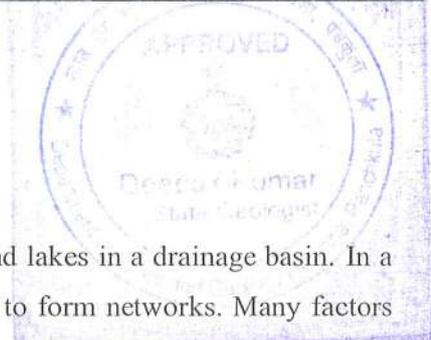


Fig3:-GoogleMap

2. DEPOSITION OF MINERALSON RIVERBED:-

Drainage system is the pattern formed by streams, rivers and lakes in a drainage basin. In a drainage system, streams or rivers always connect together to form networks. Many factors such as topography, soil type, bedrock type, climate and vegetation cover influence input, output and transport to sediment and water in a drainage basin (Charlton, 2008). These factors also influence the nature of the pattern of water bodies (Twidale, 2004). As a consequence, drainage pattern can reflect geographical characteristics of a river network to a certain extent. There are several types of drainage pattern. So far, much research has been done on the description of drainage patterns in geography and hydrology (e.g. Howard, 1967; Lambert, 1998; Twidale, 2004; Pidwirny, 2006).

In addition, sediment transport knowledge is important in river restoration, ecosystem protection, navigation, watershed studies and reservoir management. Bed load represents the



Lower portion of sediment load in natural rivers. Fluvial sediment load materials are transported by rivers. Sediment load can be divided into bed load and suspended load based on the mode of transport. Bed load is transported close to the bed where particles moved by rolling, sliding, or jumping (Adegbola, 2012). Xiaoqing (2003) explained that bed load transport in natural rivers is a complicated phenomenon. Its movement is quite uneven in both the transverse and longitudinal directions, which vary considerably.

Sediments of various sizes and in mixed form are predominantly deposited in the river bed and outside the river bed as well in the central part. There is no perfect classification between boulders, cobbles, pebbles and sand. They are deposited in a mixed state. 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 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 mineral or rock grains greater than 1/16 mm and less than 2 mm in diameter.

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.

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.

Yamunnagar district has a sub-tropical continental monsoon climate having, hot summers, cool winters, good monsoon rainfall. It has great variation in temperature (-1°C to 43°C).

Sometimes winter frost occurs during December and January. The district also receives winter rains from the western disturbance. The rainfall is mostly received in the monsoon. Morni hills constitute the highest point of the district as well as of Haryana. The Ghaggar is the only perennial river, which is very shallow outside of the monsoons. The mountains and hills of Kasauli are clearly visible from Karnal

Generally, the slope of the district is from north east to south west and in this direction, most of the rivers/streams rain-fed torrents flow down and spread much gravel and pebbles in their beds. Only the Sirsa river, in Kalka Tehsil, flows towards north-west. The soils in the district are mainly light loam.

3. FLORA AND FAUNA:

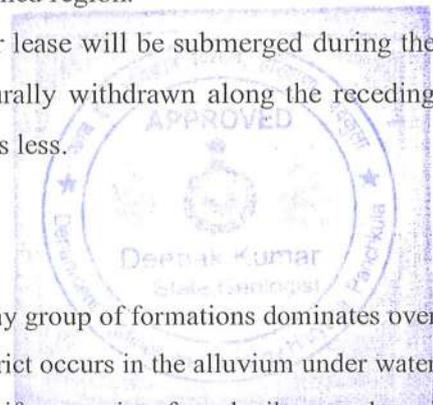
The Mining is a destructive activity generated by human being for providing strength and security to his living standard. The mining in the concerned zones provides raw materials in the form of sand, etc. for construction of roads, and other infrastructures. From the last few years the mining rate has increased several times. It results in the loss of biodiversity of both flora and fauna and physio graphic features of the concerned region.

No flora exists in the area applied. Since the partly under lease will be submerged during the monsoons. The fauna existing in the river water is naturally withdrawn along the receding waters during the times when discharge in the river bed is less.

4. HYDROGEOLOGY:-

The ground water exploration in the district reveals that clay group of formations dominates over the sand group in the district area. Ground water in the district occurs in the alluvium under water table and semi-confined to confined conditions. These aquifers consist of sand, silt, gravels and kankar associated with clay and form highly potential aquifers. In alluvium, the permeable granular zones comprise fine to medium grained sand and occasionally coarse sand and gravel. Their lateral and as well as vertical extent is extensive. In Kandi belt, which has not been explored fully boulders cobbles and pebbles, constitutes the major aquifer horizon. Siwalik Hills occupy marginal areas in the northeastern parts of the district constitute a low potential zone.

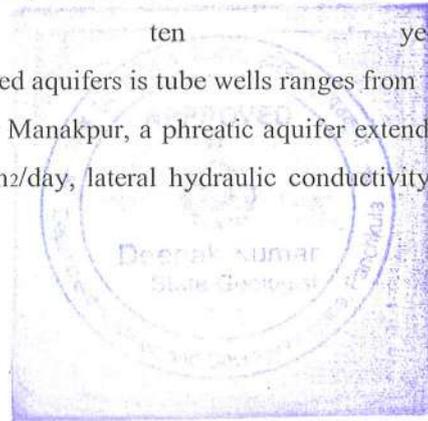
In Kandi areas, the shallow aquifers are isolated lenses embedded in clay beds whereas aquifers in alluvial areas occur on regional scale and have pinching and swelling disposition and are quite extensive in nature. These aquifers generally consists sands (fine to coarse grained) and gravels and are often intercepted by clay and kankar. These aquifers are under unconfined.



Underground water exploration programme nine exploratory wells were drilled in the district. On average 3-12 of granular zones were deciphered in the depth range down to 450 m bgl. Exploratory wells drilled in depth range of 130 and 180 m bgl yield discharge in the range of 2700 to 4900 lpm for drawdown of 6.0 m to 12.0 m and Transmissivity of aquifers range between 1500 to 4900 m²/day. The yield potentials of aquifer below 200.0m bgl are yet to be evaluated.

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 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 last ten years, majority of observation points in the district have shown declining trends ranging from 0.00013 m/yr to 0.389m/yr, however, area as not recorded any significant rise during last ten years. The discharge of the shallow tubewells tapping unconfined aquifers is tube wells ranges from 100 lpm to 500 lpm with moderate Drawdown values. Near Manakpur, a phreatic aquifer extending down to 88.0m bgl has Transmissivity value of 2500m²/day, lateral hydraulic conductivity of 31m /day, and specific yield.

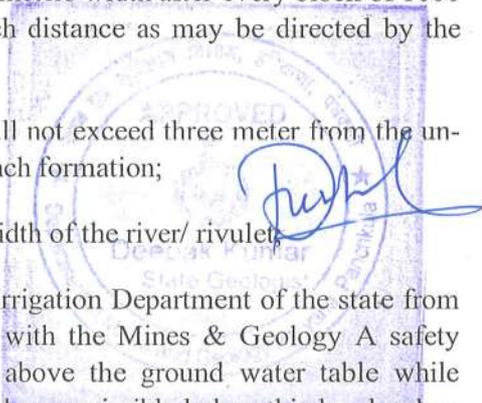


5. RESERVE CALCULATION:-

METHOD OF ESTIMATION OF RESERVE

PROVED RESERVES

- Survey was conducted in the proposed area of Yamuna River bed as per the area allocated in Belgarh North Block YNR B-1 for Boulder, gravel and sand mine (25.96 ha). District-Yamunanagar (Haryana). This is the basic document provided by the authorities. Khasra plan was provided by the applicant.
- Following special conditions which 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;
 - (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) 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.
- 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.
- A barrier of 7.5 m width will be left from the lease boundary, if falling in the river bed.



Mineral reserves are calculated up to 3 m depth from existing river bed.

All reserves are proved reserves. Details are given as below.

Methods of estimation of reserves:-

For estimating the reserve of Sand the following

Parameters are considered as follows:

1. The reserves are calculated on the basis of established width, thickness and strike length/influence of the mineralized formation in the area.
2. The entire reserves of Sand up to the depth of 3.0 m are calculated for river bed area.
3. The bulk density of Sand is considered 1.80
4. The reserves of Sand calculated by volumetric method and are summarized here below: -

Table : Geological Reserves

Sr no.	Nature of land	Lease area In ha	Total proved Geological reserves MT=Area x depth x BD (A)	Blocked area /restricted area in ha	Blocked Geological Reserves in blocked area (B)	Total Mineable reserves A-B=C	Planned production (Per Year)
1	River bed	25.96	15,57,600 MT	6.37	3,82,200 MT	11,75,400 MT	11,60,000 MT

A) PROVED RESERVES AS PER UNFC CODE (111)

Total Reserves =15, 57,600 MT

B) BLOCKED RESERVES AS PER UNFC CODE (211 & 222) =10, 77,000 MT

C MINEABLE RESERVES = A-B

11, 75,400 MT

D) TARGETED PRODUCTION

11, 60,000 MT per Year

D) Life of the 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 07 years



DETAILS OF PROPOSED PRODUCTION DURING NEXT FIVE YEARS

This is a new lease area allotted to the applicant. Future production programme has been planned as per the details given below:

Production Programmed

Lease has been allotted for a period of 07 years . Lease area consist of 25.96 ha area in Village Bailgarh North Block/YNR B-1 village (Khasra) is out of which about 6.37 hectares area is under restricted zone. About 19.59 hectare area is free from restriction and the mining is proposed in this area only.

Daily production proposed = 4296 MT /day

Production programme is 172 trips/ day @ 25 ton per trip .

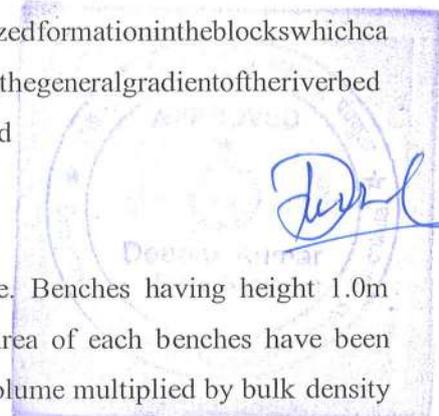
Working days have been taken as 270 days per annum.

Projected Production per Year = 11, 60,000 Tons (1.16 Million MT)

The reserves for requirement of envisaged target of annual production from the block have been estimated up to the depth of 3.0 only from the surface contours by surface area method volumetrically taking into consideration the dry bulk density of mineralized formation in the blocks which can be replenished after every consecutive monsoon period by maintaining the general gradient of the river bed and the morphological features of the river shall remain undisturbed

B. Actual Production:

Production have been calculated up to 3 m depth from surface. Benches having height 1.0m & width 6.0m drawn from the ultimate pit limit in the block. Area of each benches have been calculated multiplied by strike influence to get the volume. The volume multiplied by bulk density (2) to get the tonnage.



6. REPLENISHMENT STUDY OF MINED AREA OF YAMUNA RIVER:-

Replenishment Rate is the rate at which Boulder, Gravel and Sand is transported into the river channel, which is under examination or subjected to sand extraction. This volume is often considered as sustainable yield of that river. Estimation of sand discharge through stream bed and its residence period (temporary deposition) is one of the most difficult task in sediment budgeting.

The rate of gross or absolute silt production (erosion) in the watershed and the ability of the stream system to transport the eroded material in a river and then to a reservoir has the direct relation with the

quantity of sediment delivered into a reservoir. It has been observed that the average rate of sediment production decreases as the size of drainage area increase and the larger watershed the lesser is the variation between the rates. The larger watershed presents more opportunity for deposition of silt during its traverse from the point of production. The total amount of eroded material, which reaches a particular hydraulic control point, is termed as sediment yield. The sediment control of in flow is governed by Character of run-off; Susceptibility of soils; the extent and density of vegetative cover in the area; and the hydraulic efficiency of the drainage system.

This report quantifies the annual replenishment of bed material in the Yamuna River during periods of sediment transport at high flows within the mined area. It provides estimates of the amounts of sand which will be used in construction and for other uses.

The material occurring in the rivers and streams is produced due to disintegration of rocks by the processes of weathering. As a result the sand and other allied material get deposited seasonally in the form of sand bars, braided bars and as longitudinal grooves all along the present course and its paleochannels, which is very well exposed on the surface and the quantity remains subject to vary every year thus no specific method of exploration with respect to quantification is employed. The minerals excavated from the river bed will be replenished gradually during the monsoon season every year. In order to know the behavior of general gradient of river bed the profile was drawn.

7.0 METHODOLOGY FOR REPLENISHMENT STUDY:-

The methodology used for Replenishment study is based on the measurement of Reduced Level (RL) at selected Grids monitoring stations within the lease area in Pre-monsoon season & Post Monsoon season respectively. For the said project replenishment study has been done during the pre-monsoon (May-2022) and post-monsoon season (Oct. – 2022) for 2022 by field survey (volumetric survey) method. Firstly Volumetric Survey was done in the proposed mining blocks in pre monsoon season from where mining was done. By this method spot RL/level was marked & mapped and sections were drawn for 460 Grids monitoring locations within the mine area. After that, for post-monsoon season again spot RL/level was marked & mapped on the same location and sections were drawn. The RL (m) observed during Pre-monsoon & Post monsoon season of all 460 Grids locations are shown in Table-4

Table 4:-RL(m)Grids measurement in Pre & Post Monsoon 2022

Grid No	Post Monsoon Elevation mtr	Pre Monsoon Elevation mtr	GRID Area Sqm	Difference of Elevation (Pre & Post Monsoon)	Replenished/Mineable/ Reserve in (Ton)
1	301.59	298.59	347.64	3.00	2,085.86
2	306.51	303.51	389.82	3.00	2,338.92
3	304.52	301.52	430.95	3.00	2,585.73
4	307.66	304.66	613.45	3.00	3,680.67
5	305.95	302.95	77.50	3.00	464.97
6	308.48	305.48	499.15	3.00	2,994.90
7	308.01	305.01	625.00	3.00	3,750.00
8	303.44	300.44	363.74	3.00	2,182.42
9	308.53	305.53	567.35	3.00	3,404.07
10	306.90	303.90	625.00	3.00	3,750.00
11	301.90	298.90	603.80	3.00	3,622.80
12	302.87	300.07	57.73	2.80	323.29
13	308.22	305.42	14.61	2.80	81.81
14	308.76	305.96	620.93	2.80	3,477.22
15	304.51	301.71	625.00	2.80	3,500.00
16	303.00	300.20	625.00	2.80	3,500.00
17	303.48	300.68	334.33	2.80	1,872.22
18	308.05	305.25	78.74	2.80	440.92
19	308.07	305.27	625.00	2.80	3,500.00
20	302.12	299.32	625.00	2.80	3,500.00
21	304.30	301.50	625.00	2.80	3,500.00
22	303.02	300.22	591.25	2.80	3,311.00
23	302.22	299.42	40.87	2.80	228.87
24	308.39	305.59	146.93	2.80	822.82
25	305.92	303.12	625.00	2.80	3,500.00
26	302.45	299.65	625.00	2.80	3,500.00
27	303.73	300.93	625.00	2.80	3,500.00
28	303.27	300.27	625.00	3.00	3,750.00
29	302.57	299.57	304.92	3.00	1,829.49
30	311.19	308.19	215.13	3.00	1,290.76
31	305.40	302.40	625.00	3.00	3,750.00
32	302.99	299.99	625.00	3.00	3,750.00
33	303.55	300.55	625.00	3.00	3,750.00
34	303.37	300.37	625.00	3.00	3,750.00
35	303.87	300.87	575.80	3.00	3,454.78
36	303.43	300.43	26.91	3.00	161.48
37	308.97	305.97	283.32	3.00	1,699.93
38	302.15	299.15	625.00	3.00	3,750.00
39	303.15	300.15	625.00	3.00	3,750.00
40	302.78	299.78	625.00	3.00	3,750.00
41	302.90	299.90	625.00	3.00	3,750.00
42	303.45	300.45	625.00	3.00	3,750.00
43	302.64	299.64	275.51	3.00	1,653.03

44	305.35	302.35	351.52	3.00	2,109.11
45	300.56	297.56	625.00	3.00	3,750.00
46	302.28	299.28	625.00	3.00	3,750.00
47	302.76	299.76	625.00	3.00	3,750.00
48	302.33	299.33	625.00	3.00	3,750.00
49	301.70	298.70	625.00	3.00	3,750.00
50	301.77	298.77	557.44	3.00	3,344.63
51	302.24	299.24	15.86	3.00	95.17
52	303.76	300.76	411.59	3.00	2,469.52
53	301.65	298.65	625.00	3.00	3,750.00
54	300.82	297.82	625.00	3.00	3,750.00
55	300.87	297.87	625.00	3.00	3,750.00
56	301.17	298.17	625.00	3.00	3,750.00
57	301.57	298.57	625.00	3.00	3,750.00
58	302.06	299.06	625.00	3.00	3,750.00
59	302.77	299.77	246.10	3.00	1,476.57
60	302.52	299.52	448.11	3.00	2,688.66
61	301.81	298.81	625.00	3.00	3,750.00
62	302.21	299.21	625.00	3.00	3,750.00
63	302.37	299.37	625.00	3.00	3,750.00
64	301.82	298.82	625.00	3.00	3,750.00
65	301.48	298.48	625.00	3.00	3,750.00
66	301.88	298.88	625.00	3.00	3,750.00
67	306.38	303.38	536.18	3.00	3,217.05
68	307.66	304.66	7.72	3.00	46.29
69	302.57	299.57	483.14	3.00	2,898.86
70	301.45	298.45	625.00	3.00	3,750.00
71	302.07	299.07	625.00	3.00	3,750.00
72	301.75	298.75	625.00	3.00	3,750.00
73	301.26	298.26	625.00	3.00	3,750.00
74	301.13	298.13	625.00	3.00	3,750.00
75	304.93	301.93	625.00	3.00	3,750.00
76	304.54	301.54	435.36	3.00	2,612.18
77	304.18	301.18	99.97	3.00	599.83
78	302.11	299.11	518.18	3.00	3,109.06
79	301.25	298.25	625.00	3.00	3,750.00
80	301.97	298.97	625.00	3.00	3,750.00
81	301.20	298.20	625.00	3.00	3,750.00
82	300.74	297.74	625.00	3.00	3,750.00
83	302.17	299.17	625.00	3.00	3,750.00
84	301.99	298.99	554.30	3.00	3,325.80
85	301.72	298.72	112.73	3.00	676.40
86	301.67	298.67	240.54	3.00	1,443.24
87	301.73	298.73	17.35	3.00	104.12
88	301.16	298.16	553.21	3.00	3,319.26
89	300.17	297.17	625.00	3.00	3,750.00
90	300.95	297.95	625.00	3.00	3,750.00
91	300.51	297.51	625.00	3.00	3,750.00
92	301.58	298.58	625.00	3.00	3,750.00

93	306.28	303.28	625.00	3.00	3,750.00
94	306.03	303.03	576.87	3.00	3,461.23
95	301.88	298.88	339.18	3.00	2,035.06
96	302.33	299.33	71.27	3.00	427.61
97	302.49	299.49	179.56	3.00	1,077.35
98	300.39	297.39	588.24	3.00	3,529.45
99	299.46	296.46	625.00	3.00	3,750.00
100	299.49	296.49	625.00	3.00	3,750.00
101	300.60	297.60	625.00	3.00	3,750.00
102	304.58	301.58	625.00	3.00	3,750.00
103	306.16	303.16	625.00	3.00	3,750.00
104	301.87	298.87	257.29	3.00	1,543.76
105	302.53	299.53	256.07	3.00	1,536.41
106	301.95	298.95	97.18	3.00	583.09
107	301.67	298.67	9.08	3.00	54.50
108	306.61	303.61	32.37	3.00	194.22
109	301.30	298.30	619.72	3.00	3,718.30
110	299.56	296.56	625.00	3.00	3,750.00
111	299.45	296.45	625.00	3.00	3,750.00
112	301.06	298.06	625.00	3.00	3,750.00
113	301.92	298.92	625.00	3.00	3,750.00
114	305.82	302.82	625.00	3.00	3,750.00
115	302.61	299.61	616.07	3.00	3,696.40
116	302.10	299.10	503.62	3.00	3,021.72
117	302.59	299.59	463.74	3.00	2,782.46
118	302.67	299.67	457.67	3.00	2,746.03
119	302.97	299.97	343.88	3.00	2,063.27
120	305.23	302.23	318.18	3.00	1,909.10
121	300.14	297.14	625.00	3.00	3,750.00
122	299.12	296.12	625.00	3.00	3,750.00
123	299.91	296.91	625.00	3.00	3,750.00
124	300.86	297.86	625.00	3.00	3,750.00
125	301.14	298.14	610.02	3.00	3,660.15
126	301.17	298.17	489.10	3.00	2,934.63
127	301.72	298.72	405.23	3.00	2,431.37
128	301.46	298.46	321.35	3.00	1,928.11
129	301.99	298.99	237.47	3.00	1,424.85
130	303.72	300.72	153.60	3.00	921.58
131	303.29	300.29	66.88	3.00	401.29
132	303.98	300.98	60.54	3.00	363.25
133	302.45	299.45	597.41	3.00	3,584.44
134	300.03	297.03	625.00	3.00	3,750.00
135	298.68	295.68	625.00	3.00	3,750.00
136	299.70	296.70	625.00	3.00	3,750.00
137	302.67	299.67	605.91	3.00	3,635.45
138	303.11	300.11	179.25	3.00	1,075.53
139	301.60	298.60	372.71	3.00	2,236.28
140	300.78	297.78	625.00	3.00	3,750.00
141	298.59	295.59	625.00	3.00	3,750.00

142	299.01	296.01	625.00	3.00	3,750.00
143	299.39	296.39	621.33	3.00	3,727.98
144	303.90	300.90	177.99	3.00	1,067.94
145	301.28	298.28	98.60	3.00	591.60
146	300.05	297.05	615.01	3.00	3,690.04
147	299.62	296.62	625.00	3.00	3,750.00
148	298.98	295.98	625.00	3.00	3,750.00
149	299.83	296.83	625.00	3.00	3,750.00
150	299.32	296.32	592.89	3.00	3,557.35
151	299.79	296.79	243.28	3.00	1,459.70
152	300.05	297.05	0.82	3.00	4.95
153	299.78	296.78	5.22	3.00	31.30
154	298.84	295.84	475.82	3.00	2,854.92
155	299.01	296.01	625.00	3.00	3,750.00
156	299.32	296.32	625.00	3.00	3,750.00
157	298.79	295.79	625.00	3.00	3,750.00
158	299.02	296.02	625.00	3.00	3,750.00
159	299.14	296.14	577.06	3.00	3,462.38
160	300.35	297.35	258.44	3.00	1,550.67
161	299.41	296.41	329.60	3.00	1,977.62
162	299.89	296.89	0.01	3.00	0.04
163	298.63	295.63	276.41	3.00	1,658.44
164	298.70	295.70	625.00	3.00	3,750.00
165	298.55	295.55	625.00	3.00	3,750.00
166	299.08	296.08	625.00	3.00	3,750.00
167	298.92	296.02	625.00	2.90	3,625.00
168	298.28	295.38	625.00	2.90	3,625.00
169	299.33	296.43	625.00	2.90	3,625.00
170	300.12	297.22	618.27	2.90	3,585.98
171	298.64	295.74	625.00	2.90	3,625.00
172	299.09	296.19	301.11	2.90	1,746.45
173	302.08	299.18	94.56	2.90	548.47
174	298.47	295.57	602.21	2.90	3,492.85
175	298.91	296.01	625.00	2.90	3,625.00
176	298.88	295.98	625.00	2.90	3,625.00
177	299.02	296.12	625.00	2.90	3,625.00
178	298.76	295.86	625.00	2.90	3,625.00
179	298.42	295.52	625.00	2.90	3,625.00
180	298.97	296.07	625.00	2.90	3,625.00
181	301.40	298.50	625.00	2.90	3,625.00
182	299.57	296.67	625.00	2.90	3,625.00
183	299.34	296.44	624.45	2.90	3,621.80
184	299.30	296.40	273.16	2.90	1,584.35
185	296.90	294.00	7.11	2.90	41.26
186	298.01	295.11	485.04	2.90	2,813.21
187	297.59	294.69	625.00	2.90	3,625.00
188	298.17	295.27	625.00	2.90	3,625.00
189	299.17	296.27	625.00	2.90	3,625.00
190	298.81	295.91	625.00	2.90	3,625.00

191	297.92	295.02	625.00	2.90	3,625.00
192	298.43	295.53	625.00	2.90	3,625.00
193	298.78	295.88	625.00	2.90	3,625.00
194	300.00	297.10	625.00	2.90	3,625.00
195	299.38	296.48	625.00	2.90	3,625.00
196	299.07	296.17	625.00	2.90	3,625.00
197	299.12	296.22	622.54	2.90	3,610.75
198	299.42	296.52	246.57	2.90	1,430.11
199	295.37	292.47	287.52	2.90	1,667.62
200	296.67	293.77	625.00	2.90	3,625.00
201	297.81	294.91	625.00	2.90	3,625.00
202	297.53	294.63	625.00	2.90	3,625.00
203	298.94	296.04	625.00	2.90	3,625.00
204	297.97	295.07	625.00	2.90	3,625.00
205	297.83	294.93	625.00	2.90	3,625.00
206	298.41	295.51	625.00	2.90	3,625.00
207	299.74	296.84	625.00	2.90	3,625.00
208	298.84	295.94	625.00	2.90	3,625.00
209	298.36	295.46	625.00	2.90	3,625.00
210	298.64	295.74	625.00	2.90	3,625.00
211	299.05	296.15	625.00	2.90	3,625.00
212	299.42	296.52	619.28	2.90	3,591.80
213	299.62	296.72	54.16	2.90	314.15
214	298.31	295.41	491.52	2.90	2,850.84
215	296.03	293.13	625.00	2.90	3,625.00
216	296.24	293.34	625.00	2.90	3,625.00
217	296.99	294.09	625.00	2.90	3,625.00
218	298.15	295.25	625.00	2.90	3,625.00
219	297.75	294.85	625.00	2.90	3,625.00
220	298.35	295.45	625.00	2.90	3,625.00
221	298.01	295.11	625.00	2.90	3,625.00
222	298.91	296.01	625.00	2.90	3,625.00
223	298.26	295.36	625.00	2.90	3,625.00
224	298.34	295.44	625.00	2.90	3,625.00
225	298.73	295.83	625.00	2.90	3,625.00
226	298.87	295.97	625.00	2.90	3,625.00
227	299.35	296.45	625.00	2.90	3,625.00
228	299.77	296.87	146.51	2.90	849.77
229	297.94	295.04	94.10	2.90	545.81
230	294.85	291.95	593.33	2.90	3,441.33
231	295.03	292.13	625.00	2.90	3,625.00
232	295.84	292.94	625.00	2.90	3,625.00
233	297.09	294.19	625.00	2.90	3,625.00
234	297.38	294.48	625.00	2.90	3,625.00
235	298.29	295.39	625.00	2.90	3,625.00
236	297.62	294.72	625.00	2.90	3,625.00
237	299.40	296.50	625.00	2.90	3,625.00
238	298.66	295.76	625.00	2.90	3,625.00
239	298.02	295.12	625.00	2.90	3,625.00

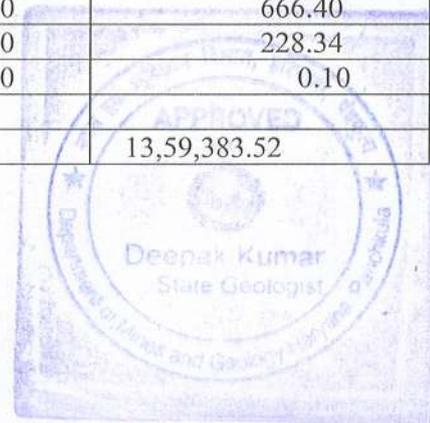
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241	298.56	295.66	625.00	2.90	3,625.00
242	299.00	296.10	625.00	2.90	3,625.00
243	299.65	296.75	235.59	2.90	1,366.43
244	295.56	292.66	217.86	2.90	1,263.58
245	295.14	292.24	624.68	2.90	3,623.13
246	295.23	292.33	625.00	2.90	3,625.00
247	296.63	293.73	625.00	2.90	3,625.00
248	297.01	294.11	625.00	2.90	3,625.00
249	297.32	294.42	625.00	2.90	3,625.00
250	296.90	294.00	625.00	2.90	3,625.00
251	298.35	295.45	625.00	2.90	3,625.00
252	299.48	296.48	625.00	3.00	3,750.00
253	298.61	295.61	625.00	3.00	3,750.00
254	298.52	295.52	625.00	3.00	3,750.00
255	298.36	295.36	625.00	3.00	3,750.00
256	298.99	295.99	625.00	3.00	3,750.00
257	298.77	295.77	324.67	3.00	1,948.02
258	296.34	293.34	372.63	3.00	2,235.80
259	295.18	292.18	625.00	3.00	3,750.00
260	296.22	293.22	625.00	3.00	3,750.00
261	297.72	294.72	625.00	3.00	3,750.00
262	296.71	293.71	625.00	3.00	3,750.00
263	296.13	293.13	625.00	3.00	3,750.00
264	296.90	293.90	625.00	3.00	3,750.00
265	297.60	294.60	507.14	3.00	3,042.82
266	298.98	295.98	623.52	3.00	3,741.10
267	299.33	296.33	625.00	3.00	3,750.00
268	298.50	295.50	625.00	3.00	3,750.00
269	298.52	295.52	625.00	3.00	3,750.00
270	298.58	295.58	413.75	3.00	2,482.50
271	299.08	296.08	20.17	3.00	121.02
272	298.76	295.76	507.56	3.00	3,045.36
273	296.42	293.42	625.00	3.00	3,750.00
274	296.44	293.44	561.97	3.00	3,371.81
275	296.31	293.31	553.39	3.00	3,320.32
276	296.38	293.38	625.00	3.00	3,750.00
277	297.38	294.38	625.00	3.00	3,750.00
278	296.91	293.91	371.35	3.00	2,228.11
279	297.26	294.26	362.38	3.00	2,174.27
280	298.48	295.48	625.00	3.00	3,750.00
281	298.52	295.52	625.00	3.00	3,750.00
282	297.88	294.88	625.00	3.00	3,750.00
283	297.87	294.87	502.83	3.00	3,016.97
284	299.14	296.14	91.21	3.00	547.26
285	297.86	294.86	591.62	3.00	3,549.71
286	296.14	293.14	625.00	3.00	3,750.00
287	296.05	293.05	304.73	3.00	1,828.37
288	296.44	293.44	319.26	3.00	1,915.56

289	296.64	293.64	624.22	3.00	3,745.33
290	295.82	292.82	295.68	3.00	1,774.09
291	296.66	293.66	212.91	3.00	1,277.48
292	296.68	293.68	516.99	3.00	3,101.93
293	298.67	295.67	625.00	3.00	3,750.00
294	298.56	295.56	625.00	3.00	3,750.00
295	298.85	295.85	591.17	3.00	3,547.04
296	297.27	294.27	0.74	3.00	4.41
297	297.18	294.18	213.44	3.00	1,280.65
298	297.65	294.65	624.48	3.00	3,746.90
299	295.51	292.51	455.42	3.00	2,732.53
300	295.96	292.96	404.34	3.00	2,426.06
301	297.10	294.10	573.23	3.00	3,439.41
302	296.90	293.90	449.51	3.00	2,697.06
303	296.65	293.65	411.34	3.00	2,468.05
304	297.46	294.46	455.65	3.00	2,733.89
305	297.76	294.76	625.00	3.00	3,750.00
306	298.13	295.13	625.00	3.00	3,750.00
307	298.28	295.28	625.00	3.00	3,750.00
308	296.72	293.72	55.99	3.00	335.92
309	298.65	295.65	368.02	3.00	2,208.14
310	296.08	293.08	588.58	3.00	3,531.46
311	296.17	293.17	405.71	3.00	2,434.23
312	297.67	294.67	625.00	3.00	3,750.00
313	297.28	294.28	625.00	3.00	3,750.00
314	296.24	293.24	625.00	3.00	3,750.00
315	296.18	293.18	625.00	3.00	3,750.00
316	296.52	293.52	625.00	3.00	3,750.00
317	296.83	293.83	625.00	3.00	3,750.00
318	296.33	293.33	625.00	3.00	3,750.00
319	296.33	293.33	145.07	3.00	870.40
320	300.19	297.19	18.84	3.00	113.05
321	298.61	295.61	500.18	3.00	3,001.05
322	297.57	294.57	551.28	3.00	3,307.68
323	297.85	294.85	625.00	3.00	3,750.00
324	296.05	293.05	625.00	3.00	3,750.00
325	296.17	293.17	625.00	3.00	3,750.00
326	296.93	293.93	625.00	3.00	3,750.00
327	295.73	292.73	625.00	3.00	3,750.00
328	294.94	291.94	625.00	3.00	3,750.00
329	295.29	292.29	625.00	3.00	3,750.00
330	296.03	293.03	429.05	3.00	2,574.30
331	296.80	293.80	152.19	3.00	913.13
332	297.73	294.73	4.46	3.00	26.75
333	303.18	300.18	88.36	3.00	530.16
334	300.82	297.82	589.86	3.00	3,539.15
335	298.90	295.90	625.00	3.00	3,750.00
336	295.10	292.10	565.80	3.00	3,394.77
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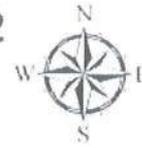
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340	294.32	291.32	625.00	3.00	3,750.00
341	294.56	291.56	625.00	3.00	3,750.00
342	297.59	294.59	625.00	3.00	3,750.00
343	295.51	292.51	625.00	3.00	3,750.00
344	294.79	291.79	556.23	3.00	3,337.37
345	294.94	291.94	344.19	3.00	2,065.11
346	295.65	292.65	112.52	3.00	675.15
347	301.52	298.52	209.07	3.00	1,254.42
348	299.87	296.87	624.25	3.00	3,745.47
349	297.79	294.79	568.32	3.00	3,409.93
350	295.70	292.70	619.98	3.00	3,719.88
351	295.50	292.50	622.30	3.00	3,733.78
352	298.42	295.42	625.00	3.00	3,750.00
353	299.17	296.17	625.00	3.00	3,750.00
354	299.91	296.91	625.00	3.00	3,750.00
355	299.11	296.11	625.00	3.00	3,750.00
356	294.51	291.51	625.00	3.00	3,750.00
357	296.82	293.82	625.00	3.00	3,750.00
358	295.19	292.19	625.00	3.00	3,750.00
359	297.00	294.00	386.99	3.00	2,321.95
360	300.24	297.24	363.41	3.00	2,180.48
361	299.12	296.12	625.00	3.00	3,750.00
362	299.03	296.03	625.00	3.00	3,750.00
363	299.44	296.44	625.00	3.00	3,750.00
364	299.91	296.91	625.00	3.00	3,750.00
365	300.24	297.24	625.00	3.00	3,750.00
366	300.36	297.36	625.00	3.00	3,750.00
367	300.75	297.75	625.00	3.00	3,750.00
368	300.55	297.55	625.00	3.00	3,750.00
369	300.03	297.03	625.00	3.00	3,750.00
370	299.98	296.98	625.00	3.00	3,750.00
371	299.80	296.80	292.28	3.00	1,753.70
372	301.94	298.94	17.56	3.00	105.36
373	300.25	297.25	500.95	3.00	3,005.71
374	298.83	295.83	625.00	3.00	3,750.00
375	300.01	297.01	625.00	3.00	3,750.00
376	300.11	297.11	625.00	3.00	3,750.00
377	300.06	297.06	625.00	3.00	3,750.00
378	300.63	297.63	625.00	3.00	3,750.00
379	300.48	297.48	625.00	3.00	3,750.00
380	300.22	297.22	625.00	3.00	3,750.00
381	299.98	296.98	625.00	3.00	3,750.00
382	299.83	296.83	625.00	3.00	3,750.00
383	299.76	296.76	197.57	3.00	1,185.45
384	302.81	299.81	74.01	3.00	444.08
385	299.59	296.59	558.53	3.00	3,351.17
386	299.62	296.62	625.00	3.00	3,750.00

387	300.02	297.02	625.00	3.00	3,750.00
388	299.82	296.82	625.00	3.00	3,750.00
389	300.38	297.38	625.00	3.00	3,750.00
390	300.51	297.51	625.00	3.00	3,750.00
391	300.35	297.35	625.00	3.00	3,750.00
392	300.28	297.28	625.00	3.00	3,750.00
393	299.93	296.93	625.00	3.00	3,750.00
394	300.07	297.07	102.87	3.00	617.20
395	300.94	297.94	109.99	3.00	659.93
396	299.40	296.40	585.60	3.00	3,513.60
397	298.57	295.57	625.00	3.00	3,750.00
398	299.52	296.52	625.00	3.00	3,750.00
399	299.88	296.88	625.00	3.00	3,750.00
400	300.06	297.06	625.00	3.00	3,750.00
401	300.38	297.38	625.00	3.00	3,750.00
402	300.37	297.37	625.00	3.00	3,750.00
403	299.50	296.50	616.89	3.00	3,701.34
404	298.84	295.84	16.27	3.00	97.62
405	300.08	297.08	152.86	3.00	917.16
406	298.51	295.51	605.63	3.00	3,633.79
407	298.47	295.47	625.00	3.00	3,750.00
408	299.04	296.04	625.00	3.00	3,750.00
409	299.39	296.39	625.00	3.00	3,750.00
410	299.92	296.92	625.00	3.00	3,750.00
411	300.53	297.53	625.00	3.00	3,750.00
412	300.27	297.27	538.45	3.00	3,230.70
413	299.36	296.36	202.77	3.00	1,216.61
414	298.18	295.18	618.63	3.00	3,711.75
415	297.46	294.46	625.00	3.00	3,750.00
416	298.27	295.27	625.00	3.00	3,750.00
417	298.52	295.52	625.00	3.00	3,750.00
418	299.54	296.54	625.00	3.00	3,750.00
419	299.82	296.82	443.74	3.00	2,662.45
420	299.68	296.68	259.72	3.00	1,558.31
421	298.34	295.34	624.58	3.00	3,747.47
422	297.48	294.48	625.00	3.00	3,750.00
423	297.43	294.43	625.00	3.00	3,750.00
424	298.00	295.00	625.00	3.00	3,750.00
425	298.27	295.27	349.03	3.00	2,094.20
426	300.09	297.09	337.31	3.00	2,023.85
427	298.52	295.52	625.00	3.00	3,750.00
428	297.70	294.70	625.00	3.00	3,750.00
429	297.88	294.98	625.00	2.90	3,625.00
430	297.56	294.66	254.33	2.90	1,475.09
431	301.17	298.27	48.24	2.90	279.77
432	300.87	297.97	613.44	2.90	3,557.95
433	298.32	295.42	625.00	2.90	3,625.00
434	298.29	295.39	625.00	2.90	3,625.00
435	298.13	295.23	159.62	2.90	925.78

436	301.44	298.54	447.62	2.90	2,596.19
437	300.77	297.87	625.00	2.90	3,625.00
438	299.45	296.55	625.00	2.90	3,625.00
439	298.78	295.88	64.91	2.90	376.48
440	301.06	298.16	233.56	2.90	1,354.67
441	301.58	298.68	625.00	2.90	3,625.00
442	300.39	297.49	593.57	2.90	3,442.73
443	299.09	296.19	1.63	2.90	9.44
444	302.15	299.25	37.40	2.90	216.92
445	301.79	298.89	607.11	2.90	3,521.22
446	301.50	298.60	500.49	2.90	2,902.86
447	302.55	299.65	430.45	2.90	2,496.62
448	304.47	301.57	405.79	2.90	2,353.55
449	302.30	299.40	216.39	2.90	1,255.09
450	303.22	300.32	325.38	2.90	1,887.20
451	302.39	299.49	27.94	2.90	162.05
452	302.95	300.05	389.07	2.90	2,256.60
453	302.53	299.63	341.48	2.90	1,980.58
454	304.10	301.20	199.20	2.90	1,155.38
455	304.98	302.08	66.75	2.90	387.14
456	311.26	308.36	19.86	2.90	115.16
457	305.86	302.96	170.57	2.90	989.30
458	304.62	301.72	114.90	2.90	666.40
459	301.32	298.42	39.37	2.90	228.34
460	298.83	295.93	0.02	2.90	0.10
			2,28,953.74		
Total Replenished /Available Quantity (Tonn)					13,59,383.52



Grid Pattern:25m*25m Map October 2022



Devi

S.N.	Latitude N	Longitude E
A	30° 14' 06.4034" N	77° 30' 48.6734" E
B	30° 13' 56.1240" N	77° 30' 42.6770" E
C	30° 13' 56.1670" N	77° 30' 41.8640" E
D	30° 14' 04.5000" N	77° 30' 41.0000" E
E	30° 14' 09.5998" N	77° 30' 40.8000" E
F	30° 14' 11.1000" N	77° 30' 38.7000" E
G	30° 14' 17.6000" N	77° 30' 35.4000" E
H	30° 14' 27.8000" N	77° 30' 44.6000" E
I	30° 14' 32.3000" N	77° 30' 49.5000" E
L	30° 14' 42.3000" N	77° 30' 53.6000" E
N	30° 14' 37.1000" N	77° 30' 52.2000" E
O	30° 14' 25.0000" N	77° 30' 54.0000" E
P	30° 14' 23.9000" N	77° 30' 49.9000" E
Q	30° 14' 16.5000" N	77° 30' 48.5000" E
R	30° 14' 12.2000" N	77° 30' 43.6000" E
S	30° 14' 10.6000" N	77° 30' 45.4000" E
T	30° 14' 09.8090" N	77° 30' 51.0000" E

Legend

-  Contour
-  Bailgarh Water
-  Bailgarh Sand
-  Bailgarh Boundary



Fig 4: Grid Map

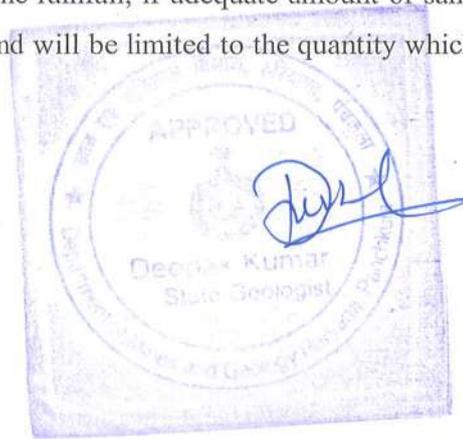
7. CONCLUSION:

From the findings received from the RL (m) variation in Pre & post monsoon seasons of all 1460

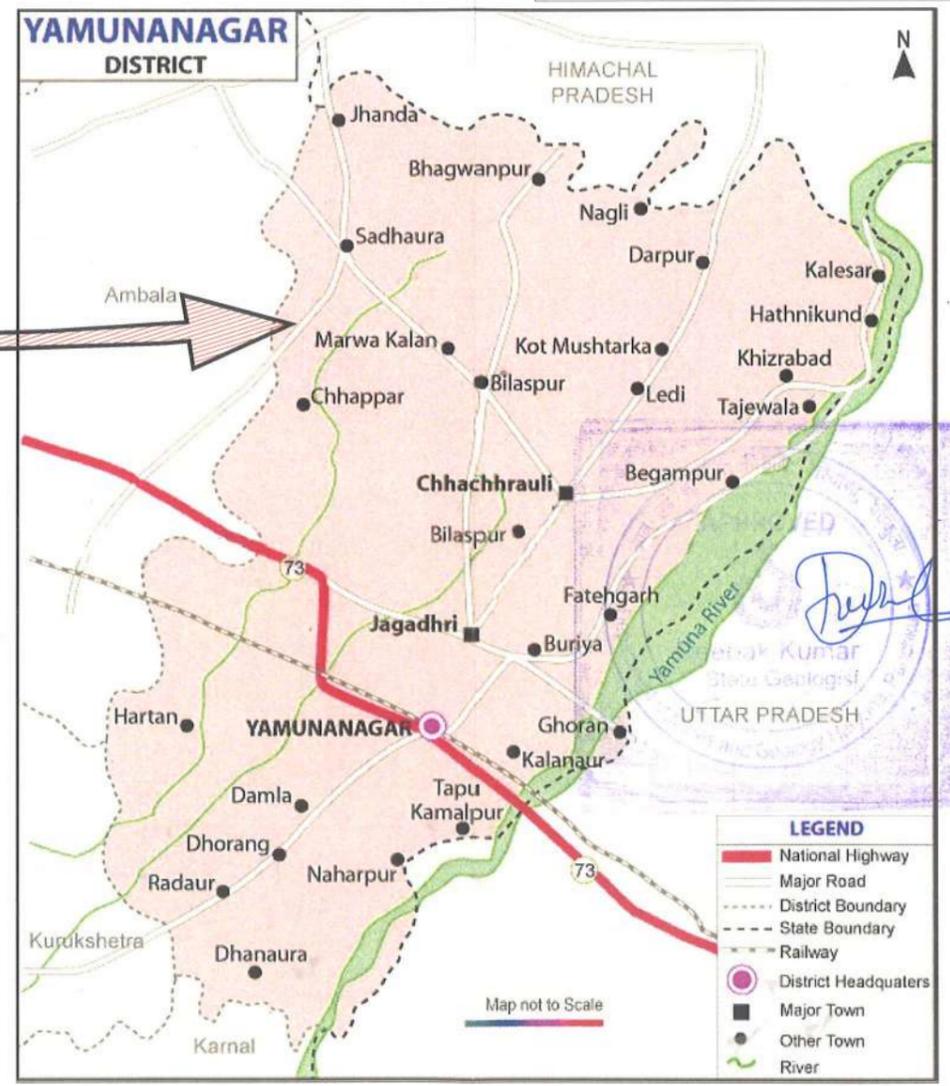
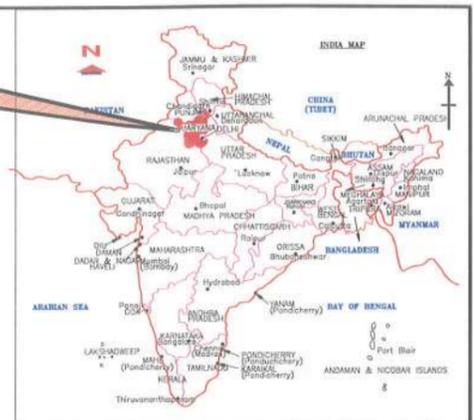
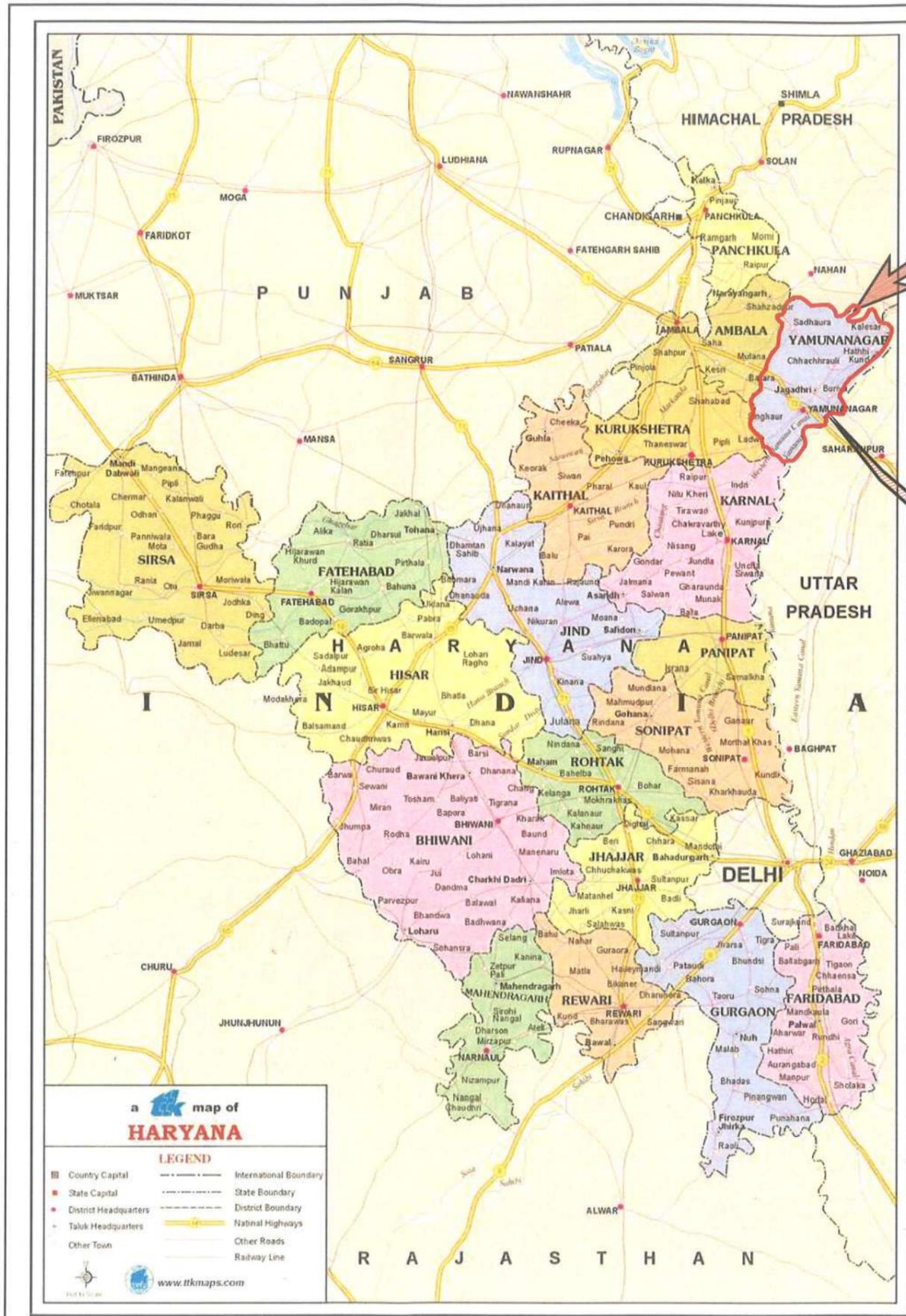
Grid monitoring stations within lease area and the actual production details of 2022, it has been observed that the replenished quantity of the sand for River Bed is higher than the quantity mined out from the mine area in year 2022. This replenishment study shows, the rate of replenishment was more than 100 % as per the actual production. It means minable reserve of Yamuna River Bed is almost remains same as calculated before starting of the mining.

Amount of sand deposited is **13,59,383.52** Tonn i.e. replenishment has been done.

In the applied lease area a replenishment depends upon the rainfall, if adequate amount of sand will not replenish during monsoon then excavation of sand will be limited to the quantity which will be equivalent to the replenished material.







a map of HARYANA

LEGEND

- Country Capital
- State Capital
- District Headquarters
- Taluk Headquarters
- Other Town
- International Boundary
- State Boundary
- District Boundary
- National Highways
- Other Roads
- Railway Line

www.tkmmaps.com

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PROJECT SITE

PLATE NO. 1

BAILGARH NORTH BLOCK / YNR B-1 BOULDER, GRAVEL AND SAND MINE

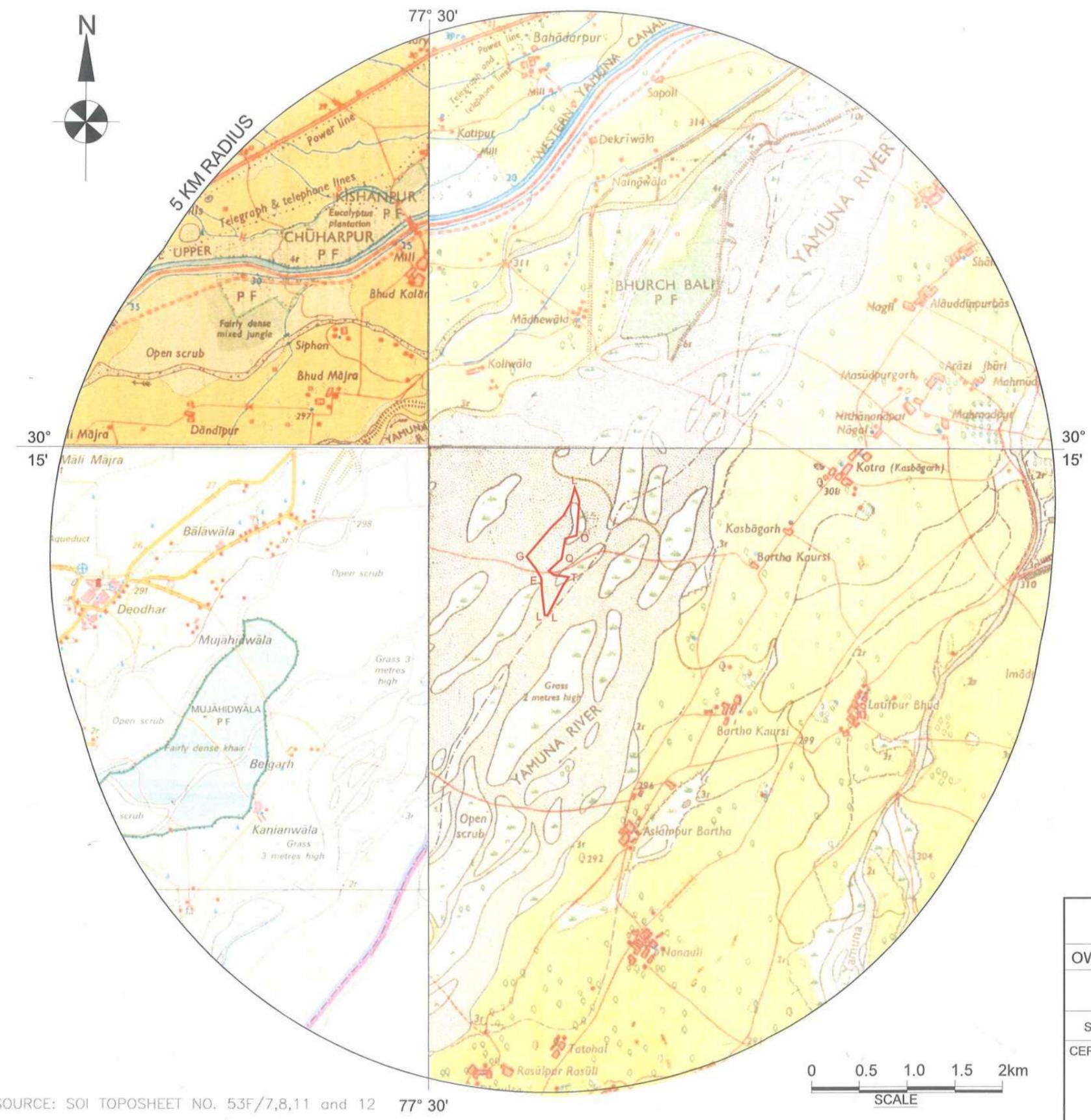
OWNER :- M/S MAA VAISHNO MINEARLS, KARNAL

LOCATION MAP

SCALE: NTS

CERTIFIED TO BE CORRECT

Dul Chand Yadav
DMG/HRY/RQP/2018/03



INDEX

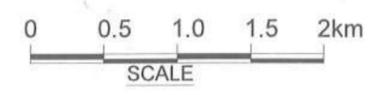
ROADS METALLED/UNMETALLED	
CART TRACK/PACK TRACK/FOOT PATH	
STATE BOUNDARY/DISTT. BOUNDARY	
CONTOURS	
STREAMS/CANALS/NATURAL DRAIN	
BROKEN GROUNDS	
TOWN OR VILLAGE	
TUBEWELL/TANKS/PERENNIAL/DRY	
TEMPLE	
TREES	
BOUNDARY PILLARS SURVEYED/UNLOCATED	
VILLAGE TRIJUNCTION	
WELLS LINED/UNLINED	
HUTS PERMANENT/TEMPORARY	
HEIGHTS TRIANGULATED/STATION POINT (E.L)	
BENCH MARK/GEODETIC/TERTIARY	
POWER LINE & TELEPHONE LINE	
CONTOUR INTERVAL	10 mtr
LEASE BOUNDARY	
HILLY TERRAIN/WESTE LAND	
OPEN SCRUB/GRAZING LAND	
AGRICULTURAL LAND	

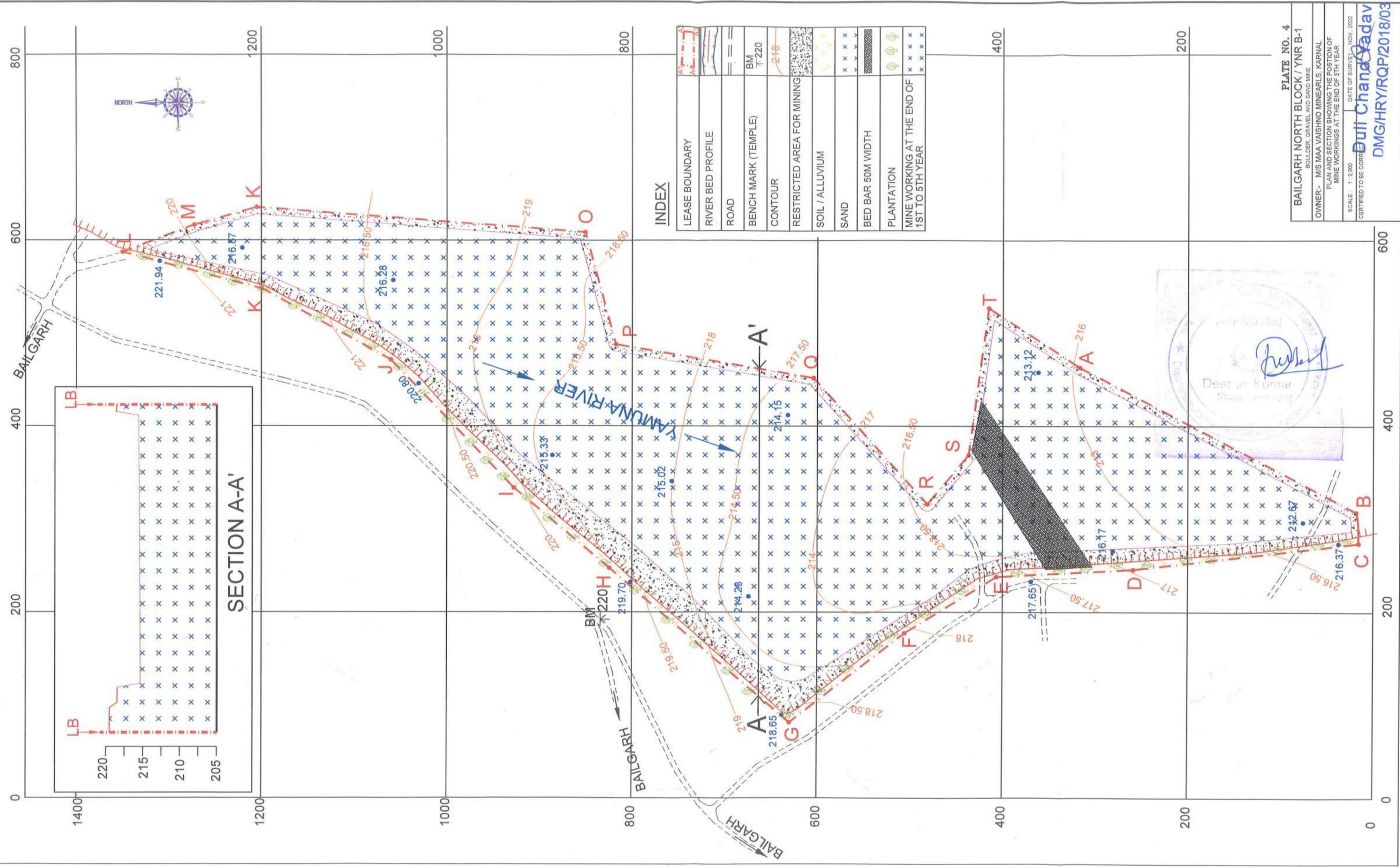


PLATE NO. 2

BAILGARH NORTH BLOCK / YNR B-1	
BOULDER, GRAVEL AND SAND MINE	
OWNER:- M/S MAA VAISHNO MINEARLS, KARNAL	
KEY PLAN 5KM RADIUS	
SCALE : 1 : 50,000	DATE OF SURVEY : NOV., 2022
CERTIFIED TO BE CORRECT	
Duli Chand Yadav DMG/HRY/RQP/2018/03	

SOURCE: SOI TOPOSHEET NO. 53F/7,8,11 and 12 77° 30'





INDEX

LEASE BOUNDARY	
RIVER BED PROFILE	
ROAD	
BENCH MARK (TEMPLE)	BM ↑ 220
CONTOUR	218
RESTRICTED AREA FOR MINING	
SOIL / ALLUVIUM	
SAND	
BED BAR 50M WIDTH	
PLANTATION	
MINE WORKING AT THE END OF 1ST TO 5TH YEAR	

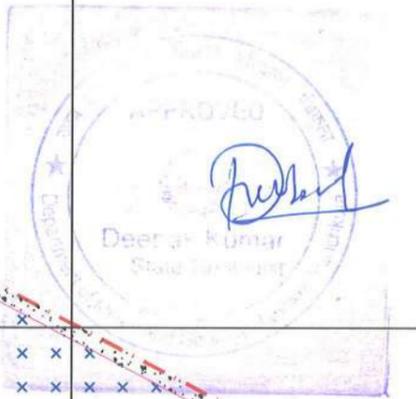
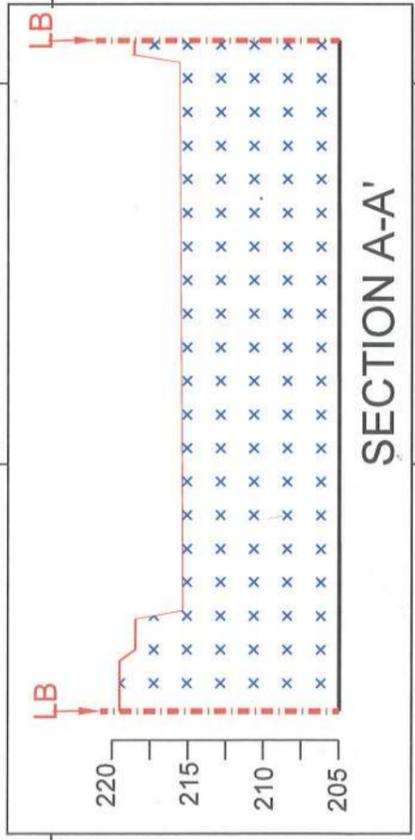
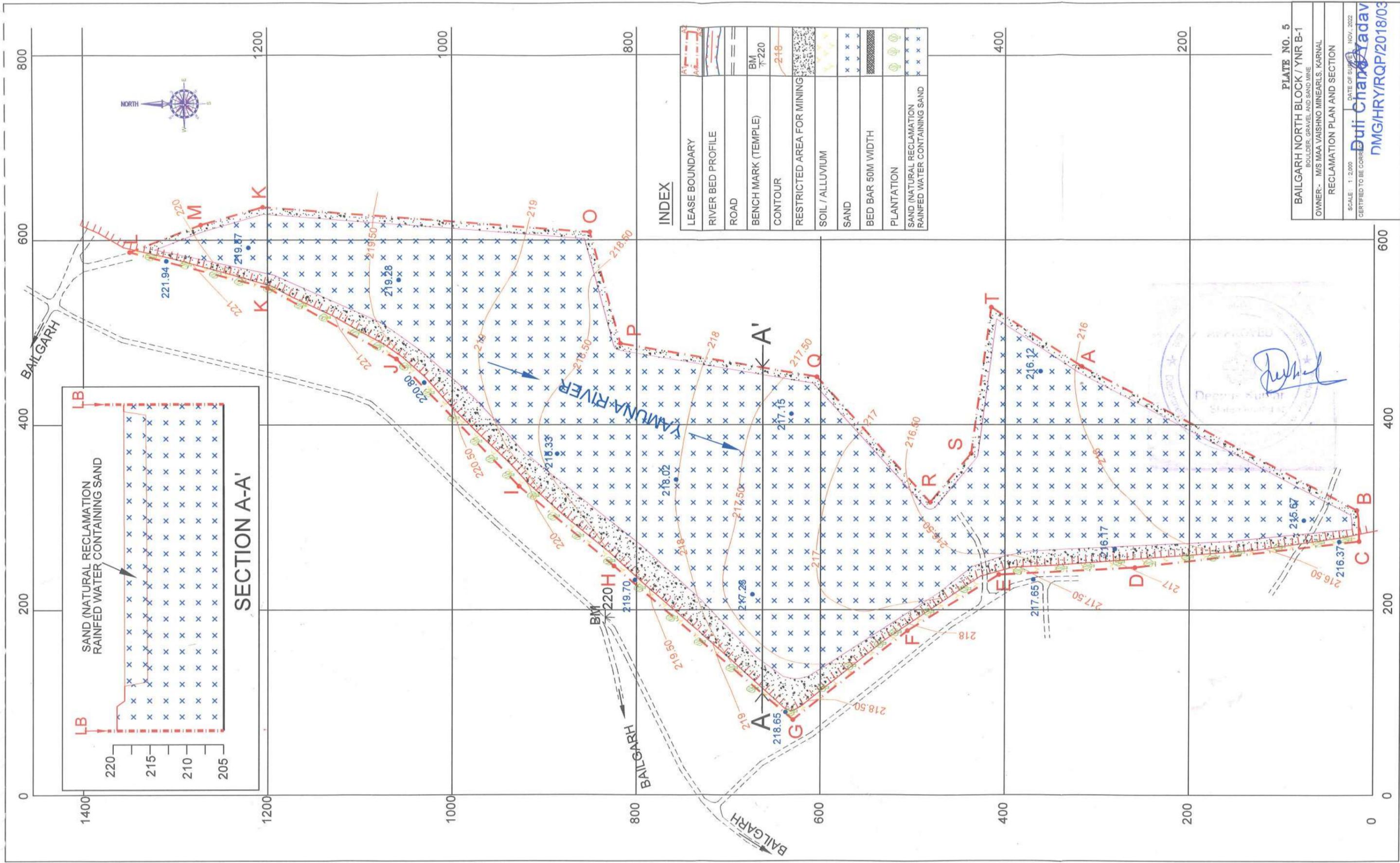


PLATE NO. 4
 BAILGARH NORTH BLOCK / YNR B-1
 BOULDER GRAVEL AND SAND MINE
 OWNER:- M/S MAA VAISHNO MINERALS, KARNAL
 PLAN AND SECTION SHOWING THE POSITION OF MINE WORKINGS AT THE END OF 5TH YEAR
 SCALE: 1 : 2,000
 DATE OF SURVEY: NOV. 2022
 CERTIFIED TO BE CORRECT
Dulji Chand Paday
 DMG/HRY/RQP/2018/03

SECTION A-A'





INDEX

	LEASE BOUNDARY
	RIVER BED PROFILE
	ROAD
	BENCH MARK (TEMPLE)
	CONTOUR
	RESTRICTED AREA FOR MINING
	SOIL / ALLUVIUM
	SAND
	BED BAR 50M WIDTH
	PLANTATION
	SAND (NATURAL RECLAMATION)
	RAINFED WATER CONTAINING SAND

PLATE NO. 5

BAILGARH NORTH BLOCK / YNR B-1
BOULDER, GRAVEL AND SAND MINE

OWNER:- M/S MAA VAISHNO MINERALS, KARNAL

RECLAMATION PLAN AND SECTION

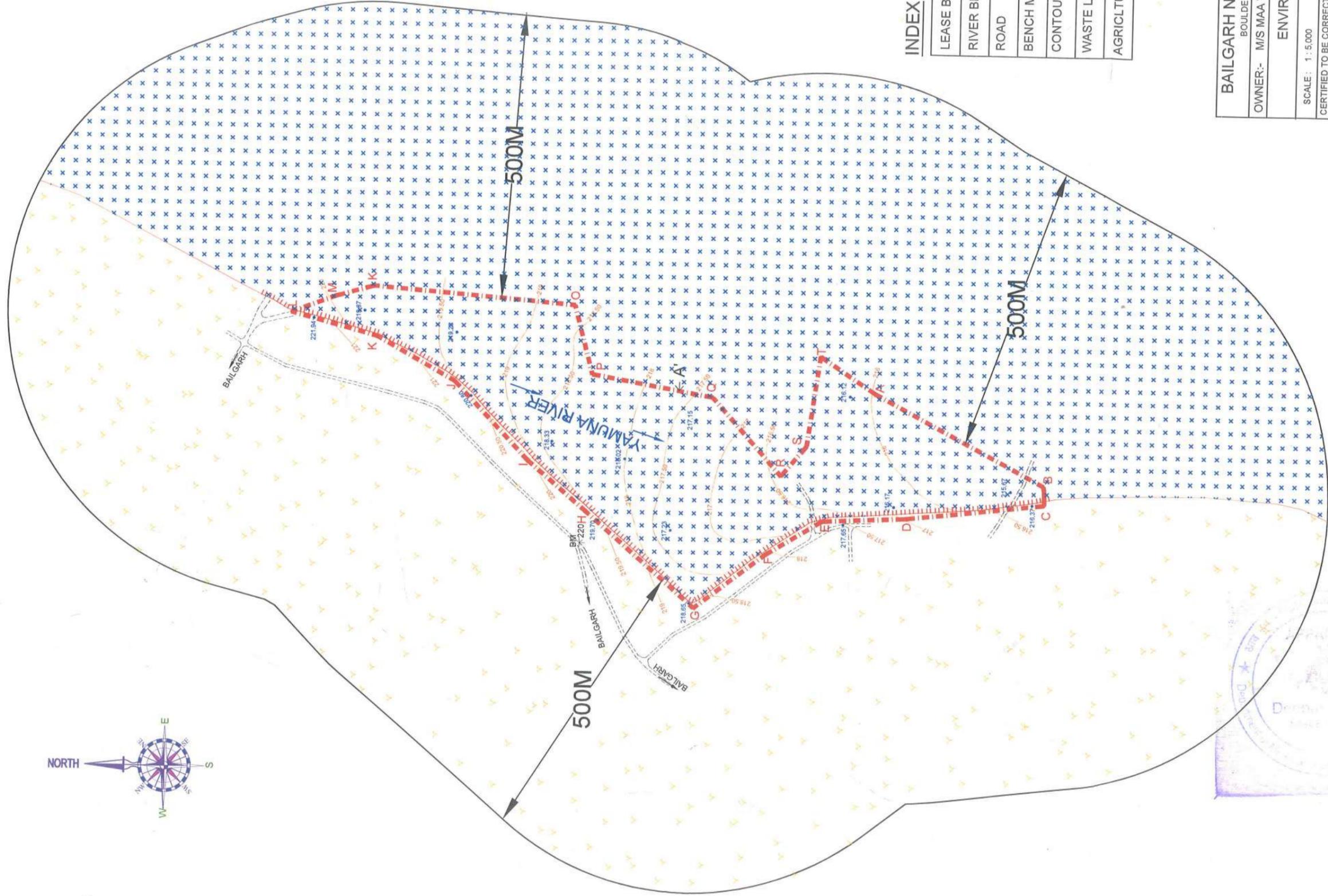
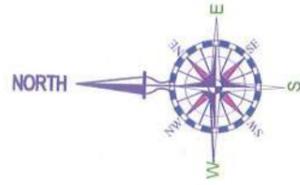
SCALE: 1:2000

DATE OF SURVEY: NOV, 2022

CERTIFIED TO BE CORRECT

D. Chandra Prasad

DMG/HRY/RQP/2018/03



INDEX

LEASE BOUNDARY	
RIVER BED PROFILE	
ROAD	
BENCH MARK (TEMPLE)	
CONTOUR	
WASTE LAND	
AGRICULTURE LAND	

PLATE NO. 6

BAILGARH NORTH BLOCK / YNR B-1
BOULDER, GRAVEL AND SAND MINE

OWNER:- M/S MAA VAISHNO MINEARLS, KARNAL

ENVIRONMENTAL PLAN

SCALE: 1 : 5,000

DATE OF SURVEY: NOV., 2022

CERTIFIED TO BE CORRECT



Duli Chand Padav
DMG/HRY/RQP/2018/03

ANN. R-8/10

From Mining Officer,
Mines & Geology Deptt.,
Yamunanagar.

To Director General,
Mines & Geology Deptt.,
Haryana, Panchkula.

Memo No. MO/YNR/2530

Dated: 17.11.20

Subject: Objection in the District Survey Report- Yamunanagar.

On the subject noted above.

2. In this regard, it is submitted that as per the guidelines of MOEF&CC, Government of India of 2016 and in reference to the W/ Chief Secretary to Government of Haryana letter memo no.5733 dated 09.12.2020 the District Survey Report (DSR) shall be updated once every five years of areas selected for grant of mineral concessions for mining of minor minerals in the state. In this regard a committee was constituted by the W/ Chief Secretary of Haryana of the following officers:

Sr. No.	Officers and Department	Designation
1.	Additional Deputy Commissioner	Chairperson
2.	Divisional Forest Officer	Member
3.	Regional Officer HSPCB	Member
4.	Executive Engineer, Irrigation and Water Resources	Member
5.	A representative of the revenue department not below the rank of Naib- Tehsildar	Member
6.	AME/ Mining Officer	Member Secretary
7.	Any other officer of the concerned department as may be decided by the chairman	Member

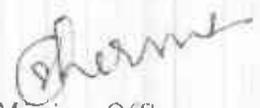
And the Committee shall prepare the DSR in accordance with Guidelines of the MOEF&CC, Government of India. The draft report shall be got approved by the Deputy Commissioner and notified on the website of the District for a period of 30 days for seeking comments of the general public/ affected persons.

3. In this regard, it is submitted that the committee prepared DSR and approved by the Deputy Commissioner on dated 12.10.2023. After approval the DSR was forwarded to DIO, Yamunanagar vide memo no. 2280 dated 17.10.2023 for uploading on the district website for a period of 30 days for seeking comments/objections of the general public/ affected persons.

4. After that the comments/ objections of 09 persons are received in this office from the O/o Deputy Commissioner, Yamunanagar vide letter memo no. 4860/200/M.A. dated 17.11.2023.

In view of above you are kindly requested to advise this office for removing the comments/ objections raised, so that the District Survey Report could be finalized at the earliest. This is for kind information and further necessary action, please.

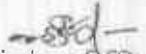
Enclosed: As above.


Mining Officer,
Mines & Geology Deptt.,
Yamunanagar.

Endst.No. Mining/DSR/YNR

Dated:

A copy of the above is forwarded to the Deputy Commissioner, Yamunanagar, for information please.


Mining Officer,
Mines & Geology Deptt.,
Yamunanagar.

ANN. R-8/11

Neutral Citation No:=2023:PHHC:082965-DB



2023:PHHC:082965-DB

IN THE HIGH COURT OF PUNJAB & HARYANA AT
CHANDIGARH

Sr. No.132

CWP-13772-2023 (O&M)

Date of decision : 03.07.2023

Vishal

..... Petitioner

VERSUS

State of Haryana and others

..... Respondents

**CORAM: HON'BLE MS. JUSTICE JAISHREE THAKUR
HON'BLE MRS. JUSTICE SUKHVINDER KAUR**

Present: Mr. Akshay Bhan, Sr. Advocate with
Mr. A.S. Talwar, Advocate, for the petitioner.

Ms. Tanisha Peshawaria, DAG, Haryana.

JAISHREE THAKUR, J. (Oral)

The present writ petition has been filed seeking to challenge notice dated 30.05.2023 (Annexure P-8), whereby, mining rights for the excavation of minor minerals of District Yamuna Nagar are sought to be auctioned.

Learned Senior Advocate appearing on behalf of the petitioner along with Mr. A.S. Talwar, Advocate would urge that as per the Notifications dated 15.01.2016 (Annexure P-2) and 25.07.2018 (Annexure P-5) as issued by the Ministry of Environment, Forest & Climate Change, it is mandatory for prior environmental clearance to be obtained for mining of minor minerals in terms of judgment rendered by the Supreme Court in SLP (c) Nos. 19628-19629 of 2009 titled as Deepak Kumar etc. Vs. State of Haryana and others. The application for environmental clearance is to be based upon a District Survey Report (DSR) which is to be prepared after



CWP-13772-2023 (O&M)

2

every five years by the State. Counsel would further urge that the last report prepared was in the year 2017 and that the auction which is proposed to be held is in violation of the notifications as the DSR has not been prepared as on date. He would further submit that there is a procedure for preparing the DSR and for finalizing it. On the preparation of DSR, objections are invited by putting up the report on public domain and any objections, if received, are to be decided within a period of 15 days. Thereafter, on dealing with the objections and finalization of the same, the DSR is thereafter uploaded.

Mr. Akshay Bhan, Sr. Advocate therefore, prays for stay of the auction proceedings as the auction being conducted is in violation of the notifications.

Notice of motion.

Ms. Tanisha Peshawaria, DAG, Haryana, accepts notice on behalf of the respondent-State.

Learned State counsel on instructions from Mr. Sanjay Sabharwal, Mining Engineer, Department of Mines & Geology would fairly submit that as on date, the DSR has not been finalized though it is under preparation. She would argue that the auction has been conducted on the basis of a ground-truthing report. She would rely upon page No.248 of Enforcement & Monitoring Guidelines for Sand Mining which specifies that District Survey Report for sand mining shall be prepared before the auction/e-auction/grant of the mining lease/Letter of Intent (LOI) by Mining department or the department dealing the mining activity in respective States. She would argue that even though the District Survey Report has not

**CWP-13772-2023 (O&M)**

been uploaded as yet, there is no bar to conduct an auction, since the Letter of Intent will be issued after the DSR has been uploaded.

I have heard the learned counsels for the parties and in view of the fact that the notifications as relied upon by learned Senior Advocate, clearly mandate that DSR is to be prepared which is to be relied upon by any auction bidder while applying for environmental clearance. He would be put to jeopardy in case the auction is finalized today. On the statement given by learned counsel, appearing on behalf of the State on instructions received, that LOI would only be issued after the DSR is uploaded. This Court deems it appropriate to dispose of the writ petition with a direction that the auction being held currently to continue, however, the auction will not be finalized nor will any LOI be issued till such time as the DSR is prepared, objections invited and dealt with and the final DSR uploaded on the public domain. This Court draws strength from the order dated 28.06.2023, as passed by the Supreme Court, in **Civil Appeal No.319/2023 titled as M/s Delhi Royalty Company Vs. Union of India and others**, where under similar circumstances the court has directed that the process pursuant to the auction notice to the extent to which the applicant was earlier granted the lease and is the subject matter herein, shall not be finalised even if the bidding process is held and concluded.

(JAISHREE THAKUR)
JUDGE

(SUKHVINDER KAUR)
JUDGE

03.07.2023

Ramandeep Singh
Whether speaking / reasoned
Whether Reportable

Yes/No
Yes/No